INDIAN

PETROLEUM & PETRO-CHEMICALS

STATISTICS

1983 - 84

ECONOMICS & STATISTICS DIVISION
DEPARTMENT OF PETROLEUM
MINISTRY OF ENERGY
GOVERNMENT OF INDIA
NEW DELHI

P R E F A C E

The present publication is the eighteenth of the annual series brought out by the Economics & Statistics Division which attempts to present detailed petroleum and petrochemical statistics relating to Indian Economy and relevant international statistics. This publication, in line with our previous annual publications, tries to provide various key national petroleum statistics both on financial as well as on calendar year basis, the former to meet the requirements of national planning and administration and the latter to meet various obligations to U.N. and other international bodies and for purposes of maintaining historical continuity.

2. In this publication, in addition to statistics already covered in the previous issue, we have added a couple of new tables relating to (i) exploratory and development drilling since 1970-71; (ii) State-wise gross and net production of natural gas since 1970-71; (iii) trends in domestic production of petroleum products (1970-71 to 1983-84); (v) successive increase in ceiling selling prices since August 1979; (vi) contribution of petroleum sector to NNP (at current prices); (vii) gross domestic product of crude petroleum and natural gas, coal and lignite (at current prices); (viii) wholesale prices of OPEC's representative crude in current and constant (1980) dollars; (ix) wholesale prices of OPEC representative crudes in terms of SDRs; (x) trends in world primary energy consumption; and (xi) primary energy consumption in selected countries/areas of the world since 1970. We have also added a table relating to industry-wise offtake of natural gas. It is hoped that officers and executives of the Govt. of India, Planning Commission, Oil Coordination Committee and other Organisations associated with the development of oil/petrochemical industry would find this publication useful.

3. While we have taken all possible care to ensure accuracy in presentation of data contained in various tables, we would welcome suggestions from readers for rectification of any error or omission noticed by them.

October, 1984.

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Scope And Coverage of Data Published

1. Scope: The Indian Petroleum & Petrochemicals Statistics Presents comprehensive statistics on various aspects of Indian petroleum and petro-chemical industries. The relevant data on international developments in the field of oil and petro-chemicals sectors has also been presented in the publication.

2. Coverage : The petroleum statistics covers the exploration, production, refining, marketing, etc. activities of the entire petroleum industry in India. In the case of petro-chemicals the primary data included in the publication relates to all public sector and the private sector units registered with DGTD.

3. Source : The primary statistics in respect of petroleum industry included in the publication is based on various returns submitted by the oil companies in the country to the Department of Petrolum on voluntary basis under the directives issued by the Department of Petroleum from time to time. In the case of petro-chemical industry, such data are based on monthly production reports submitted by the producing units to DGTD under Section 30(G) of the Industries (Development & Regulation) Act, 1951, a copy of which is endorsed to the Ministry of Energy, Department of Petroleum as the administrative Ministry.

The sources of all the secondary data including international statistics in-corporated in the publication have been indicated at the bottom of tables showing such statistics.

4. Limitations : The data in respect of sales/ consumption of petroleum products reflects despatches of various petroleum products from the depots of different oil companies to the bulk consumers as well as to retail outlets. The State-wise sales/ consumption of such products shows despatches to direct consumers/ retail outlets meant for consumption/sales in a particular State. In the case of petro-chemicals, the figures show only the apparent consumption of different products worked out by adding the indigenous production and imports and subtracting the exports from the total.

5. Period Covered : All the key statistics for the domestic petroleum & petro-chemicals industries have been presented on calender (January-December) as well as on financial year (April-March) basis.

6. Value : The value data in respect of exports of petroleum and petro-chemicals included in the publication shows F.O.B. value of exports where as similar value figures for imports reflect C.I.F. value of imports.

7. Revision : Necessary revision in the past data have been made in the light of latest available figures.

8. Abbreviations: Details of abbreviations used have been provided in Appendix.

9. Conversion Factors : The conversion factors generally used in the Oil Sector are given the Appendix.

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APPENDIX	I TO XV

PART - I

PETROLEUM STATISTICS

I Highlights of Indian Petroleum Industry - 1983-84

1. The country achieved an all-time high level of production of crude oil in 1983-84 amounting to 26.02 million tonnes. As a result of this, the net POL imports came down from above Rs. 5260 crores in 1980-81 to above Rs. 3290 crores in 1983-1983-84.

2. In order to accelerate the exploration work, number of drilling rigs were put on round the clock operation by ONGC in different parts of the country.

3. Supply of offshore natural gas to number of new consumers, including Deepak Fertilizer & Petro-chemical Ltd., BPCL and RCF - Thal was commenced during the year.

4. Following the visit of a Soviet delegation during the period 4th to 13th June 1983, a protocol regarding further cooperation in the field of oil exploration and production in India was signed with USSR.

5. On 22nd August 1983, a bill to amend the Oil Field (Regulation & Development Act, 1948 was introduced in Lok Sabha.

6. In September, 1983, Octane M.S. was upgraded to 87 Octane M.S. with a view to achieve some savings in the consumption of MS in the country and also for meeting the requirements of newer models of cars.

7. For the first time, fabrication of jack-up and drilling ship was awarded by ONGC to Indian Shipyards and a contract for construction of two jack-up rigs was signed with MDL in November 1983.

8. On 7th January 1984, a contract for construction and supply of two jack-up rigs on one drilling ship, was signed with Hitachi Zosen, Japan.

9. For the first time in the country, a process platform HRA was engineered, fabricated and installed with indigenous capabilities.

10. On 16th February 1984, the first indigenously constructed offshore supply vessel was delivered to ONGC by MDL.

11. Selective Formation Tester which is a tool for expeditious evaluation of the prospects of exploratory and wild cat wells, was commissioned successfully by ONGC in the Western Region.

12. About 16.04 lack new LPG domestic consumers were enrolled by the Oil Companies during the year taking the total LPG domestic consumers to 74.32 lakh as on 31.3.1984.

II. CHRONOLOGY OF SOME IMPORTANT EVENTS IN THE DEVELOPMENT OF PETROLEUM INDUSTRY IN INDIA

(A) EXPLORATION AND PRODUCTION

(i) Assam Oil Company

1825: The earliest recorded reference of oil in India is found in the diaries of early explorers who penetrated into the thick jungles of upper Assam.

1866: Mr. Goodenough, a member of the Calcutta firm of Mokilliop Stoward & Co., took notice of oil shows in Assam and in November secured rights over a large tract of land on both sides of the Buri Dihing river and came to upper Assam to begin systematic drilling.

1867: On 26th March, Mr. Goodenough struck oil at Makum near Margherita at a depth of 118 ft. (36 metres).

1889: In September, the Assam Railways and Trading Company began drilling for oil near their station at Borbhil and in 1890 discovered oil at a depth of 662 ft. (202 metres) This fields came to be known as Digboi.

1899: Drilling for oil in Digboi proved to be successful and the A.R.& T., Company formed a new Company to look after their oil interest which was named as the Assam Oil Company Ltd. The Burmah Oil Company, who were exploring for oil in Burma and in Assam since 1915 acquired the oil interests of the Budarpore Oil Company. This Company produced small quantities of oil from Budarpur in the Surma Valley of Assam. Maximum production was one thousand barrels per day in 1920 which dropped to 170 barrels per day (23.6 tonnes per day) in 1921. The field was abandoned in 1933.

1921: The Burmah Oil Company took over control of the Assam Oil Company which was then producting about 400 barrels per day (55 tonnes per day) of crude oil. It brought in much needed technical know-how, financial backing and upto-date equipment. As a result, the production improved to 1000 barrels per day (138.9 tonnes per day) by 1925 and to 3000 barrels per day (416.7 tonnes per day) by 1930.

1938: The Burmah Oil Company carried out seismic surveys at Nahorkatiya in Upper Assam to locate the best suitable site for drilling.

1948: Oil was struck in the eastern sector at Digboi.

1952: A site for drilling was selected on the banks of the Buri Dihing river at Nahorkatiya in Upper Assam.

1953: First trial water injection was carried out in the Digboi field.

1956: A site for drilling was selected near Moranhat in Sibsagar District. The well was drilled to 4190 metres which struck oil.

1957: Gas Injection (Secondary Recovery Scheme) was started in Digboi Oilfield.

1966: Formation 'Fracturing was carried out, for the first time in India, in Digboi fields.

1969: In December drilling of wells was again started in Digboi oilfield.

1970: Feasibility studies using Thermal Recovery Techniques were made for the Digboi oilfield.

1971: The drilling of wells started in 1969 was completed with 14 wells in Digboi oilfield.

1972: Water Injection (Secondary Recoeery Scheme) was successfully used in the Digboi oilfield.

1981: The Company was taken over by the Govt. of India with effect from 14-10-1981. Refinery & Marketing operations of the Company were vested in Indian Oil Corporation Ltd. and the exploration of crude oil/natural gas activities were handed over to oil India Ltd., with effect from the same date.

(ii) Oil India Limited

1959: In February, Oil India was incorporated as Oil India Private Ltd. with 66 2/3 per cent Burmah Oil Company and 33 1/3 per cent Government of India Participation.

1961: On 27th July, the Second Supplemental Agreement was signed by which it became a joint venture in equal partnership between the Government of India and the Burmah Oil Company.

1962: On 1st January a separate organisation with headquarter at Duliajan was set up.

On 7th March, the 16 inch sector of pipeline system was commissioned.

On 26th April, pumping of regular supplies of crude oil to the Gauhati Refinery started.

On 13th October, a dual completion well first of its kind in India, was completed at Nahorkatiya.

1963: On 8th March, seismic surveys in the Dum Duma petroleum exploration licence area commenced.

In February, the 14 inch sector of pipeline from Gauhati to Barauni was operationally ready.

1963 (contd.) In April, crude oil conditioning plant, first of its kind in the world, was commissioned at Duliajan.

On 14th February, the first deviated woll wss drilled by the Company.

The first two exploratery wolls in the Dum Duma petroleum exploration licence area were spudded in.

1964: On 30th June, crude oil deli-eries to the Barauni Refinery were commenced.

1965: Gas supplies to the thermal plant of the Assam State Electricity Board were started.

Pressure maintenance operations commenced with crostal gas injection into the gascap of a major oil pool in Nahorkatiya.

1966: Water injection was started in Nahorkatiya for pressure maintenance.

Digital computors were pressed into service for solving problems connected with underground reservoirs.

1967: All arrangements for starting drilling operatios in NEFA were finalised.

1968: Drilling started in Ningru Petroleum Exploration Lincence area in NEFA.

1969: Kusijan woll No. 2 was completed as an oil producer in Dum Duma area.

1970: Kusijan Well No. 3 was completed as a gas producer in Dum Duma. Regular oil production commenced from Jusijan well No. 2.

Gas injection for pressure maintenance was started at Moran field.

One of the steam drilling outfits commissioned in 1953, crossed its million foot mark of drilling.

1971: Reservoir Engineering capability of the organisatim was increased b-y the acquirement of a 3 Dimension 3 Phase reservoir simulatim computer programme from Mo Cord Associates Inc. of U;S.A.

Installatiom of 29 gas compressors under the Integrated Gas scheme was completed at Nahorkatiya and Moran oil-fields.

Oil was struck at Jorajan in the Dum Duma Mining Lease area.

The Memorandum of Association of the Company was amended to enable it to undertake extractim and scale of Liqui-

fied Petroleum Gas (LPG) from natural gas produced from its fields.

1972: Oil was discover d in a new structure at Tarajan and Jorajan well No. 1 was completed as a successful oil producer.

1973: Jorajan wells 2 and 3 were completed as successful oil producers.

Commercial gas accumulation was discovered in Eocene beds of Tengakhat area.

Oil was discovered in a new area at the eastern edge of Hugrijan Mining Lease (NHK woll 262 in Nagajan).

1974: Jorajan woll Nos. 4 & 5 were completed as successful oil producers.

Exploratory drilling in Arunachal Pradesh was intensified through the commencement of drilling at Kharsang woll No. 2 and statisfactory progress of preparatory work for drilling at Manabum wobl No. 1. A new deep drilling rig was acquired for intensification of drilling deep exploratory wolls in Arunachal Pradesh.

Steps were taken in hand to expand, in stages, the capacity of Oil's pipeline to transport more of ONGC crude oil (upto 2.25 m.t.) to the Eastern sector refineries.

1975: First aerial ropo-way across the Noa Dihing River in Arunachal Prqdesh was commissioned.

Pilot Polymer flood project was initiated.

Reservoir engineering (logninterpretation) consultancy service in Kuwait was successfully executed.

Pipeline consultancy agreement with Engineering Projects India Limited was entered into.

Work on Pipeline expansion Project Phase III-A was commenced.

Construction work started on the new 30 MV power station at Duliajan to meet the power requirements of new projects undertaken/contemplated.

1976: "Kharsang 3, a shallow well drilled near Kharsang 2 the first successful woll in Arunachal Pradesh.

On 2nd April, Manabum-I was spudded in difficult hill country across the Noa Dihing River.

1977: A Project for recovery of higher bydrocarbons from Associated Natural Gas was successfully commissioned.

Digital Field System V, an advanced seismic equipment was purchased for carrying geophysical survey work.

1977 (Contd.) The two 14.45 mega watt Gas turbine Generating sets were erected and commissioned successfully at Duliajan.

Thw 212 Km. long main pipeline loops between Jorhat and Bongaigaon was completed.

1978: Oil India Launched their first offshore exploration project in Mahanadi area.

1979-80: Started pumping crude oil to the Bongaigaon and Petro-Chemicals Limited (BRPL).

Bay Exploration Project (BEP) was set up in Bhubaneshwar, Orissa to coordinate all offshore and onshore exploration matters in Mahanadi Basin, and arrangements were made for the requisite contractual services including charter-hire of an offshore drilling rig.

Spudded in the first of the 3-wells in the Company's maiden (Rs. 27 crores) offshore exploration programme in the Mahanadi Basin, Bay of Bengal, on January 30, 1980.

In June the quantity of Power offtake from OIL's captive gas turbines to Assam State Electricity Board (ASEB) was increased to 8000 kilowatts and met the entire power requirements of the area under ASEB's Bordubi, Digboi and Margherita sub-stations.

Kumchai well No. 1 in Arunachal Pradesh in the Company's 551 sq. kms. of Petroleum Exploration Licence Area was drilled to a depth of 5459.6 metres (17,912 ft) and thus became Oil India's deepest well. At this depth, however, a multiplicity of downhole problems made further drilling impossible.

An agreement for setting up a Liquified petroleum gas (LPG) plant at Duliajan was signed in March 1980, with M/s Industrial Consulting Bureau Ltd. (ICBL).

Oil India (OIL) acquired a sophisticated Mega seismic computer from a reputed American firm for the processing of its seismic data.

1980-81: Completed 2 offshore wells in the Mahanadi Basin of the Orissa Coast.

In January, civil work for the LPG plant at Duliajan was started.

1981-82: With effect from 14th October, 1981, Government took over the 50% shares held by Burmah Oil Company Ltd. in Oil India Ltd. With this take-over, the Oil India Ltd. Became a wholly Government owned Company. After the take-over of Assam Oil Company with effect from the same date, the Exploration and Production Division of the said Company was vested in Oil India Ltd.

In November, onshore seismic survey in Mahanadi Basin was started.

1981-82 (Contd.) In February, supoly of low prssure gas to Assam State Electricity Board for operation of power plant at Kathalguri was started OIL's R&D centre received recognition from the Department of Science & Technology.

In March, the chartered offshore drilling rig from Mexico's State owned PROTEXA arrived at site in BEP Rajasthan project was set up at Jodhpur during the same month for initiating exploratory activities in concession area of 28,600 sq. kms. in Rajasthan.

1982-83: In August, 1982 OIL's LPG plant at Duliajan was commissioned and commercial production was started on 21st March, offshore drilling was resumed in the Bay Exploration project after a lapse of two years.

1983-84: In March, 1984 an Agreement for carrying out seismic surveys in the Rajasthan project was signed with compagnie General De-Geophysics of France.

(iii) Oil & Natural Gas Commission

1947-1953: Reconnaissance and detailed geological mapping were done in parts of Punjab, Himachal Pradesh, Kutch, Andaman and Nicobar Islands and Cambay by the Geological Survey of India.

1955: In September-October, a delegation visited the USSR and other European countries to study the Oil Industry.

In October, the Oil & Natural Gas Directorate was formed under the Ministry of Natural Resources and Scientific Research.

In December, Soviet Oil experts in exploration arrived in India.

1956: During April and May, airborne magnetic surveys of parts of Western Rajasthan and the Indo-Gangatic Plants were made by the Canadian experts under the Colombo Plan.

In August, the Oil & Natural Gas Commission was set up.

1957: In April, first well was spudded in.

1958: In May, gas was struck at Jwalamukhi.

In July, first well at Cambay was spudded in.

In September, Oil was struck in Cambay.

1959: In October, ONGC attained the status of a statutory body.

1960: In May oil was struck at Ankleshwar and drilling was commenced in Assam.

In December, oil was discovered at Rudrasagar structure In Assam.

1961: In June, oil was struck in Kalol.

In September, trial production of crude oil from the Ankleshwar oilfield was started. An agreement was signed with the French Petroleum Institute for exploration in Rajasthan.

1962: The first special train of oil tank wagons left Ankleshwar for Bombay.

In December, a contract was concluded with SNAM of ENI group of Italy for drilling wells in Uttar Pradesh.

1963: In January, offshore seismic surveys started in the Gulf of Cambay.

Drilling commenced in two structures, in Gujarat and Assam.

A contract was concluded with the C.G.G. of France for carrying out seismic exploration in Jaisalmer, Oil was struck in Sanand in Gujarat.

Oil was struck in 'Nawagam' in Gujarat.

The contract was concluded with RUDIS, a mining and industrial association of Yugeslavia for drilling wells in Assam. Another contract was signed with SNAM of ENI Group of Italy for drilling wells in Pubjab area.

1964: In Fenruary, a contract was entered into with a French Company FORASOL for carrying out structural drilling operations in Jaisalmer.

By March, ONGC completed drilling of 200 wells.

In June, two contracts were signed for carrying out off-shore seismic surveys with the help of the specially equipped Soviet Ship Akademic Arkhangolskiy in the Gulf of Cambay and off the Madras coasts and other areas.

In August, E.N.I. started drilling at Mohand in Uttar Pradesh and oil was discovered in 'Lakwa' structure in Assam.

In September, the Soviet Ship started its operations.

In October, SNAM started drilling at Janauri in Punjab.

In December, production and supply of gas from Cambay to the Dhuwaran Thermal Power Station was commenced and drilling of a new structure, in Assam was started.

1965: By March, the ONGC completed drilling of 300 wells.

In September, supply of associated gas from Ankleshwar to Uttran Thermal Power Station was started.

1965 (Contd.) In October, oil was struck at Kathana in Gujarat.

Drilling commenced on six structures in Gujarat during the year.

1966: Traces of oil and gas were found in Karaikal. Two structures in Gujarat and one in West Bengal were spudded in.

1967: In January, supplies of crude oil from Kalol oilfield in Gujarat were sent to Koyali Refinery in Gujarat.

In March, the first Phase of trial production at Nawagam oilfield in Gujarat was inaugurated.

In May, the Water Injection Scheme for Ankleshwar oilfield in Gujarat started functioning.

By August, the ONGC completed drilling of 500 wells.

In November, the ONGC completed the drilling of one million metres.

One structure each in Tamil Nadu and Assam was spudded in.

1968: In January, trial production of crude from Kosamba field in Gujarat was started.

In March, the National Iranian Oil Company, declared the oil find in the Rostam structure in the Persian Gulf as a commercial discovery, ONGC's share was one-sixth of the crude produced.

In April, oil was discovered at Galeki, a new structure in Assam.

In June, oil was struck in Kadi and Bakrol structures in Gujarat.

In July, the 17.5 Kms. cross country crude oil pipeline connecting the Lakwa oil field of the Commission with the Oil India Pipeline at Moran was commissioned and regular production from the Lakwa oilfield was started. The first indigenous seismic unit was commissioned and the Commission also designed and fabricated a seismic amplifior, with about 98 per cent indigenous components.

Trial production from Kadi oil field in Gujarat was started.

In August, the rate of production from Kalol and Nawagam oil fields in Gujarat was stepped up.

By Sepember, ONGC completed the drilling of 600 wells.

1968 (Contd.) In October, rate of oil production from Ankleshwar and Nawagam oilfields of Gujarat was stepped up. Trial production from Dholka oilfield in Gujarat was started.

In November, trial production from Kathana oilfield in Gujarat was started.

Drilling at nine structures in Gujarat, three in Assam and one in Tamil Nadu was started.

1969: In March, the 15 Kms. Kalol. Sabarmati pipeline was commissioned.

Six structures in Gujarat and one in Nagaland were spudded in.

By June, ONGC completed drilling of 700 wells.

In August, production from Rostam field in the Persian Gulf was commenced. (The first of the seven blocks of the fixed platform meant for drilling India's first off shore well was launched.

1970: Drilling of fourteen new structures in Gujarat four in Assam and one each in J&K, Cauvery Basin and Gulf of Cambay (Aliabet Island) was started.

In March, oil was struck at Borholla in Assam and in April ONGC completed drilling of 800 wells.

In October, gas was struck at Dabka, a new structure in Gujarat.

1971: An agreement to supply gas from Kalol to M/s Mahendra Mills and M/s Navjivan Mills was finalised.

Drilling of India's first offshore well on shallow-waters was also completed.

A contract for procurement of a mobile self-elevating self-propelled jack-up type platform was signed. The first offshore well drilled at Aliabet, showed the presence of oil. An agreement to supply gas to the IFFCO was signed.

In April/May, service contract with the OISA for the drilling in Bombay areas was signed.

On 12th May, Nawagam-Koyali sector of the Kalol-Nawagam-Koyali pipeline was commissioned. An agreement for supply of associated gas from Kalol to M/s Metro Woods and Engineering works was signed.

On 16th June, supply of gas to Naharhabi Tea Estate from Lakwa field was commenced.

By July, ONGC completed drilling of 900 deep wells. A high power committee headed by Shri K.D. Malaviya, former

1971 (Contd.) Minister of Mines & Fuel was set up by Govt. of India to look into the functions and organisation of ONGC and suggest the ways and means to improve its functioning.

In August, Kalol-Nawagam Sector of the Kalol-Nawagam Koyali Pipeline was inaugurated. Oil was discovered in new structure "Amguri" in Assam.

In September, gas was discovered in Baola, a new structure in Gujarat.

In November, oil was discovered in Santhol, a new structure in Gujarat.

In December, oil was discovered in Indrora, a new structure in Gujarat.

Eight new structures in Gujarat and three in Tamil Nadu were taken up for drilling during the year.

1972: In February, gas was struck in North Kalol in North Gujarat and oil in Dabka structure in Baroch district in Gujarat.

In March, supply of associated gas from Kalol field to M/s Navjeevan Mills was commenced.

In July, petro-graphic and Geochemical Laboratories were commissioned at Madras. Oil was struck at Linch in Gujarat. Supply of associated gas to M/s Mahindra Mills Kalol from Kalol field and to Baroda Municipal Corporation from Ankleswar field was commenced. Water injection in Horizon-XII in Lakwa was commissioned. A bronze Shield, an award of the Invention and Promotion Board was presented by the President of India to ONGC for indigenously developing Air-Tube-Clutch assembly, in collaboration with M/s Banket and Brake lining and Engineering firm of Dehra Dun.

In September, supply of associated gas to three private firms, viz. M/s Metro Wood Works, M/s Melamine and Fibres and M/s Calico Printing Company from Kalol field was commenced.

Drilling at ten new structure in Gujarat and one in Tripura was started during the year.

1973: In January, ONGC completed drilling of 1000th deep well.

On 17th February, an agreement was signed by ONGC with M/s Geophysical Service International, S.A. Dallas, Taxes, USA for conducting about 2800 kms. of offshore seismic reflection work.

On 24th February, a protocol was signed by Mr. D.A. Takeov, Dy. Minister for Oil, USSR and Secretary to the Government of India, Ministry of P&C, on development of oil

1973 (Contd) industries in the public sector in India for 1973-78 and forecast for the period 1978-83.

In March, the self-propelled, self-elevating jack-up type of mobile drilling platform "Sagar Samrat" get made to order in Japan was handed over to ONGC at Hiroshima, Japan.

On 8th April, a draft for service contract awarded by the Iraq National Oil Company (INOC) to the ONGC was signed by Dr. Abdullah Sayyas, Vice-President of INOC and Chairman, ONGC. Under the terms and conditions, the ONGC was to render technical and commercial services to the INOC as a general contractor.

In June, at Baramura well in Tripura, a good flow of gas was observed during an open hole drill stem testing. Supply of associated gas from Kalol field to M/s Bharat Vijay Mills was commenced.

In July, the presence of oil was observed in a well on the Charali structure in Assam during an open hole drill stem test.

In October, drilling was commenced on the first offshore deep well of Tarapur structure in the Arabian sea adjoining the Gulf of Gambay.

One of ONGC's Diesel Mechanic working in Central Workshop at Baroda, was awarded Rs. 3000/- as a National Award, declared by the Govt. of India for developing valve lapping machine for lapping the valve and of Internal Combustion engines. It was the second highest award given to any inventory on the occasion of Independence Day.

Drilling was started at five new structures in Gujarat, three in Assam and one in Tamil Nadu during the year.

1974: During March, 'Geoflex' was introduced as energy source for the first time by seismic crew in Iraq opertions. On 24th March, the supply of gas to IFFCO was started for purging the line and test run.

During June, a new structure, viz. Asjol was declared as oil bearing and well head installation at Santhol-4 were commissioned.

In July, ONGC completed drilling of 1100th well.

In August, regular production from Geleki oilfield in Assam was commenced. The Sanand-GGS and gas line from Sanand GGS to Kalol CTF were also commissioned.

Sanand GGS, Kalol CTF oil pipeline was commissioned and well head installation at Linch was commissioned.

In October, precision gravity surveys were introduced for the first time.

Drilling operations were commenced at three new structures in Gujarat during the year.

1975: In January, North Kadi GGS-cum-CTF was commissioned

During February, Kalol in Gujarat was put on sustained production. Oil was struck in a well drilled on Sanac Khurad structure in Gujarat.

During March, pipeline to carry oil from Sobhasan, North Kadi and South Kadi fields to Koyali Refinery was commissioned. Gas supplies to Bhabha Atomic Research Centre was commenced.

Central workshop, Baroda, completed manufacture of a prototype work over rig of 28-tonnes capacity which was hitherto imported.

During June, gas was struck at Baramura in Tripura. New workever rig Azinamash was commissioned in Ahmedabad.

In July, gas supplies from Goleki oilfield to Celeki Tea estate was commenced

During September, gas supplies from Geleki field to Barshilla Tea Estate was commenced. Two drilling ships spudded wells in Bombay High main offshore structure in the Arabian sea.

In October, gas supplies to Mehasna Dairy was commenced. Sobhasan GGS-cum-CTF and Lakwa CTF were commissioned

In December, presence of oil was indicated in a well drilled on Nandasan structure in Gujarat. Drilling was commenced on one new structure in Meghalaya, four in Assam, three in Gujarat and one in J & K.

1976: In January, gas supplies to M/s Gujarat Glass Factory from Kosamba field were commenced.

In February, oil was struck in a well drilled on Bhandut structure in Gujarat.

Gas supplies were commenced to Gujarat Industrial Development Corporation from Nawagam fields.

'Shenandhoah' a Jack up drilling unit commenced drilling operations in offshore areas in the Arabian Sea.

Production was started from two wells of Bombay-High (Main) offshore structure.

Rudrasagar-Lakwa oil pipeline was commissioned

Drilling was started at Songo-Songo Islands in Tanzania by ONGC under a contract.

1976 (Contd.) In July, oil was discovered in a well drilled at North Kathana structure in Gujarat.

In September, Geleki-Dikhu Junction oil pipeline was commissioned

The approval of the Government for Rs. 4.82 crores was received for setting up of an institute of Reservoir Studies at Ahmedabad to perform seneral research and development work, to conduct necessry amount of basic research and reservoir studies, to design and supervise actual field pilot tests, and also to render advice to operations personnel in reservoir engineering and related studies.

Gettysburg, a new drilling unit chartered by ONGC spudded its first well in the Arabian sea.

Two new Group Gathering Stations were commissioned in Assam.

Presence of oil was indicated in a well drilled at Demulgaon structure in Assam.

Drilling was commenced on six new structures in Gujarat one each in Assam, Rajasthan, J&K Pondicherry, West Bengal and five structures in offshore area in the Arabian Sea.

1977: In January, a new Rumanian rig 3 DH-2 spudded its first well at Charali structure in Assam. Well platform 'D' in Bombay-High(Main) offshore firld was commissioned.

In February, a new Rumanian rig 4DH-1 spudded the first well at Ramshahr structure in Himachal Pradesh.

Oil was struck at Padra in Gujarat in the month of March and gas supplies to Macheypore Tea Estate in Assam were commenced from Geleki field.

In April, a new Rumanian rig (third in the series) 3DH-3 spudded the first well at Lakhmani structure in Assam Oil trunk pipeline between Sanand-15 to SIP-34 in Gujarat was commissioned.

In May, gas was discovered in Motwan structure in Gujarat.

In July, a new 4DH-2 Rumanian rig spudded its first well on Chargola structure of Cachar district of Assam.

In September, GGS-4 at Rudrasagar, GGS-2 and CTF at Geleki in Assam were commissioned.

New workover rig P-80-3 commissioned in Assam. Well-head installation at Jhalora in Gujarat was commissioned.

Oil production from wells of platform 'C' in Bombay-High (Main) was started.

1977: (Contd.) In October, a new American Armco-1320-M spudded its first well on a new structure known as Diamond Harbour in West Bengal.

Oil trunk pipeline between Geleki and Jorhat commissioned.

Oil discovered in Jotana structure in Gujarat.

A new Rumanian rig 3DH-4 was commissioned by spudding a well at Geleki structure in Assam.

Drilling was commenced on nine structures in Gujarat, two in Assam, one each in Himachal Pradesh, West Bengal, and twelve in offshore area of Arabian Sea.

1978: In January, platform 'E' wells in Bombay High (main) started producing oil. Gas was discovered in Sisodra structure in Gujarat during the same month.

In February, gas was discovered in C-2 structure in Bombay offshore.

In March, oil was discovered in 'Viraj' structure in Gujarat. GGS-V at Lakwa in Assam was commissioned

In April, new rig E-2000 was commissioned at Narasapur in Andhra Pradesh. A trunk line from Lakwa GGS-V to junction point of Rudrasagar-Lakwa trunk line was commissioned.

In May, oil was discovered in West Sobhasan structure in Gujarat.

In June, gas was discovered in Walner Structure in Gujarat.

Platform 'F' at Bombay High (Main) was commissioned. Gas trunk line of 26" dia between platform 'F' at Bombay High (Main) and Uran Shore terminal was commissioned. Oil trunk line of 30" dia between platform 'F' at Bombay (Main) field to Uran Shore terminal for a total length of 203 kms. was commissioned.

In July, gas supply was commenced from offshore Bombay to Tata Thermal Power Station (TEC) Trombay. Oil feeder line from Uran Terminal to Trombay was commissioned.

In August, gas was discovered on new structures Gajera and West Matwan both in Gujarat.

Gas supply from Bombay-High field was commenced to Rashtriya Chemicals and Fertilizers Ltd., Bombay.

In October, supplies of gas from Nawagam field were commenced to M/s Calico Dyes and Printing Company.

In November, an electrical new American rig 1320-UE-2 was deployed at Gojalia.

1978 (Contd.) In December, Platform 'B' in Bombay High was commissioned Oil production from Offshore Bombay touched a level of one lakh barrels per day on 31st December. Gas was struck in B-55 structure in offshore Bombay.

Drilling was commenced on eight structures in Gujarat one each in Uttar Pradesh, Andhra Pradesh, Assam & Tripura, nine structures in offshore area of Arabian Sea, two in offshore Madras coast and one in offshore Kerala coast.

1979: Drilling at four new structures in Gujarat, four in Assam, one in West Bengal and nine in offshore was started.

In March, oil was discovered in a new structure in offshore at the first well drilled on this structure.

In April, oil was discovered at 'Pansar' in Gujarat and in a new structure in offshore areas. Also oil production was commenced from Charali field in Assam.

In June, oil production was commenced from Amguri field in Assam.

In September, oil production was commenced from Motwan field in Gujarat.

In November, drillship 'Pelerin' chartered on hire commenced drilling operations in offshore areas.

In December, a new rig BU-80-4 was commissioned.

1980: In February, Diamond Harbour well in West Bengal was drilled down to a record depth of 5555 metres in this country and oil production from Siswa field of Gujarat was commenced.

In March, another drillship 'Fredrick Burg' chartered on hire commenced drilling operation in offshore.

In May, oil was discovered in the Ratnagiri offshore structure.

In June, gas was found in Shelf of Andaman Island. Oil was also discovered in the Godavari Offshore structure during the same month. A new offshore Platform was commissioned.

In July, Portonova offshore structure showed presence of oil. The production of oil was commenced from Jotana and Viraj structure.

In September, gas was found in Dahej structure in Gujarat.

In October, 2 new offshore platforms were commissioned.

In 1980, eight new offshore and eight new onshore structures were taken up for drilling.

1981: In February, ONGC's second old Jack-up rig 'Sagar Vikas' was commissioned . Oil was discovered in Lohar structure in Gujarat.

In March, LPG unit at Uran and gas system of BHN Platform were commissioned

During January-March, drilling at one new offshore structur and six new onshore structures were taken up.

1981-82: During the year, drilling was taken up in 7 new structures in Gujarat, 2 each in Assam & West Bengal, one in Rajasthan and 4 in the offshore areas.

In April, gas was discovered at Kudara a new structure in Ankleshvar project. Oil was also struck at Sisodra in the same project.

Flow of Oil and gas was observd in three structures Viz-Napamua in Assam (in August), a new structure in Bombay High area (in August) and in Longhnaj in Gujarat (in November). Oil was also struck in a well inkthe North Palk Strait in the offshore Cauvery basin in South India. Eight production platforms were commissioned in the Bombay High area.

In November, ONGC's third jack-up rig 'Sagar Pragti' was commissioned in Bombay High.

In January, 1982, a new drilling unit SEDCO-445 Chartered by ONGC, spudded its first well in Godavari offshore area.

1982-83: In April, a new rig was commissioned in Lakwa (Assam).

In May, a new offshore structure was taken up for drilling in Palk Strait.

In June, Griffin Alexander-I, a new drilling unit chartered by ONGC, spudded its first well in Palk Strait offshores and oil was struck at 'Ognaj' in Gujarat.

In July, a new structure in Godavari offshore area was taken up, 'Chichenitza' and TRITON II chartered drilling units spudded their first wells in offshore areas and gas supplies to Maharashtra State Electricity Board were started.

In August, Umarada (Gujarat) and Naldaha (West Bengal) structures were taken up for drilling and BHS process platform was commissioned.

In September, 2 offshore structures, one each in Dhanu and Ratnagiri areas and one onshore structure, viz. Gamiji (Gujarat) were taken up, oil was struck at Gamiji and blow-out at a well of the drilling ship Sagar Vikas was successfully capped. IXX DIXILLYN FIELD-95, a chartered drilling unit also spudded its first offshore well during the month.

1982-83 (Contd.) In October, gas was struck at 'Go alia' in Tripura and a new rig was commissioned in Gel ki (Assam).

In November, a new offshore structure in Godavari area was taken up for drilling two offshore platforms were commissioned and ONGC's fifth Jack-up rig 'Sagar Shakti' was commissioned.

In December, gas was struck in a new structure in offshore area, gas supplies to Hindustan Development Corporation and Hindustan Petroleum Corporation Ltd. were commenced and ONGC's Sixth Jack-up rig, 'Sagar Shakti' was commissioned.

In January, 4 new onshore and 2 offshore structures were taken up for drilling and a rig was commissioned in Bodra (West Bengal).

In February, work was started in a new offshore structure in Ratnagiri area and oil was struck at a offshore structure.

In March, two offshore structures in Godavari area and three onshore structures in Gujarat were taken up for drilling and oil was struck in a offshore structure.

1983-84: In April, ONGC's sixth Jack-up rig Sagar Jyoti was commissioned big spudding a well in Bombay High, supply of gas to Deepak Fertilizer & Petro-Chemical Limited from offshore was commenced, gas was struck in a well in Andhra Pradesh and flow of gas was observed in a well in Rajasthan.

In May, drilling was started in 2 new structures, indication of gas was observed at a new well in Assam and oil/gas at a new structure in Gujarat.

In June, Bonito a new drilling Unit Chartor hired by ONGC spudded its first well in Bombay High, drilling was started in a new offshore structure. and indication of gas was observed at a new offshore (Bombay) structure.

In July, a new structure in Andhra Pradesh was taken up for drilling.

In August, drilling was commenced in three new structures, supply of offshore gas to BPCL was commenced and a centralised demulsification & desalting plant was commissioned at Kalol.

In September, drilling work was taken up in a new structure and supply of gas to Anand Dairy was commenced.

In October, drilling was started in 2 new structures, gas supply to RCF - Thal was commenced and Hydrocarbon indication was observed at a new structures in Gujarat.

In November, drilling work was taken in 5 new structures.

In December, drilling was started in 2 new structures and water injection scheme at Nawagaon in Gujarat was commissioned

In January, 2 new structures were taken of for drilling indication of hydrocarbons was observed in 2 new structure, flow of gas was noticed in a new structure in Gujarat and gas was struck in a new offshore well.

In February, work commenced in 5 new structures Oil was discovered in a new well in Ankleshwar and gas, with condensate in a new structures in Andhra Pradesh.

(iv) Hydrocarobons India Limited.

1964: ONGC obtained a concession from the Govt. of Iran for prospecting and producing oil in Persian Gulf.

1965: On 17th January an agreement was entered into between National Iranian Oil Company, ONGC (India), PPCC (USA) and AGIP of Italy. Incorporated as a Private Limited Company, wholly owned subsidiary of ONGC. ONGC assigned its right and liabilities under this agreement.

1969: Oil was struck in 'R' structure and commerciality of field in that structure called Rostam field was decleared.

In September, first Rostam crude oil tanker containing India's share was loaded and sold to Spain.

1970: Another field called Rakhsh field was discovered and commercial production commenced.

1975: Became a Public Company by virtue of Section 43A(1A) of the Company Act, 1956, and name changed to Hydrocarbons India Limited. Assigned ONGC's rights, interests and liabilities in the contract dated 22nd August, 1973 entered into with Iraq National Oil Company.

1976: The assignment of the contract with Iraq National Oil Company for exploratory drilling in Iraq in favour of HIL was annualled abinitio by ONGC.

1977: An agreement on Tax, Additional Payment and royalty, stipulating payment of income tax and additional payment at the rate of 55% and 30% respectively on net profit arrived at after allowing a discount of 7% on posted price and payment of Royalty @ 20% on the posted price of crude oil exported, was signed.

A ₤ 40 million project for water injection of Rakhsh field to step up production from secondary recovery was cleared by the parties of Joint Venture.

1978: Work on Rakhsh Water Injection Scheme was started. Decision regarding Water Injection in Rostam field was also taken.

1978 (Contd.) During October-December, there was some dislocation in production/despatches due to strikes and political situation in Iran.

1979: The company along with other Secondary Party partners was not permitted to lift its share of oil during the year. The Second Party decided to initiate discussions with the First Party, i.e. National Iranian Oil Company regarding terms for cancellation of the Joint Structure Agreement.

1980: The Government of Iran declared the Joint Structure Agreement null and void.

1981: The issue of compensation for declaring the Joint Structure Agreement as null and void was taken up with the Government of Iran.

1982: The Board of Directors decided to reactivate the Company Covering Joint venture with foreign companies in the field of exploration indigenesation of special services in exploration activities etc.

1983: A contract for prospect evaluation of Gulf at Manner and Palk Strait Basin was finalized with Ceylon Petroleum Corporation, Sri Lanka.

(v) Indo-Stanvac Oil Exploration Project

1954: In April, the Indo-Stanvac Oil Exploration Project started exploration activities in partnership with the Government of India on a 75 : 25 basis covering a concession area of 10,000 sq. miles in West Bengal.

1959: The exploration project was abandoned after drilling 10 wells in the West Bengal basin all of which proved dry.

(B) REFINERIES

(i) The Digboi Refinery, Digboi.

1893: The Assam Railways and Trading Company erected a small refinery at Margherita to refine the crude oil found at Makum and Digboi. This refinery was the first of its kind in the Indian sub-eohtinent and operated for a few years. It changed its venue from Margherita to Digboi in its subsequent expansion and growth.

1900: The construction of a new refinery at Digboi was started by the Assam Oil Company Limited.

1901: The Digboi Refinery went on steam.

1923: The entire refinery was rebuilt, and the refinery capacity was also enlarged.

1926: Two product pipelines were laid between Digboi and Tinsukia.

1928: The wax Extraction Plant and Paraffin sheds were commissioned.

1932: An Edeleanu Plant for giving Sulphur Dioxide treatment to Kerosene was installed and brought into commissioned.

A Dubbs Plant for "Cracking" process was installed.

1934: Foster Wheeler Crude Oil distillation unit was installed.

1938: Bitumen Plant was installed.

1940: Lummus-Crude oil distillation unit was installed.

1950: A plant for fabrication of steel barrels was installed.

1953: Gasoline extraction plant was commissioned.

1954: Foster Wheeler Lube Oil Distillation unit was installed.

Refinery was linked up with two pipelines for the receipt of crude oil and gas from Nahorkatiya oilfield.

1956: A new pipeline for the pumping of white oils from Digboi refinery to Tinsukia Terminal Depot was installed, one of the oil lines was replaced by a new one.

1971: First phase of the project for improvement in refrigeration capacity of wax treating plant and the rejuvenation of Edeleanu plant for increasing production of Superior Kerosene were completed.

1972: To supplement the cooling water demand of the refinery a three cell induced draught RCC cooling towar was commissioned.

The Red oil line No. 1 for pumping furnace oil from Digboi to Tinsukia was replaced by a new 6" line.

1973: For increasing the production of Superior Kerosene, an additional electric power driven S02 Compressor was installed in the Edeleanu plant.

1975: To supplement the cooling water demand of the refinery an additional three cell induced draught RCC cooling towar was commissioned.

1976: Two new J.T. Boilors were commissioned for improving stream generation.

1977: A new product-carbon black feed-stock was introduced.

1981: The Assam Oil Company was taken over by the Government with effect from 14-10-1981 and from the same date the Company's Refining and Marketing Operations were vested in Indian Oil Corporation Ltd. The Company's name was changed to Indian Oil Corporation Limited (Assam Oil Division).

1982: On 15th August, the Company entered the LPG Market in the seven North-eastern States. This followed with the commissioni of OIL's LPG plant at Duliajan.

(ii) Burmah-Shell Refineries Ltd/Bharat Petroleum Corporation Limited Bombay.

1903: The Asiatic Petroleum Company entered the Indian market.

1921: The Burmah Oil Company entered the Indian market.

1928: On 6th January, Burmah-Shell came into existence.

1951: Refinery agreement was signed towards the end of this year.

1953: In Rebruary, site development was commenced.

1955: On 30th January, Refinery came on streem.

In June, Bitumen production was commenced.

1956: Commenced production of LPG and Motor Spirit MS-80.

Duty protection on Motor Gasoline was surrendered with effect from 1st October.

1957: In Februry, Aviation Turbine Fuel production was started.

In September, platforming unit was commissioned.

1959: Duty protection on High Speed Diesel, Light Diesel Oil, Furnace Oil and Bitumen was surrendered from 1st July.

1961: In February, regular production of Jute Batching oil was commenced.

1962: Processing of Ankelshwar crude teogether with Iranian Light crude was started.

1963: MS-80 Sub-zero and Inferior Kerosene were also added to the range of products.

1965: In March, SBP Unit was commissioned to produce SBP 55/115.

In August, gas supply by pipeline to FCI was commenced.

In September, 93 Octane Motor Spirit was manufactured for the first time.

1966: Commenced production of CBFS, Mineral Turpentine and Hexane.

1967: In March, production of Avgas 100/130 was started.

1968: In March, pipeline for delivery of naphtha to NOCIL was commissioned.

1968: In May, Ankleshwar crude receipts were stopped.

1969: Achieved a refinery capability of 5.25 million tonnes. per annum.

1970: Pioneered the formation of the "Technical Development Committee for Indigenous Materials' for the Petroleum, Petro_Chemicals and fertilizers industries in the country.

1973: Processing of Government crude was commenced.

1974: In May, "Export House" status was accorded.

Established a Fuel Advisery Cell for promoting fuel economy by users.

1976: On 24th January, the refinery company was taken over by the Government of India. and the assests of Burmah-Shell in India were merged with those of the nationalised company to form Bharat Refineries Limited.

Set up centre for technology (Centech) to serve the development needs of BRL and HPCL refineries initially.

1977: Commenced production of Low Sulphur Heavy Stock (LSHS)

In August, the company was given its permanent name, Bharat Petroleum Corporation Limited (BPCL)

1978: In July, the refinery started receiving Bombay High crude by pipelines.

1979-80: Processed eleven different crudes, the highes in any year.

1980-81: Procesed thirteen different crudes, the highest in any year so far.

Packed production of brandless 80/100 bitumen was started.

1981-82: Processed ten different types of crude oil.

1982-83 Rail loading facilities for LSHS were commissioned.

1983-84: In September, a parcel of 30,000 tonnes of Ratna crude was received and processed for the first time.

In August, started receiving Bombay High Associated Gas.

(iii) Esso Standard Eastern Inc./Hindustan Petroleum Corporation Ltd (Bombay Refinery)

1951: In November, an agreement was signed between Government of India and the Standard Vacum Oil Company to set up an oil refinery at Trombay, Bombay.

1952: In July, the Standard_ Vacum Refining Company of India Limited, was incorporated.

1954: On 29th July, the Stanvac refinery went on stream.

1956: Stanvac exported Moror Gasoline.

1957: Duty protection on Motor Gasoline was given up by the Company. Stanvac Started HHS fuel supplies to the adjoining Tata Trombay Thermal Power Station.

1958: Stanvac started manufacturing LPG and JBO.

1959: Stanvac started manufacturing asphalt cooperated in setting up the Standard Barrels manufacturing factory which started supplying asphalt durms to refinery.

1960: In September, Stanvac started exporting Indian expertise and 4 employees were sent to Philippines as set-up Advisers to new refinery.

In November, duty protection on other petroleum products was also surrendered.

1961: Stanvac exported Asphalt.

1962: In April, Corporate name was changed to Esso Standard Refining Company of India Ltd.

On 16th November, processing of indigenous Ankleshwar crude was commenced. Esso Standard manufactured for the first time in India SBP Spirit and Hexane.

1964: Started exports of Naphtha.

1965: Started manufacturing for the first time in India-FDA grade JBO Mineral Turpentine.

Started supplying raw material naphtha to enable starting of new Trombay Fertilizer plant of FCI.

1966: Started raw material naphtha feedstock supplies to the new petrochemicals plant of Carbide Chemicals Company.

1967: Started manufacturing Industrial Asphalts.

1968: Started manufacturing for the first time in India, speciality products (CS-330) and petroleum Ether to subsitute imports.

1969: Started supplying feedstocks to the new Lube India Ltd.

1970: Started manufacturing, for the first time in India, of Propane.

Staff was completely Indianized in October after departure of the last expatriate.

Manufactured Carbon Black Feedstock.

1973: Pentone & Rubber processing oil were manufactured and IOC crude was processed on refinery processing fee basis.

1974: On 15th March, the Govt. of India acquird the entire Marketing assets of Esso Eastern Inc. in India and 74% interest in Esso Standard Refining Company of India Ltd. and Lube India Ltd. On 15th July, the market assets were vested in Esso Standard Refining Company and the two companies were merged to form Hindustan Petroleum Corporation Limited.

1975: In August, lightering operations were commissioned for the first time in India for better utilisation of 80,000 DWT tankers.

Successfully handled LPG spiked crude to maximise LPG production.

Commenced reprocessing of LSHS for Koyali Bottoms increasing middle distillates production.

Completed a record 2.6 million manhours without a disabling injury.

1976: On 1st October, Govt. of India acquired the balance 26% equity shares held by Esso and thus HPCL became a fully owned Government Company.

Produced a trial batch of Heptane for IPCL.

Produced for the first time 'Insectol' which is a Carrier for insecticides. Earlier, this was being brought in Bombay region from Assam Oil Refineries.

Set up a centre for technology (CENTECH) in collaboration with Bharat Refineries Ltd. to serve the interests of refineries in the allied fields, Research & Development, design and operations.

Facilities for VPS/Cat debottlenecking project being installed.

In view of Bombay High crude processing at Bharat Refineries Ltd. installation of number of facilities for integration of operation at HPCL and BRL were commenced.

1977: Number of facilities installed for integration of operations with BPCL were commissioned.

1978: On 18th January, Secondary Processing facilities to match fractionating capacity of 3.5 million tonnes per annum were commissioned.

1979: In August, commercial processing of Waxy distillates from Bharat Petroleum Corporation's refinery was started.

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1980: In February, for the first time a consignment of 1000 tonnes of imported LPG was received in the refinery.

Lube refinery expansion envisaging additional production of 74,000 t.p.a. of HVI Lube base stock was in progress.

Civil survey work and process design of MEA section of the Sulphur Recovery Project was completed.

1982: In August, expanded propane dewaxing unit was commissioned.

In October, expansion project for processing of two million tonnes of BH crude oil was commenced.

1983: In January, use of BH gas as refinery fuel was commenced resulting in saving of 36,600 tonnes of fuel oil per annum.

(iv) Caltax Oil Refining (India)Ltd./Hindustan Petroleum Corporation Ltd; Visakhapatnam

1953: In March, an agreement was reached between the Govt. of India and Caltex (India) Ltd. to establish a refinery on the East Coast of Vizag.

1955: In February, the Caltex Oil Refining (India) Ltd. was incorporated.

1957: In April, the refinery went on stream at Visakhpatnam. Exports of Mogas and Fuel oil were undertaken in the same year.

1959: In October, the duty protection on Motor Gasoline was surrendered.

1963: In April, duty protection on other products was surrendered.

In May, manufacturing of LPG commenced.

1964: Started export of Naphtha.

1969: Exported Asphalt.

1973: During November-December, processing of IOC crude on processing fee basis was commenced.

1975: In June, purchase of crude oil from IOC was commenced. The crude oil was transported by World Bank Tankers and transhipped into smaller vessels for discharge into Refinery storage tanks.

1976: In November, the first trial cargo of Bombay High crude was processed.

On 30th December, the Govt. of India acquired 100% shares of Caltex Oil Refining (India) Ltd.

1977: The modification of the refinery to permit processing of 0.5 MTPA of Bombay High crude was started.

1978: On 9th May, Caltex Oil Refining Company was amalgamated with Hindustan Petroleum Corporation Ltd.

1979: Refinery expansion project for increasing crude processing capacity to 4.5 million tonnes per annum was submitted to the Government.

1980: In December, Government's approval for expansion of refinery capacity from 1.5 MTPA to 4.5 MTPA was received.

1982: Feasibility report with revised cost estimates for expansion project was approved by the Government.

1983: The work on the Refinery expension project for raising capacity 4.5 MTPA was commenced.

From April, the refinery commenced fuel processing of BH crude.

(v) Indian Oil Corporation (Refinery Divn.)

(a) Barauni Refinery, Barauni, Bihar.

1961: In June, a contract was signed with M/s Tiajpromexport, Moscow for the design and supply of equipment and the supervision of erection and operation of the Barauni Refinery.

1964: In July, the first unit of the Barauni Refinery went on stream.

1966: In February, the second stage was commissioned.

1967: In November, the third stage comprising of Lube Oil complex was completed.

1969: On 21st January, the expansion of refinery was completed. Construction of the coke calcination plants started.

1971: In June, Government approval for revamping of Barauni Refinery for processing of imported crude and expansion of refinery capacity was obtained.

In November, Erection of coke calcination plant was completed and test review was conducted.

Sale of Phenol extract and slack was started.

1972: In December, processing of imported crude was started.

1974: In July, trial production of rubber extender Oil (hitherto imported) was started and two wagon load of the same were despatched for the first time to M/s Synthetics & Chemicals Ltd., Barielly, for evaluation and plant trials at their end.

In September, Naphtha pipeline to FCI was commenced.

1975: In view of expected idling of dewaxing unit due to decrease in sale of 800 pale lube oil ex-Barauni, an important scheme of producing middle distillates compenents in dewaxing unit was introduced.

1977: In February, the movement of LSHS for consumption of Haldia Refinery was started.

1979: From 27th December, crude supplies were stopped due to agitations in Assam.

1981: Regular supplies of crude oil from Assam, which were suspended from 27th December, 1979 due to Assam agitations were commenced from 28th January, 1981.

On 29th January, the process units of the refinery were restarted, after a lapse of 13 months.

In February, new Cooling Towers were commissioned.

In March, new white oil tank truck loading gandry was commissioned.

1983: In June, production of MS-87 was started.

(b) Gauhati Refinery, Gauhati, Assam.

1962: On 1st January, the Gauhati Refinery went on stream.

1964: In October, Gauhati-Siliguri pipeline was commissioned.

1969: In November, production of ATF was commenced.

1971: In March, production of LPG was started.

1976: Naphtha production and offtake were started during April.

1977: In March, regular despatches of LSHS to Chandrapura Thermal Power Station of Assam State Electricity Board was started.

In May-June, major modifictions repair jobs to the main fractionating column of the coking unit were taken up after 15 years of operation.

1979-80: Refinery suffered frequent interruptions in its operations towards the end of the year due to disturbed conditions in the Eastern Region.

1980-81: Refinery operations were affected adversely due to agitiations in Assam.

1982-83: In July, bulk despatches of LPG by tank lorries were started.

1983-84: In June, production of MS-87 was started.

(c) Gujarat Refinery, Jawahar Nagar, Gujarat.

1963: The technical report on setting up of the Gujarat Refinery was accepted and an agreement for supply of equipment from USSR was signed.

1965: In October, the first one million tonne unit was commissioned.

1966: In May, second million tonne unit was commissioned.

1967: On 28th September, the third million tonne unit for the expansion of refinery capacity from 2 to 3 million tonne was commissioned.

1968: On the 17th December, the Udex Plant was commissioned at the Gujarat Refinery for the extraction of Benzene and Toluene from reformed Naphtha.

1969: In July, a pilot plant was set up and commissioned at the Gujarat Refinery by the IIP to conduct investigations for the extraction of protein from petroleum.

1974: In October, two new 10,000 crude oil tanks were commissioned.

1975: LSHS despatches to HPCL were started on 8th June and are continuing on regular basis.

Facility for loading of LSHS in trucks was commissioned during July.

Horton sphere for LPG was commissioned on 18th August, this has helped in increasing the storage capacity for this product.

1977: In January, the despatches of LSHS to Bassain - a newly set-up installations were started.

In July, the first supply of Naphtha to IPCL's cracker plant was made.

In October-November, Atomspheric Distillation Unit (AU-IV), Visbreaker, Naphtha and Kero Merox Units put up under the project.

"Gujarat Refinery expansion facilities" were started.

1978: In March, supplies of special cut kerosene, i.e. LABFS as a feedstock to IPCL, Baroda were started.

1979: In February, Vacuum distillation Unit and Bitumen Unit were started under the expansion scheme.

In september, processing of Bombay High crude was started.

1980: In order to optimise the processing capacity of old distillation units processing of imported crude was undertaken in February for a short period.

1982: The secondary processing units were commissioned.

1983: LPG bottling plant and LPG loading facilities were commissioned.

In June the refinery commenced production of MS-87.

(d) Haldia Refinery, Haldia, West Bengal.

1967: In September, the decision to set up a refinery with French and Rumanian collaboration under the charge of Indian Oil Corporation was taken up by the Govt. of India.

1969: Contracts for design supplies and rendering of technical assistance were executed separately with M/s Technip/ Ensa of France and M/s Industrial expert of Rumania.

1970: Contract for fabrication and erection of all welded storage tanks awarded and work commenced in June.

In November, construction work on first phase of Refinery Township was commenced.

During January, the construction of Process Unit foundation and other civil works were started.

During November, work of erection of equipment, machinery, piping and structures for the fuel part of the refinery was commenced.

1972: In February, construction of Refinery Township-second phase was started.

In March, work of erection of equipment, machinery, piping and steel structures for the lube was taken up.

In May, electrical works in power plant process unit and off-sites was commenced.

During October, instrumentation work for fuel part of the refinery was started.

In December, LPG, SK and ATF upliftments were started.

1974: In August, crude distillation unit went on trial runs.

In December, naphtha pretreater Catelytic reforming and kero hydrodesulpharisation units were commissioned.

In October, HSD and FO despatches were started.

1975: The refinery went into commercial production on 1st January. Visbreaking unit was commissioned on 8th October. Production of JBO and MTO products was started.

1st Naphtha export parcel of 17 thousand tonnes was loaded in the tanker on 22nd May.

1976: Vacuum distillation and Bitumen units were put on stream during June.

Furfural Extraction Unit was commissioned. in July.

Propane Deasphalting Unit was commissioned in August.

Bitumen drum filling station was commissioned and drum filling was commissioned during October.

1977: In January, solvent dewaxing and Hydrofinishing Units were started.

In March, despatches of Lube Base Stocks including bright stocks premium grade lube oil hitherto imported were commenced.

In July, FBASBO production was started.

1979: In October, pipeline for supply of feedstock to Haldia Fertilizers and F.O. to bunkering installations at Haldia were commissioned.

1980: In June, despatches of Carbon Black Feedstock by rail were started for the first time.

1982: In May, modified facilities for simultaneous despatch of two grade of Bitumen were commissioned.

1983: In May, production/despatch of IOC process oil-in was commenced.

In June, production of MS-87 was stated.

(e) Mathura Refinery, Mathura.

1973: In July, a Protocol on economic and technical cooperation between India and USSR in the construction of Mathura Refinery was signed.

In Spetember, a contract for deputation of Soviet specialists for propring Memorandum of Instructions was signed between Indian Oil Corporation and NEFTECHIMPROMEXPORT, Moscow.

In December, a contract for preparation of Detailed Project Report Analysis of crude oil, supply of equipment/material deputation of Soviet Specialists for rendering technical assistance in setting up the refinery was signed.

On 2nd October, the foundation stone was laid.

1974: In January, process design engineering agreement was signed with UOP for fluid catalytic cracker and five Merox Units.

1974 (Contd.) In May, process design engineering agreement signed with IIP/IFP for Diesel, HSD and catalytic reformer with pre-treater units.

In March, a letter of intent wss issued to M/s BHEL for design, supply and erection of the power plant on a turn key basis.

In November, an agreement was signed for pollution control studies with M/s Techmeco of Italy.

1975: On 19th April, a team of Soviet Specialists arrived for review/scrutiny of the detailed project report.

On completion of DPR discussion, a DPR acceptance Protocol was signed between IOC and Neftechimpromexport.

Government decision regarding the revised schedule for Mathura Refinery, i.e. Mechnical Completion by December, 1979 and commissioning by April, 1980 received.

A contract for supply of equipment and materials and technical assistance was signed in Moscow with M/s NEFTECHIMPROMEXPORT.

1976: The first shipment of USSR equipment was received in June.

Contracts for stage of the first phase of Township awarded in January.

Contract awarded in respect of construction of Radial well in Yamuna River for water supply in April.

In July, contract awarded for site grading roads and storage tank foundations.

In November, contracts awarded for civil and Structural works for power plant building.

1977: A number of contracts for different jobs were awarded during the year.

In December, a detailed project report and the revised cost estimates were submitted to the Government for approval, Government's approval for selection of the Sulphur Recovery Unit was also received during that month. The Expert Committee constituted by Government to advise IOC on environmental (impact) of Mathura Refinery submitted its report to the Government in the month of December.

1978: In May, the detailed project Report and Revised Cost estimates were approved by the Government.

1979-80: Upto the end of March, the project achieved overall progress of 81%.

1980-81: Overall comulative progress of 92% was achieved upto 28th February, 1981.

1981-82: On 18th January, crude distillation unit was commissioned.

On 20th February, Visbreaker unit was commissioned.

1982-83: Secondary processing units were commissioned during this year and despatch of products byMathura Jullander pipeline started.

1983-84: On 14th May, the refinery was formally inaugurated.
On 5th May, a 20000 tonnes paraffin wax plant was inaugurated.

(vi) Cochin Refineries Ltd. Cochin.

1963: On 27th April, the formation agreement was entered into between the Govt. of India, Phillips Petroleum Co. of U.S.A. and Duncan Brothers & Company Limited Calcutta for setting up a Refinery in the South.

On 6th September, Cochin Refineries Ltd. was registered.

1966: On 23rd September, the Refinery was inaugurated.

1968: The Formation Agreement of 27th April, 1963 was modified and expansion of the Refinery capacity was agreed to.

1969: In February, the modification of Formation Agreement was executed.

1973: In August, expansion programme of the Refinery was completed.

1979: On 5th December, Govt. of India approved the Secondary Processing Scheme for CRL.

1981: On 3rd January, the Refinery completed fourth, one million man-hours without a loss time accident.

On 18th September, Govt. of India approved the expansion of Refining Capacity to 4.5 million tonnes per annum.

1982: The highest dividend of 72.38% was paid by the Company for this year 1981-82.

1983: On 22nd June, a new Technical Services Agreement, valid for a period of 5 years, was signed between CRL and Phillips Petroleum Company of USA.

1984: On 8th March, an explosion and fire occured in the refinery causing extensive damage to equipment and building of the refinery.

(vii) Madras Refineries Ltd., Manali Madras

1965: In December, the Madras Refineries Ltd. was incorporated as a joint venture of the Govt. of India, the National Iranian Oil Company and AMOCO.

1966: In November, a contract for construction of the refinery was awarded to M/s snam Progetti.

1967: In January, the ground breaking ceremony took place.

In April, the construction and erection of the refinery was started.

1969: First crude oil tanker arrived.

In June, the first batch of products were delivered to IOC.

In September, the refinery was formally inaugurated.

1972: In September, New Oil Jetty for berthing tankers in fair weather was available.

1973: The Refinery received the first prize under Shram Vir National Safety Awards for highest reduction in accident frequency ratio among Petroleum Refineries.

New products like Rubber Processing oils, Ink Oil and Axle Oil were developed.

Asphalt was exported to Indonesia for the first time.

Exported lubricating oil base stock to Bangladesh for the first time.

All the three prizes under Shram Vir National Awards in Accident Provention among Refineries were awarded.

1975: Fuel consumption was reduced by 10% which resultd in annual saving of about one crore rupees.

1977: MRL was declared the Runner up for National Shram Vir Award Scheme for the longest Accident for record for 1976 amongst Petroleum Refineries in India.

1978: In November, licence and engineering services agreements for paraffin wax plant were executed with M/s Union Oil Company of California, U.S.A.

1980: On 20th March, Government approved the double of refining capacity from 2.8 million tonnes per annum to 5.6 million tonnes per annum with matching facilities secondary processing.

1981: On 26th February, an agreement with M/s Engineers India Ltd., Management Contractors was signed.

The expansion work ofor the 2.8 million tonnes per annum additional refining capacity was in pregress.

1982: Projects for additional refining capacity of 2.8 million tonnes per year, Praffin waz were progressing satisfactorily.

1984 : Received safety award. AMOCO Oil Company for having achieved 5 million tonnes manhours of safety operation on 26th Feb., 1984 on 5th May 20000 tonnes parrafin wax plant was inaugrated.

(viii) Bongaigaon Refinery & Petro-Chemicals Limited Assam.

1971: Feasibility report was prepared by IOC and IPCL.

1972: Investment approval for the complex was cleared by the Government.

1973: Work on crude distillation unit and offsite facilities was started.

1974: On 20th February, the Company was incorporated in Assam under the Companies Act, 1956 with an authorised capital of Rs. 50 crores.

1975: Government approval for 4 units of the Refinery was obtained.

1977: Civil work was started.

In November, the authorised capital of the Company was increased to Rs. 100 crores.

1978: In April, mechanical completion of crude distillation unit and offsite facilities was over.

1979: In February, first Module of captive Power Plant (CPP) crude Distillation unit and offsites (Refinery) were commissioned.

On 25th April, Crude Distillation Unit (CDU) came on commercial productions.

In December, Mechnical Completion of Kerosene Treating Unit (KTU) was over.

1980-81: The refinery operations were affected during the period December, 1979 to February 1981 due to agitations in Assam.

On 28th March, KTU was put on trial runs.

1981-82: Normal activities were resumed after the suspension of agitation.

1982: In June, despatch of Calcined Petroleum Coke was started.

1983-84: Third and last module of CPP was completed
In January, the authorised capital of the company was increased to 200 crores.

(C) MARKETING

(i) Burmah-Shell/Bharat Petroleum Corporation Limited, Bombay.

1901: The Asiatic Petroleum Company entered in Indian market.

1921: The Burmah Oil Company entered the Indian market.

1928: On 6th January, Burmah-Shell came into existence.

1956: Burmah-Shell started the use of special tank-wagons for transportation of Bitumen. In May, Indian flag vessel Desh Sewak was chartered.

1965: Burmah Shell started use of special tank wagons for transportation of LPG.

1968: Burmah Shell introduced locally developed HDPE containers for packing lubricants.

1972: Burmah Shell commissioned a prototype aluminium alloy tank lorry for MS/HSD delivery to retail outlets.

1974: Burmah Shell established a Fuel Advisery Cell for promo-tingfuel economy through export advise tofuel users.

1976: On 24th January, theBurmah Shell Refineries Ltd. was taken over by the Govt. of India and the Indian assets and liabilities of Burmah-Shell were merged with those of the nationalised Company to form Bharat Refineries Ltd.

1977: In August, the nationalised Company was given its permanent name Bharat Petroleum Corpora_tion Limited.

1980: In February, LPG was imported for the first time in tankers.

Wax was also imported for the first time at Bombay.

1980-81: On 15th August, a new LPG filling plant, the largest in India, alongwith storage/pumping/loading facilities was commissioned.

1981-82: Another LPG filling plant was commissioned.

1982-83: Multi- media safety campaign for LPG was launched.

(ii) Esso Standard Eastern Inc./Hindustan Petroleum Corporation Limited (Marketing Operations)

1882: Esso's predecessor Company in India, Standard Oil Company of New York, commenced supply of Kerosene.

1931: Standard Vacuum Oil Company waa formed with the merger of Standard Oil Company of New York and Vaccum Oil Company.

1933: On 7th September, Standard Vaccum Oil Company started operations in India.

1958: Marketing of LPG for domestic use was started in Bombay.

1962: On April 1, Esso came to India. Standard Vaccum Oil Company was reorganised and named as Esso Standard Eastern Inc. which is solely owned bythe Standard oil Company, New Jersey.

1965: On 15th September, an agreement was signed between the Government of India and Esso Standard Eastern on a 50:50 partnership for the construction of a jointly owned lubricating base oil refinery at Bombay.

1970: On 11th February, Lube India Limited was formally commenced for producing lubricating oil base stocks from feedstock supplied by ESRC.

1971: On 1st January, corporate name was changed to Esso Eastern Inc.

1974: On 15th March, the Government of India acquired the entire market assets of Esso Eastern Inc. in India and 74% interest in Esso Standard Refining Company of India Limited and the Lube India Limited.

On 15th July, the market assets were vested in Esso Standard Refining Company and the two companies were merged to form Hindustan Petroleum Corporation Limited.

1975: For the first time in India, in August lightering operations were commissioned to better utilise the 87,000 DWT tankers owned by the Shipping Corporation of India.

Axle oil handling facilities installed at Mahul Terminal began supplies of Axle oil medium andheavy to railways in bulk and 205 litre drums.

1976: On 1st October, Government of India acquired the balance 26% equity shares held byEsso and thus HPCL became a fully owned Government Company with effect from 1st October.

Marketing of turbine oil blends and rubber processing oil (heavy) commenced.

1977: Under the rural marketing programme, thetotal number of Multi-purpose distribution centres moved upto 89 and those of Farm Fuel Centres to 20.

1978: On 9th May, an order for amalgamating Caltex Oil Refining (India) Ltd. with Hindustan Petroleum Corporation Ltd. was issued by the Company Law Board.

1979: On 31st March, Cat debottlenecking Project was completed.

On May, 26, the Govt. of India acquired the undertaking of Kossangas Company. On the same day, the Government vested the right title and interest and liabilities of the undertaking of Kosangas to HPCL. The Government also tookover the management of the Undertakings of the Parcol Investments and Trading Company Private Ltd., and the Domestic Gas Private Ltd. and appointed HPCL as 'Custodian' of thess undertakings with the acquisition of these undertakings, HPCL assumed the direct responsibility of serving nearly eight lakh LPG consumers in the country.

1980: Retail outlets in rural areas were extensively utilised to promote National Family Welfare Programme.

1981: ATF pipeline between Bombay Fuel Refinery and Bombay Airport was commissioned. A LPG Bottling Plant at Bombay was also commissioned during the year.

1982: Work on Bombay-Pune Pipeline project was started. The company provided 2.30 lakh new LPG connection to the consumer during the year. 121 new Retail outlets were commissioned by the corporation during 1982-83.

(iii) Caltex (India) Limited/Hindustan Petroleum Corporation Limited, Visakhapattanam.

1937: Caltex started its operations in India by taking over the business of Taxes Company (India) Limited.

1959: In October, Caltex chartered an Indian Flag tanker 'Desh Bandhu' for crude sercice. Desh Deep for offshore movement of its products.

1964: In April, Caltex chartered the Indian Flag tanker 'Desh Bandhu' for crude service.

1972: In response to a request from Government of India, 'Desh Bandhu' was initially surrendered by Caltex for a period of one year.

1973: The release of 'Desh Bandhu' was extended.

1974: The release of 'Desh Bandhu' was further extended to cover the balance period under charter to Caltex.

1976: Govt. On 22nd November, an agreement was signed between of India and the principals of Caltex for purchase of 100% shares of Caltex Oil Refining (India) Ltd. and acquisition of assets & liabilities of Caltex (India) Ltd. in relation to its undertakings in India. This was made effective by Promulgamation of an Ordinance on 30th December transferring 100% shares of CORIL and assets and liabilities of Caltex(India) Ltd. to a new Government Company.

1977: Three multi-purpose distribution centres were commissioned during the year and marketing of 'Exide' batteries and 'Nutan Stove' (In Delhi Region only) was commenced through retail outlets.

1978: On 19th May, Caltex Oil Refining Company of India Ltd. was amalgamated with Hindustan Petroleum Corporation Limited.

1983+84: The company appointed 57 new LPG dealers and commissioned 60 new retail outlets during the year. About 3.54 lakh new LPG domestic consumers were also enrolled during the year.

HP Super Engine Oil (multigrade 20W-40 and 20W-50) an all weather oil to promote fuel afficiency and easy startability and another new products HP super 2T Engine oil an improved oil for 2/3 wheelers to promote engine clearliness prevent spark plug fauling and port blockages were introduced during the year.

(iv) Indian Oil Corpora tion Ltd. (Marketing Division)

1959: On the 30th June, the Indian Oil Company Ltd. was formed. Agreements were signed with Sejuenefteexport, the Soviet Oil Export Organisation for importing Kerosene and HSD.

1960: In July, first import tanker was received from USSR at Bombay installation.

1961: In October, first retail outlet at Cochin was commissioned.

1962: In February, first shipment of petroleum products to Bhutan was made.

In May, first inland installation at Siliguri to receive products directly from the Gauhati Refinery by product pipeline was commissioned.

1963: On 22nd March, Indian Oil Blending Ltd. a joint venture of the erst-while Indian Oil Company and Mobil Corpn. Inc. on 50:50 basis was registered on the business of blending, manufacturin lubricating oils and greases.

In April, first shipment of Petroleum products to Nepal was made.

1964: On 1st September, the IndianOil Corporation Limited was formed with the merger of the Indian Refineries Ltd. and the Indian Oil Company.

Indian Oil Blending Ltd. became a wholly owned subsi-dary of Indian Oil Corporation Ltd. as a result of purchase of 50% shares of Mobil Corporation Ltd.

1965: In November, supplies to first civil customer in field of civil aviation were made.

On 22nd October, introduced LPG from Barauni Refinery under the trade name of INDANE in Calcutta market.

1967: On 6th January, exported Motor Gasoline to Thailand.

In July, first INDANE distributorship was offered under rehabilitation programme for ex-servicemen.

1968: On 6th May, bitumen to Ceylon was exported for the first time.

In September, first LPG bottling plant at Shakurbasti was established.

In Octobeer, first tanker at the new port of Haldia was loaded.

1969: On 30th April, LPG was introduced in Assam.

On 25th August, LPG was introduced in Southern India.

LPG to an industrial consumer at Ernakulam was supplied.

1969 (Contd.) In August, first LDO barrel outlet was commissioned at an interior location namely Mehmedabad, for ensuring adequate and timely supplies of fuel at controlled prices for diesel engines for agricultural operation. As at the end of 1971. IOC increased this facility to 280 barrel outlets and 2 pump outlets spread all over the country.

Two new products, viz. Benzene and Toluene were added to the marketing list of POL products of IOC.

On 24th October, a Subsidiary Company of IOC under the name of Indian Oil International Ltd. was incorporated at New Delhi for trading in Nepal also.

Handled more than 50% of the total petroleum trade of the country.

In July, marketing of products from Madras Refinery was commenced.

1970: On 12th January, majority interest inIBP was acquired by purchasing 60% equity.

On 4th April, Indian Oil's new blending plant at Madras was commissioned with all modern facilities to produce quality lubricants for the entire industry demand in the southern Region. This is the largest plant in the country (140,000 tonnes/year capacity) and is entirely owned by IOC.

On 5th July, the first retail outlet was commissioned at Coimbatore under thescheme of employment to unemployed graduates.

In October, first Indane dealership was offered at Chingelpet, Tamil Nadu under the scheme of offering employment to unemployed graduates.

1971: In April, a gaint 45 Kl. Avnrofueller, which was designed and developed by IOC and fabricated indigenously was commissioned.

Lube Oil imports on an industry basis were channelised exclusively through IOC.

In December, first export shipment of petroleum products to Bangla Desh was made.

1972: In January, scheme for the award of dealerships to rehabilitate was affected defence personnel was introduced.

During March, supplies of crude oil to the Chittagong Refinery of Bangla Desh were arranged and offloading of the crude tanker in mid stream by lighters at Chittagong was done.

In April, drum plant at Madras started production of barrels for lubes and drums for Bitumen.

1972 (Contd.) In August, majority interest of IBP was sold to the President of India in accordance with the Presidential directive. As such, IBP ceased to be a subsidiary Company of IOC.

During September, premium grade lube with indigenous formulations under the brand name 'SERVO' were introduced.

1973: In July, marketing of LPG produced at Cochin Refinery commenced bulk bitumen sales from Madras Refineries were commenced by deliveries to Tamil Nadu Highways Department.

In August, Petroleum business of Indian Oil International was taken over by the Nepal Oil Corporation as per orders of the Government of India.

1974: In July, agreement with MOBIL in blending/marketing of premium lubricants of MOBIL brands terminated and was replaced by range of premium servo brands of lubricants.

During August, a liquidator of Indian Oil International Ltd. a wholly owned subsidiary was appointed and the Company is under shareholders voluntary liquidation.

A programme for educating the consumers towards improving fuel efficiency in their respective plant was launched. A group of IOC officers were trained in collaboration with the National Productivity Council and the Energy Conservation Division of DGTD.

During December, two new products were added in products range by marketing Jute Batching Oil and Rubber Extender Oil.

1975: In August, LPG Bottling Plant at Kanpur was commissioned.

In November, eighty retail outlets were developed as Multi-purpose distribution centres.

Besides, petroleum products essential commodities for farmers are made available in these centres.

The entire requirements of Axle oils was met by indigenous production. Till 1974, this was being imported.

1976: Laid stress in fulfilling social objectives such as fuel conservation studies to save foreign exchange, developing multipurpose distribution centres in the rural areas. Concentrated in the development of customer services and exports. Exported bitumen to new markets such as Vietnam, Burma and Dubai.

In February, IOC and Castrol, U.K. entered into a technical assistance and collaboration agreement.

Refuelling systems for Jumbo Jets in Calcutta commissioned.

During January-June, IOC introduced LPG in the States of Manipur, Tripura, Orissa, Mizoram and Nagaland.

In November Indian Oil International was dissolved.

In December, pipeline facilities at Goa Port commissioned.

1977: On 14th February, IOC's paid up capital was increased from Rs. 71.18 crores to Rs. 82.18 crores. Furthermore on 22nd February, the authorised capital of the company increased from Rs. 85 crores to Rs. 150 crores.

1977 With the export of 16000 MT of HVI base stock to Sri Lanka in May 1977 and 45 MT to Sharjah IOC successfully penetrated the international lube oil market which was the monopoly of major international oil companies.

Several new multi-purpose distribution centres were opened by IOC for the benefit of the rural sector. A rural market survey was also undertaken to identify and meet the needs of the formers in rural areas.

LPG Bottling Plant at Kanpur was completed.

An improved kerosene wick stove 'Nutan' developed by Indian Oil's Research & Development Centre, was put out for sale.

1978: A lube godown, the first of its kind in the country, was opened at Pimpri to ensure easy availability of products to the growing number of industries in the industrial belt near Pune.

In April, Centralised use of BPC's computor for processing of Industry's Consumption Zone studies was introduced.

In May, one more Divisional Office at Raipur was opened.

In September, Government's approval was received for Hydrant Refuelling system at the new international airport in Bombay and the work on the project was commenced.

LSHS supply to Koradi power house near Nagpur was commenced.

For the first time, a study was undertaken on HSD consumption by the Railways and several conservation measures were suggested, which result in a huge saving.

IOC signed an agreement with Chevoran International Oil Co., USA for receiprocal arrangements for the supply of Marine Lubricants meeting international specifications to Indian and foreign flag vessels at Indian and foreign ports.

Containerised service for major consumers was introduced to avoid pilferage and contemination of products.

1979: In February, fasibility report for marketing of LPG during 1978-79 to 1982-83 was approved by the Government. According to this proposal 17.54 lakh customers will be enrolled during the same period, and the sale of LPG is expected to increase from 201,000 M.T. to 462,000 M.T. Further, in order to ensure availability of Kerosene at fair price in remote and far flung hilly areas, IOC launched a scheme of opening Taluka Kerosene Depots. The first such depot was opened at Rishikesh in U.P. Marketing of products from Bongaigaon Refinery and Bitumen ex-cochin Refinery (after a lapse of almost 4 years) was commenced during the month of February.

In March, the dealership policy was oriented to rehabilitate physically handicapped persons, by offering dealerships to such persons. The first retail outlet under this scheme was commissioned. Marketing of Bitumen, produced for the first time by Gujarat Refinery, was also commenced during the same month.

In November, as part of import substitution efforts, arrangements for manufacture of certain proprietory brands of greases for cement plants were made.

1980: In February, the project report for pipeline installations at Delhi, Ambala and Jullundur, a part of Mathura-Jullundur Pipeline Project, was approved by the Government.

1981: Chartering of crude vessels was undertaken for lifting crude oil from Venezuela.

For the first time, FO/LSHS was supplied to Gujarat Narmada Valley Fertilizer Corporation Ltd. as feed-stock/fuel.

1982: In January, IOC commenced export of Bombay High crude Oil underthe swap deal finalisd with a foreign oil company.

On 30th April, Bijwasan terminal of the Mathura - Delhi pipeline was commissioned.

On 21st July, bulk Bitumen supplies commened from Mathura.

In August, a new terminal at Ambala was commissioned.

1983: In March, the pipe line terminals at Bijwasan, Ambala and Jullunder wasformally commissioned. A contract for processing of Bombay High crude at foreign refineriee was also signed by IOC.

(v) <u>IBP Co. Limited.</u>

1909: The Indo-Burma Petroleum Co. Ltd. was established in Burma as a result of an association between Steel Brothers & Co. Ltd. and Sir Abul Karim Jamal of Jamnagar (Gujarat) and an Office of the Company was opened in Calcutta.

1910: Another Office of the Company was opened in Bombay.

1912: Storage installations were set up in Bombay and Calcutta to receive petroleum products from Burma.

1942: The Company obtained registration in India and shifted its office to Calcutta.

Agreement for supply of products from sources outside Burma was entered with Burma Oil Company.

1949: Agreement for supply of POL products was signed with Burma Shell replacing the adhoc supply arrangements made with Burmah Oil Company.

1950-60: Marketing activities of the Company were developed and a branch office was opened in Delhi in early 1960's.

1966: As a part of diversification an Enginering Division was set up at Bombay.

1970: On 12th January, majority interest in IBP was acquired by IOC by purchasing 60% equity shares.

1972: The Controlling rights of Balmer Lawrie Group of Companies in India were acquired by IBP during the year.

In August, the majority interest in IBP was transferred from IOC to the President of India.

1974: In February, IBP set up a separate Chemical Division which is now engaged in the manufacture of Industrial explosives.

1976: Company diversified into the manufacture of High Vacuum Equipments and an Office of the Oil Division was opened at Madras.

1978: The first Public Sector Industrial Explosives Plant was commissioned at Korba, and started commercial production in March, 1978.

1980: Plant for manufacture of Cryocontriner was set up at Nasik.

1983: With effect from 15th March the Company changed its name from "The Indo-Burma Petroleum Co. Ltd." to "IBP Co. LIMITED"

In March, A plant for manufacturing LPG pressures Regulators and valves was commissioned.

(D) LUBE PLANTS

(i) Lube India Limited/Hindustan Petroleum Corporation Limited (Lube Refinery)

1965: On 15th September, lube refinery agreement was signed by the President of India and Esso Eastern Inc. on a 50:50 partnership for construction of a jointly owned lubricating base oil refinery at Bombay.

1966: On 4th April, the Company was incorporated.

1969: Refinery went on stream and the first shipment of lubricating oil base stocks was smade on 31st December to Esso and Indian Oil Corporation Ltd.

1973: Company obained an industrial licence for manufacture of carbon black feed-stock.

CBFS licence was enhanced to 110 thousand tonnes.

Company made experimental batches of 150 turbine oil base stock.

1974: Axle oil to substitute imports was manufactured for the first time.

In March, Govt. of India acquired 74" interest in this company.

On 15th July, the Company was merged to form Hindustan Petroleum Corporation Ltd.

1975: The Lube Refinery, Commenced commercial production of Rubber Process Oil.

Turbine oil base stocks (10,000 MT/p.a.) produced on a commercial scale.

1977: During October-November, crude pre-heat optimization project was completed during turn around. This project improvd the crude pre-heat recovery, resulting in fuel saving.

1979: Expansion project envisaging additional production of 74,000 M.T. of high viscosity index lube base stock was under way.

1983: In April, refinery expansion facilities were commissioned to yield on additional production of 74,000 MTA of High viscosity lube oil Base stocks.

(ii) Lubrizol India Limited.

1965: On 2nd December, the formation Agreement was signed between the Govt. of India and the Lubrizol Corporation of U.S.A.

1966: On 20th July, Lubrizol India Ltd. was registered in the state of Maharashtra.

1967: In early 1967 land was acquired and in the month of October construction work was started.

1968: On 20th November, the plant was mechanically commissioned and production was commenced.

1969: On 16th January, the palnt was formally inaugurated.

1971: On 26th March, entire management including the Managing Director was Indianised.

1972: In February, the ground breaking for construction of the new plant (Phase II Stage I) was started.

1973: On 31st October, the plant (Stage I of Phase II) was commissioned.

1974: In December, work on execution of new plants (Stage II and III of phase II) was started.

1976: In September, Industrial licence for increasing licenced capacity for Chemical Additives from 6000 tonnes to 10,000 tonnes per annum was granted by the Government.

1977: In March, Stage II of Phase II was commissioned.

In May, Stage III of Phase II was commissioned.

On 21st May, the plants were formally inaugurated.

1978: In March, industrial licence for enhancement of the licenced capacities for chemical additives from 10,000 tonnes to 15,000 tonnes and Engine Oil Dispersant Intermediate Components from 4000 tonnes to 6000 tonnes per annum were issued by the Government.

1979: On August 25, a new Technology Transfer Agreement and Trade Marks Agreemrnt, were signed between the Lubrizol Corporation, USA and Lubrizol India Limited, replacing the earlier Technical Service Agreement and Trade Marks Agreement which formed a part of the Formation Agreement of December 1965. Under the new Technology Transfer Agreement, which is for an initial term of 8 years, Lubrizol Corporation will provide formulation technology as also R&D assistance for the manufacture of Chemical Additive. As a consequence the Formation Agreement has also been suitably modified.

1980: On January 25, the foreign equity participation was brought down from 49 to 40% and Government of India's holding was raised from 51 to 60%.

On 16th May, bonus shares amounting to Rs. 420/- lakhs were allotted to existing shareholders in theratio of 7 equity of Rs. 100/- each fully paid for every one equity share hold by capitalisation of reserves, thus the paid-up capital of the company was raised to Rs. 480/- lakhs.

1981: In July, an Industrial Licence for increasing the manufacturing capacity of Chemical Additives from 15000 M.T.P.A. to 20,000 M.T.P.A. was received. A letter of intent for manufacture of 6700 M.T.P.A. of Neutral/Over based This Phenate Intermediate Compound used for diesel engine oil formulation was also received during the month.

1982: On 17th June, newly established R&D centre of the Company was inaugurated.

On 8th December, possession of send for the proposed Engine testing Laboratory was taken over.

1983: In March, construction work of the Engine testing laboratory was stated calcium phonate Unit was commenced on 21st May and the Engine oil Dispersant Unit increased capacity on 20th August.

In November, the work for setting up a new calcuum Sulfonate Unit was commenced.

(iii) Indian Oil Blending Limited.

1962: On 16th November, distributorship agreement was signed between Indian Oil Corporation Limited, Bombay and Mobil Petroleum Co. Lnc., New York, as a result of which Indian Oil Blending Ltd. was established for manufacturing lubricating oils of Mobil and other Brands, with financial participation in the new company by Mobil Petroleum Co. Inc.

1963: On 25th March, Indian Oil Blending Ltd. was incorporated as a Public Limited Company under the Companies Act, 1956 at Bombay, with an authorised capital of Rs. 20 lakhs, out of which 10 lakhs were contributed by Indian Oil Corporation Ltd. and Rs. 10 lakhs by Mobil Petroleum Co. Inc. in US dollars.

1964: In May, two plants at Bombay and Calcutta were commissioned and trial runs were started with the installed capacities of 64,000/ KLS for Bombay and 32,000 KLS for Calcutta Plants per annum of Lubricating oils.

1966: On 1st November, a supplementary agreement was signed between Indian Oil Corporation Ltd. and Mobil Petroleum Co.Inc. for the construction of Grease Manufacturing ~~Plant attached to the lube plant at~~ Bombay. The authorised capital was increased to Rs. 40 lakhs from Rs. 20 lakhs and the increase of Rs. 20 lakhs was also contributed equally by Indian Oil Corporation Ltd. and Mobil Petroleum Co. Inc. the capital contributd by Mobil Petroleum Co. Inc. being in U.S.A. dollars.

1967: On 7th May, the Grease Plant was commissioned with an installed capacity of 5 million Pounds per annum.

1968: On 19th July, a Supplemental and Amedatory Agreement was signed between Indian Oil Corporation Ltd. and Mobil Petroleum Co. Inc. for technical assistance by Indian Oil Blending Ltd. for operating a Lube Blending Plant at Madras to be set up by Indian Oil Corporation Limited.

1971: During the year 1971-72, the Company imported and installed at Bombay Laboratory one 900 Model Perkin Elmer Gas Chromatcgraph and one 290-B, Atomic - Abrorption Spectrophotometer.

1972: The licenced capacities were enhanced to 150 thousand Kls. and 10 million pounds of grease for Bombay Plant and 100 thousand Kls. of lubes for Calcutta Plant.

1974: The collaboration agreements between Indian Oil Corporation Ltd. and Mobil Petroleum Co. Inc. of New York, were terminated with effect from 19.7.74 and the 50% of shareholdings of Mobil in Indian Oil Blending Limited were taken over by Indian Oil Corporation Ltd. as a result of which, Indian Oil Blending Ltd, became a wholly-owned subsidiary of Indian Oil Corporation Ltd.

1975: A clay Treatment Plant was put on trial runs at Calcutta to process critical bearing lubricants with high demulsibility characteristics for steel mills.

1978: Facilities for manufacturing Hydraulic Brake Fluids at Bombay Plant were put up and a Diesel Generating Set was installed at Calcutta to overcome frequent power problems.

1982: Additional Small CAN Filling Facilities with overhead tanks for gravity filling were installed at Calcutta. Plant to increase capacity for small can filling.

1983: One 5 mt. ton indigenously fabricated grease kettle was installed and commissioned at Bombay to augment the grease manufacturing capacity.

One atomic absorbtion spectrophoto meter and Air Release Apparatus were also installed and commissioned at the Bombay Laboratory.

III. India's Petroleum Industry At-A-Glance (1970-71 - 1983-84)

Year	Crude oil balance recoverable reserves	Consumption (excl. RBF)	Crude oil production	Imports		Refinery throughput	Refinery production	Value of POL imports (Rs./Crores)	India's total exports	% of POL imports to India's exports	CIF Unit values of crude imports (Rs/MT)	Central excise & Customs dutines on POL (Rs/crores)
				Crude oil	POL Products							
	(.....Million Tonnes.....)											
1	2	3	4	5	6	7	8	9	10	11	12	13
1970-71	128	17.91	6.82	11.68	1.09	18.38	17.11	137	1535	8.9%	91	638
1971-72	114	20.07	7.30	12.95	2.15	20.04	18.64	194	1608	12.1%	114	772
1972-73	125	21.72	7.32	12.08	3.53	19.33	17.83	207	1971	10.5%	121	853
1973-74	127	22.35	7.19	13.87	3.55	20.96	19.50	541	2523	21.4%	300	970
1974-75	125	22.11	7.68	14.02	2.65	21.09	19.60	1112	3329	33.4%	654	1106
1975-76	144	22.45	8.45	13.62	2.22	22.28	20.83	1256	4042	31.1%	772	1155
1976-77	275	24.10	8.90	14.05	2.62	23.00	21.43	1424	5142	27.7%	837	1222
1977-78	303	25.54	10.76	14.51	2.88	24.90	23.22	1552	5408	28.7%	859	1279
1978-79	347	28.24	11.63	14.66	3.88	25.97	24.20	1681	5726	29.4%	854	1480
1979-80	354	29.88	11.77	16.12	4.72	27.47	25.79	3270	6459	50.7%	1357	1620
1980-81	366	30.89	10.51	16.25	7.29	25.84	24.12	5266	6711	78.5%	2061	1512
1981-82	468	32.52	16.19	15.30	4.88	30.14	28.18	5189	7803	66.5%	2442	1582
1982-83	471	34.66	21.06	16.95	5.03	33.16	31.07	5598	8834	63.4%	2386	1664
1983-84 (P)	527	35.84	26.02	15.97	4.05	35.26	32.89	4711	9396	50.1%	2205	1837

(P) = Provisional.

IV. Growth of Petroleum Industry in India

('000 Tonnes)

Year	Crude Oil Production	Refineries	Petroleum Products Production	Consumption*
1	2	3	4	5
1960	451	6091	5747	7964
1965	3022	9754	9113	12356
1970	6809	18459	17172	18816
1971	7185	19588	18225	20706
1972	7373	19672	18198	22675
1973	7198	20518	19089	23726
1974	7490	20783	19241	23023
1975	8283	21835	20368	23541
1976	8659	22762	21188	24897
1977	10185	24430	22795	26570
1978	11271	25626	23877	28894
1979	12839	28153	26360	31306
1980	9399	25075	23597	31633
1981	14925	29528	27575	34037
1982	19734	32107	29993	35403
1983	25148	34534	32263	37225

(Rs./Crores)

Year	GROSS IMPORTS Crude Oil	Products	Total	EXPORTS/RE-EXPORTS Crude Oil	Products	Total	NET POL IMPORTS (col8-11) TOTAL
1	6	7	8	9	10	11	12
1960	40.57	41.02	81.59	-	4.61	4.61	76.98
1965	40.38	44.73	85.11	-	3.92	3.92	81.19
1970	102.36	30.53	132.89	-	5.72	5.72	127.17
1971	139.88	43.49	183.37	-	2.55	2.55	180.82
1972	144.25	56.69	200.94	-	8.94	8.94	192.00
1973	244.56	88.03	332.59	0.42	5.35	5.77	326.82
1974	899.36	209.90	1109.26	-	19.37	19.37	1089.89
1975	992.02	199.46	1191.48	-	13.83	13.83	1177.65
1976	1145.56	219.70	1365.26	-	7.60	7.60	1357.66
1977	1258.92	272.99	1531.91	-	6.50	6.50	1525.41
1978	1243.89	414.13	1658.02	-	4.20	4.20	1653.82
1979	1787.38	727.56	2514.94	-	14.94	14.94	2500.00
1980	3038.66	1788.28	4826.94	-	17.98	17.98	4808.96
1981	3793.83	1638.58	5432.41	-	15.13	15.13	5417.28
1982	4166.89	1551.37	5668.26	1044.71	101.23	1145.94	4522.32
1983	3471.47	1197.59	4669.06	953.76	253.43	1207.19	3461.87

(P) = Provisional

* = Including Refinery Fuel.

Growth of Petroleum Industry in India

('000 Tonnes)

Financial Year	Crude Oil		Petroleum Products	
	Production	Refineries crude Throughput	Production	Consumption*
1	2	3	4	5
1960-61	448(e)	6130	5777	8285
1965-66	3473	10233	9561	12437
1970-71	6822	18379	17110	19135
1971-72	7299	20042	18639	21299
1972-73	7321	19328	17830	22978
1973-74	7189	20958	19495	23574
1974-75	7684	21094	19603	23302
1975-76	8448	22283	20829	23673
1976-77	8898	22995	21432	25400
1977-78	10763	24898	23219	26990
1978-79	11633	25974	24193	29719
1979-80	11766	27474	25794	31323
1980-81	10507	25836	24123	32261
1981-82	16194	30145	28182	34107
1982-83	21063	33156	31067	36395
1983-84	26020	35263	32887	37771

(Rs./Crores)

Financial Year	IMPORTS			Exports/RE-EXPORTS			NET POL IMPORTS
	Crude oil	Products	Total	Crude oil	Products	Total	
1	6	7	8	9	10	11	12
						(e)	
1960-61	39.23	39.84	79.07	-	4.40(e)	4.40	74.67
1965-66	39.62	40.68	80.30	-	4.39	4.39	75.91
1970-71	106.72	29.91	136.63	-	4.67	4.67	131.96
1971-72	147.02	46.98	193.90	-	3.91	3.91	189.99
1972-73	146.37	60.58	206.95	-	8.16	8.16	198.79
1973-74	416.39	124.50	540.89	0.42	8.05	8.47	532.42
1974-75	916.99	195.00	1111.99	-	17.46	17.46	1094.53
1975-76	1051.76	204.34	1256.10	-	13.96	13.96	1242.14
1976-77	1175.91	248.23	1424.14	-	6.89	6.89	1417.25
1977-78	1246.20	305.34	1551.54	-	5.69	5.69	1545.85
1978-79	1251.17	429.99	1681.16	-	4.11	4.11	1677.05
1979-80	2187.53	1082.39	3269.92	-	24.02	24.02	3245.90
1980-81	3348.97	1917.52	5266.49	-	8.41	8.41	5258.08
1981-82	3736.38	1453.16	5189.54	196.23	15.13	211.36	4978.18
1982-83	4043.74	1553.94	5597.68	1023.29	133.79	1157.08	4440.60
1983-84	3541.05	1195.95	4737.00	1111.37	310.25	1421.62	3315.38

* Including Refinery Fuel.

(P) = Provisional. (e) Estimated.

V. PETROLEUM ENERGY IN INDIA-1978- 1983
(Calendar Years)

PRODUCTS	1978	1979	1980	1981	1982	1983(P)
AVAILABILITY						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	4.03	4.04	4.28	4.86	5.19	5.29
ATF	1.17	1.17	1.07	1.06	1.31	1.38
HSD	8.36	9.72	10.15	11.18	11.77	12.37
LDO	1.24	1.28	1.24	1.07	1.11	1.10
Fuel Oils	6.31	7.19	7.19	7.47	7.21	7.58
Others*	3.44	3.49	3.25	3.69	4.03	4.48
Total	24.55	26.91	27.18	29.33	30.62	32.20
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	8.06	8.08	8.56	9.72	10.38	10-58
ATF	2.34	2.38	2.14	2.12	2.62	2.76
HSD	16.72	19.44	20.30	22.36	23.54	24.74
LDO	2.48	2.56	2.48	2.14	2.22	2.20
Fuel Oils	12.62	14.38	14.38	14.94	14.42	15.16
Others*	6.88	6.98	6.50	7.38	8.06	8.96
Total	49.10	53.82	54.36	58.66	61.24	64.40
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	32.24	32.32	34.24	38.88	41.51	42.29
ATF	8.47	8.93	8.03	7.95	9.86	10.39
HSD	75.23	87.48	91.35	100.62	105.90	111.36
LDO	11.18	11.52	11.16	9.63	10.03	9.88
Fuel Oils	12.62	14.38	14.38	14.94	14.42	15.16
Others*	17.85	18.18	17.18	19.35	21.20	23.59
Total	157.82	172.81	176.34	191.37	202.92	212.67

PRODUCTS	1978	1979	1980	1981	1982	1983
CONSUMPTION						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.92	3.88	4.09	4.59	5.13	5.39
ATF	1.13	1.15	1.14	1.12	1.13	1.19
HSD	8.32	9.61	10.16	10.75	11.64	12.46
LDO	1.22	1.27	1.19	1.02	1.05	1.10
Fuel Oils	6.37	7.08	7.35	7.37	7.13	7.53
Others*	3.36	3.42	3.28	3.61	3.84	4.43(P)
Total	24.32	26.41	27.21	28.46	29.92	32.10
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.84	7.76	8.18	9.18	10.26	10.78
ATF	2.26	2.30	2.28	2.24	2.26	2.38
HSD	16.64	19.22	20.32	21.50	23.28	24.92
LDO	2.44	2.54	2.38	2.04	2.10	2.20
Fuel Oils	12.74	14.16	14.70	14.74	14.26	15.06
Others*	6.78	6.84	6.56	7.22	7.68	8.86(P)
Total	48.70	52.82	54.18	56.92	59.84	64.20
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	31.36	31.04	32.72	36.72	41.04	43.12
ATF	8.48	8.62	8.55	8.40	8.48	8.93
HSD	74.88	86.49	91.44	96.75	104.76	112.14
LDO	10.98	11.43	10.71	9.18	9.45	9.90
Fuel Oils	12.74	14.16	14.70	14.74	14.26	15.06
Others*	17.45	17.72	17.44	18.60	20.44	23.25(P)
Total	155.89	169.46	175.56	184.39	198.43	212.40

(P)= Provisional. *Includes LPG, Gasolines, Refinery Gas and Refinery Fuel. @ Based on conversion factors adopted by FPC, 1974.

PETROLEUM ENERGY IN INDIA: 1978-79 TO 1983-84
(Financial Years)

PRODUCTS	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
AVAILABILITY						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.96	4.09	4.56	4.88	5.27	5.48
ATF	1.18	1.15	1.03	1.12	1.38	1.36
HSD	8.46	9.98	10.59	10.88	12.34	12.47
LDO	1.25	1.31	1.18	1.03	1.12	1.12
Fuel Oils	6.56	7.14	7.46	7.44	7.29	7.57
Others*	3.42	3.39	3.33	3.72	4.12	4.64
Total	24.83	27.06	28.05	29.07	31.52	32.64
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.92	8.18	8.92	9.76	10.54	10.96
ATF	2.36	2.30	2.06	2.24	2.76	2.72
HSD	16.92	19.96	21.18	21.76	24.68	24.94
LDO	2.50	2.62	2.36	2.06	2.24	2.24
Fuel Oils	13.12	14.28	14.92	14.88	14.58	15.14
Others*	6.84	6.78	6.66	7.44	8.24	9.28
Total	49.66	54.12	56.10	58.14	63.04	65.28
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	31.68	32.72	35.68	39.01	42.19	43.86
ATF	8.85	8.63	7.73	8.39	10.36	10.23
HSD	76.14	89.82	95.31	97.92	111.06	112.23
LDO	11.25	11.79	10.62	9.27	10.00	10.08
Fuel Oils	13.12	14.28	14.92	14.88	14.58	15.14
Others*	17.72	17.70	17.66	19.48	22.11	24.49
Total	158.67	174.94	181.92	188.07	210.30	191.54
CONSUMPTION						
PRODUCTS	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.95	3.87	4.23	4.69	5.21	5.52
ATF	1.15	1.14	1.13	1.13	1.15	1.21
HSD	8.64	9.30	10.35	10.83	12.01	12.60
LDO	1.22	1.27	1.12	1.04	1.07	1.10
Fuel Oils	6.67	7.08	7.47	7.18	7.30	7.56
Others*	3.42	3.36	3.31	3.70	4.08	4.48(P)
Total	25.05	26.52	27.61	28.57	30.82	32.57
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.90	7.74	8.46	9.38	10.42	11.04
ATF	2.30	2.28	2.26	2.26	2.30	2.42
HSD	17.28	19.60	20.70	21.66	24.02	25.20
LDO	2.44	2.54	2.24	2.08	2.14	2.20
Fuel Oils	13.34	14.16	14.94	14.36	14.60	15.12
Others*	6.84	6.72	6.62	7.40	8.16	9.16(P)
Total	50.10	53.04	55.22	57.14	61.64	65.14
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	31.60	30.96	33.84	37.52	41.68	44.16
ATF	8.63	8.55	8.58	8.48	8.63	9.08
HSD	77.76	88.20	93.15	97.47	108.09	113.40
LDO	10.98	11.43	10.08	9.36	9.63	9.90
Fuel Oils	13.34	14.16	14.94	14.36	14.60	15.12
Others*	17.70	17.49	17.35	19.04	20.61	24.12(P)
Total	160.01	170.79	177.84	186.23	203.24	215.78

(P)= Provisional. * Includes LPG, Gasolines, Refinery Gas and Refinery Fuel. @ Based on conversion factors adopted by FPC, 1974.

VI. EXPLORATION AND PRODUCTION

Reserves of Crude Oil and Natural Gas in India*

Crude Oil: Million Tonnes
Natural Gas: Billion Cubic Metres

Year	Gujarat		Assam@		Total Onshore		Bombay High Offshore		Grand Total	
	Crude Oil	Natural Gas	Crude Oil	Natural Gas	Crude Oil	Natural Gas	Crude Oil	Natural Gas	Crude Oil	Natural Gas
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1966	62.73	23.09	90.27	40.06	153.00	63.15	-	-	153.00	63.15
1967	65.88	24.65	88.96	42.60	154.84	67.25	-	-	154.84	67.25
1968	64.92	21.80	76.08	41.54	141.00	63.34	-	-	141.00	63.34
1969	59.80	22.90	72.51	42.70	131.31	65.60	-	-	132.31	65.60
1970	56.38	19.66	71.46	42.82	127.84	62.48	-	-	127.84	62.48
1971	51.08	18.84	62.70	43.45	113.78	62.29	-	-	113.78	62.29
1972	52.28	16.88	72.90	45.63	125.18	62.51	-	-	125.18	62.51
1973	49.45	16.35	77.87	50.09	127.32	66.44	-	-	127.32	66.44
1974	48.45	16.18	76.05	51.68	124.50	67.86	-	-	124.50	67.86
1975	45.72	15.72	84.41	65.67	130.13	81.39	13.77	6.28	143.90	87.67
1976	45.79	16.41	81.99	61.85	127.78	78.26	147.68	106.62	275.46	184.88
1977	45.62	16.20	82.88	64.19	127.90	80.39	175.28	148.08	303.18	228.47
1978	47.49	15.66	78.50	64.05	125.99	79.71	221.04	186.15	347.03	265.86
1979	45.34	15.80	82.81	64.08	128.15	79.58	226.29	264.64	354.44	344.22
1980	52.73	16.39	82.65	64.56	135.38	80.95	230.95	270.96	366.33	351.91
1981	51.48	15.99	88.68	65.58	140.16@	81.57	328.29	329.04	468.45	410.61
1982	53.18	18.18	92.39	71.05	145.57@	89.23	325.18	330.62	470.75	419.85
1983	90.58	18.95	97.45	79.11	187.61	98.06	338.70	377.21	526.31	475.27
1984	88.00	18.60	99.01	81.84	187.01	100.44	323.81	377.81	510.82	478.25

* - Proved and indicated balance recoverable reserves.

@ - Including reserves of Crude Oil & Natural Gas in Nagaland, Rajasthan & Tripura.

Note: For AOC and CIL the figures relate to 1st January of each year but in the case of ONGC the data pertains to 1st October upto the year 1973 and there after to 1st January of each year.

NUMBER OF DEEP DRILLING RIGS IN THE COUNTRY

(Numbers)

Year	ONGC		OIL	ACC	TOTAL
	Onshore	Offshore			
1960-61	10	-	4	-	14
1961-62	23	-	4	-	27
1962-63	31	-	4	-	35
1963-64	43	-	4	-	47
1964-65	43	-	4	-	47
1965-66	46	-	4	-	50
1966-67	50	-	4	-	54
1967-68	50	-	4	-	54
1968-69	50	-	4	1	55
1969-70	50	-	4	1	55
1970-71	55	-	4	1	60
1971-72	55	-	4	-	59
1972-73	55	-	4	-	59
1973-74	55	1	4	-	60
1974-75	55	1	4	-	60
1975-76	56	3	3	-	62
1976-77	59	5	4	-	68
1977-78	65	3	4	-	72
1978-79	65	4	4	-	73
1979-80	69	5	4	-	78
1980-81	74	7	4	-	85
1981-82	77	7	5	-	89
1982-83	77*	14**	5	-	96
1983-84	78	15**	5	-	98

Note: * Includes BU-80-3 rig which was damaged in a blow out at Tanzania.
** Includes "Sagar Vikas" which was damaged in blow out in Sept. 1982.

NUMBER OF WELLS AND METREAGE DRILLED BY ONGC AND OIL FROM 1970-71 TO 1983-84

Year	ONGC				OIL @		TOTAL	
	ONSHORE		OFFSHORE					
	Wells (Nos.)	Metres drilled ('000)	Wells (Nos.)	Metres drilled ('000)	Wells (nos)	Metres drilled ('000)	Wells (Nos.)	Metres drilled ('000)
1.	2.	3.	4.	5.	6.	7.	8.	9.
1970-71	89	168	-	1	14	48	103	217
1971-72	61	131	1	-	12	46	74	177
1972-73	61	115	-	-	13	41	74	156
1973-74	64	140	1	4	12	43	77	187
1974-75	96	191	3	4	10	31	109	226
1975-76	106	229	15	28	13	36	134	293
1976-77	100	206	24	59	8	32	132	297
1977-78	87	175	15	67	19	73	121	315
1978-79	67	159	16	43	17	62	100	264
1979-80	69	138	28	59	15	48	112	245
1980-81	72	134	33	78	14*	39*	119	251
1981-82	98	211	46	111	19	64	163	386
1982-83	114	224	65	162	17	60	196	446
1983-84	117	259	88	209	31**	88 **	236	556

*Includes 2 wells/6390 metreage drilled by OIL in offshore areas.
@ Excluding wells/metreage drilled by erstwhile ACC.
** Includes 3 wells/ISSO metreage drilled by OIL in Offshore areas.

Exploratory and Developmental Drilling Data by ONGC and OIL

Year	Exploratory		Developmental		TOTAL	
	Wells (Nos.)	Metreage ('000)	Wells (Nos.)	Metreage ('000)	Wells (Nos.)	Metreage ('000)
1.	2.	3.	4.	5.	6.	7.
ONSHORE						
1970-71	51+1P	106	50+3P	112	101+3P	218
1971-72	48	97	29+3P	80	77+3P	177
1972-73	42+1P	88	30+3P	68	72+4P	156
1973-74	42+4P	107	32	76	74+4P	183
1974-75	39+2P	86	65+1P	138	104+3P	224
1975-76	49+1P	120	68+1P	145	117+2P	265
1976-77	49+1P	116	58+1P	133	107+2P	349
1977-78	47+2P	113	59+1P	135	106+3P	248
1978-79	38+1P	96	46	126	84+1P	222
1979-80	43+2P	98	39+2P	90	82+4P	188
1980-81	44+1P	96	38+2P	71	82+3P	167
1981-82	52+2P	119	63+4P	145	115+6P	264
1982-83	57+3P	128	71+4P	156	128+7P	284
1983-84	61+3P	157	79+2P	181	140+5P	338
OFFSHORE						
1970-71	-	1	-	-	-	1
1971-72	1	-	-	-	1	-
1972-73	-	-	-	-	-	-
1973-74	1	4	-	-	1	4
1974-75	3	5	-	-	3	5
1975-76	10	19	5	9	15	28
1976-77	17	45	7	14	24	59
1977-78	20	39	15	28	35	67
1978-79	16	43	-	-	16	43
1979-80	15+1P	33	13	29	28+1P	62
1980-81	15+1P	40	18	42	33+1P	82
1981-82	12	39	34	72	46	111
1982-83	17	57	47	105	64	162
1983-84	22+1P	70	68	149	90+1P	219
TOTAL						
1970-71	51+1P	107	50+3P	112	101+3P	218
1971-72	49	97	29+3P	80	78+3P	177
1972-73	42+1P	88	30+3P	68	72+4P	156
1973-74	43+1P	111	32	76	75+1P	187
1974-75	42+2P	91	65+1P	138	107+3P	229
1975-76	59+1P	139	73+1P	154	132+2P	293
1976-77	66+1P	161	65+1P	147	131+2P	308
1977-78	67+2P	152	74+1P	163	141+3P	315
1978-79	54+1P	139	46	126	100+2P	265
1979-80	58+3P	131	52+2P	119	110+5P	250
1980-81	59+2P	136	56+2P	113	115+4P	249
1981-82	64+2P	158	97+4P	217	161+6P	375
1982-83	74+3P	185	118+4P	261	192+7P	446
1983-84	83+4P	227	147+2P	330	230	557

P = Partly drilled.

STATUS OF WELLS (AS ON 1ST APRIL OF EACH YEAR)

(Numbers)

Company/ Year	OIL	GAS	DRY	UNDER TEST	INJE- CTION	OTHERS	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Assam Oil Company *							
1970	380	19	-	-	10	588	997
1975	377	7	-	-	5	612	1001
1976	380	6	-	-	5	610	1001
1977	404	8	-	-	6	583	1001
1978	415	10	-	-	6	570	1001
1979	416	10	-	-	6	569	1001
1980	417	10	-	-	6	568	1001
1981	418	9	-	-	6	568	1001
1982	418	9	-	-	6	568	1001
1983	441	4	305	16	4	235	1001
1984	440	5	305	20	5	226	1001
B. Oil India Limited							
1970	216	12	29	24	7	-	288
1975	250	18	34	27	20	-	349
1976	251	20	34	32	25	-	362
1977	250	21	36	37	26	-	370
1978	264	21	37	40	27	-	389
1979	266	23	39	47	31	-	406
1980	273	26	40	48	34	-	421
1981	283	27	42	48	35	-	435
1982	291	34	42	20	37	30	454
1983	295	36	43	26	43	28	471
1984	307	38	45	32	46	34	502
C. OIL & Natural Gas Commission							
1970	442	63	191	76	20	-	792
1975	605	79	320	141	28	-	1173
1976	695	85	334	152	29	-	1295
1977	763	91	378	158	29	-	1419
1978	844	101	422	140	29	-	1536
1979	886	111	461	135	30	-	1623
1980	951	123	487	125	32	-	1718
1981	1008	133	508	137	38	-	1824
1982	1116	140	530	139	41	-	1966
1983	1219	154	551	178	42	-	2144
1984	1322	166	590	218	53	-	2349
TOTAL (A+B+C)							
1970	1033	94	220	100	37	588	2077
1975	1282	104	354	168	53	612	2523
1976	1326	111	368	184	59	610	2658
1977	1417	120	414	195	61	583	2790
1978	1523	132	459	180	62	570	2926
1979	1568	144	500	182	67	569	3030
1980	1641	159	527	173	72	568	3140
1981	1709	169	550	185	79	568	3260
1982	1825	183	572	159	84	598	3421
1983	1955	190	899	220	89	263	3616
1984	2069	209	240	270	104	260	3852

* The exploration activities of Assam Oil Company were vested in Oil India Limited w.e.f. 14th October, 1981.

State-wise Achievement of Geological Field parties since inception up to March, 1984.

(Provisional)

STATE	Geological Surveys						
	Detailed mapping (Sqm.)	Semi-detailed mapping (Sqm)	Traversing line (Kms)	Reconnaissance (Sqm)	Special studies (Sqm.)	Geo-Neotectonic studies (Sqm)	Recomatory Traversing (Sqm.)
1.	2.	3.	4.	5.	6.	7.	8.
1. Andhra Pradesh ((including Tamil Nadu, Kerala, Karnataka & Pondicherry)	3079	20089	1371	26904	- (CH) 13300 (GC) 10750	396035	3300
2. Assam(including Meghalaya, Nagaland, Mizoram, Tripura & Arunachal Pradesh)	8067	26666	10685	4035	- (CW)	- 640	817 +1100 (Photo Geological mapping)
3. Gujarat/Maharashtra	8258	44353	2952	13048	2926	-	-
4. Bihar	-	2061	93	-	-	-	-
5. Himachal Pradesh & Punjab	9710	10429	4915	4560	1489	-	330 + 200(RM
6. Jammu & Kashmir	1764	9553	1923	6548	70	-	-
7. Uttar Pradesh	4658	10996	2087	913	4170	-	-
8. Rajasthan	3534	25065	824	17090	-	-	-
9. West Bengal	912	4737	659	2365	-	5400	-
10. Nepal	194	8446	1087	-	-	-	-
11. Bhutan	-	1821	35	270	-	-	-
12. Andaman & Nicobar		833	2977	646	2151	-	-
Total :-	41859	167193	27337	79492	8655 (CH) + 13300 (GC) + 10750 (CW) + 640	401435	4447 + 200 +1100

Abbreviations:-
RM - Road Mapping (Sqm)
CW - Compilation Work (Sqm.)
CH - Checking lines
GC - Group Checking.

State-wise achievement of Geophysical Field Parties since inception upto March, 1984

(Provisional)

STATE	Departmental		Contract	
	Reflection and refraction (conventional & CDP) Line Kms.	surveys SLK	Line	Kms.
(1)	(2)	(3)	(4)	(5)
1. Andhra Pradesh	7160	4655	425	-
2. Assam (including Tripura Mizoram)	14973	3150	-	-
3. Gujarat	43209	10984	-	-
4. Bihar	2431	408	-	-
5. Himachal Pradesh & Punjab	5480 12190	- 1760	- -	549 -
6. Madras/ Tamil Nadu	9575	3541	131	-
7. Jammu & Kashmir	1937	-	99	-
8. Orissa	1631	-	-	(3814
9. Uttar Pradesh	12190	1760	-	-
10. Rajasthan	3554	1456	2106	-
11. West Bengal	14995	4263	307	-
12. Arunachal Pradesh & Meghalaya	(1482)			(2708)
TOTAL ONSHORE	118617	30217	3068	7071
OFFSHORE	94500	-	107999	(7629)
TOTAL ONGC:	213197	30217	111067	14700

SLK - Standard Line Kilometres.

Figures in Parenthesis relates to OIL.

Statewise achievement of drilling since inception upto March, 1984

STATE	Drilling (000 Metres)			
	Departmental		Contract	
	Wells	Metreage	Wells	Metreage
A. ONLAND				
1. Andhra Pradesh (including Kerala)	4	19	-	-
2. Assam, Andaman & Nicobar (including Tripura, Mizoram, Andhra Pradesh, Meghalaya, West Bengal and Nagaland)	467 (497)	1558 (1627)	-	-
3. Gujarat(including Kutch, Maharashtra and Madhya Pradesh)	1471	2420	-	-
4. Bihar	1	7	1	5
5. Himachal Pradesh (including Pubjab)	8	23	2	10
6. Tamil Nadu & Pondicherry	18	41	-	-
7. Jammu & Kashmir	3	7	-	-
8. Orissa	-	-	-	-
9. Uttar Pradesh	3	9	1	5
10. Rajasthan	11	20	6	11
B. OFFSHORE				
1. Bombay High	209	441	-	-
2. Aliabet West	1	1	-	-
C. OTHERS				
OFF the Coromandal Coast, Gulf of Cambay, Kutch off/ Strait, Arabian Sea, Mouth of Ganges and Mahanadi Gulf of Mannar/Off the Kerala Coast/Bay of Bengal Godavari/ Andaman Offshore	143	383	(5)	(15.9)
GRAND TOTAL (A+B+C)	3336	6556	15	46.9

Figures in parenthesis relates to OIL.

COMPANY WISE PRODUCTION OF CRUDE OIL IN INDIA
(CALENDAR YEARS)

('000 Tonnes)

YEAR	ON - SHORE				OFFSHORE	GRAND	COMULATIVE
	AOC	OIL	ONGC	TOTAL	ONGC	TOTAL	PRODUCTION
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
upto 1947	5826	-	-	5826	-	5826	5826
1948	255	-	-	255	-	255	6081
1949	258	-	-	258	-	258	6339
1950	259	-	-	259	-	259	6598
1951	269	-	-	269	-	269	6867
1952	263	-	-	263	-	263	7130
1953	269	3	-	272	-	272	7402
1954	278	30	-	308	-	308	7710
1955	272	75	-	347	-	347	8057
1956	307	89	-	396	-	396	8453
1957	277	163	-	440	-	440	8893
1958	214	226	-	440	-	440	9333
1959	202	248	-	450	-	450	9783
1960	179	272	-	451	-	451	10234
1961	184	319	10	513	-	513	10747
1962	188	556	334	1078	-	1078	11825
1963	184	805	663	1652	-	1652	13477
1964	170	1274	768	2212	-	2212	15689
1965	158	1742	1122	3022	-	3022	18711
1966	149	2143	2355	4647	-	4647	23358
1967	134	2752	2781	5667	-	5667	29025
1968	117	2771	2965	5853	-	5853	34878
1969	112	3074	3537	6723	-	6723	41601
1970	107	3070	3632	6809	-	6809	48410
1971	98	3146	3941	7185	-	7185	55595
1972	93	3183	4097	7373	-	7373	62968
1973	84	3102	4012	7198	-	7198	70166
1974	72	3080	4338	7490	-	7490	77656
1975	68	3087	5128	8283	-	8283	85939
1976	63	3092	5276	8431	228	8659	94598
1977	58	3120	5569	8747	7438	10185	104783
1978	55	2697	5551	8303	2968	11271	116054
1979	47	2848	5537	8432	4407	12839	128893
1980	41	796	4033	4870	4529	9399	138292
1981(a)	33	2803	5083	7949	7006	14925	153217
1982		2963	5304	8267	11467	19734	172951
1983		2794	5601	8395	16753	25148	198099

(a) - After takeover of AOC by Govt. in Oct. 1981, its production wing was merged with OIL. So the production figures shown under AOC are upto 14th October, 81, thereafter the same have been merged with OIL.

COMPANYWISE PRODUCTION OF CRUDE OIL IN INDIA

(FINANCIAL YEARS)

('000 Tonnes)

Year	Onshore				Offshore	Grand Total	Cumulative production since inception
	ACC	OIL	ONGC	Total	ONGC		
1	2.	3.	4.	5.	6.	7.	8.
1965-66	151	1895	1427	3473	-	3473	19915
1966-67	148	2217	2538	4903	-	4903	24818
1967-68	128	2836	2821	5785	-	5785	30603
1968-69	117	2848	3084	6059	-	6059	36662
1969-70	112	3079	3627	6819	-	6819	43481
1970-71	104	3084	3634	6822	-	6822	50303
1971-72	97	3159	4003	7299	-	7299	57602
1972-73	90	3131	4100	7321	-	7321	64923
1973-74	82	3079	4028	7189	-	7189	72112
1974-75	71	3079	4534	7684	-	7684	79796
1975-76	66	3103	5279	8448	-	8448	88244
1976-77	62	3085	5345	8492	406	8898	97142
1977-78	57	3113	5519	8689	2074	10763	107905
1978-79	53	2671	5599	8323	3310	11633	119538
1979-80	40	2215	5089	7344	4422	11766	131304
1980-81	48	1243	4231	5522	4985	10507	141811
1981-82	23(e)	2995	5201	8219	7975	16194	158005
1982-83		2830	5356	8186	12877	21063	179068
1983-84		2873	5755	8628	17392	26020	205088

(P) Provisional

(e) After take-over of AOC by Govt. in Oct. 1981, its production wing was merged with OIL. So the production figures shown under AOC are upto 14th Oct. 1981 thereafter the same have been merged with OIL.

STATEWISE PRODUCTION OF CRUDE OIL IN INDIA

('000 Tonnes)

YEAR	ON SHORE				Offshore	GRAND TOTAL
	Arunachal Pradesh	Assam	Gujarat	Total		
1.	2.	3.	4.	5.	6.	7.
			CALENDAR YEARS			
1960	-	451	-	451	-	451
1965	-	2900	1122	3022	-	3022
1970	-	3359	3450	6809	-	6809
1971	-	3542	3643	7185	-	7185
1972	-	3653	3720	7373	-	7373
1973	-	3594	3604	7198	-	7198
1974	-	3735	3755	7490	-	7490
1975	-	4189	4094	8283	-	8283
1976	-	4267	4164	8431	228	8659
1977	-	4510	4237	8747	1438	10185
1978	-	4076	4227	8303	2968	11271
1979	-	4563	3869	8432	4407	12839
1980	2	1056	3812	4870	4529	9399
1981	2	4373	3544	7919	7006	14925
1982	1	5124	3142	8267	11467	19734
1983	25	4901	3469	8395	16753	25148
			FINANCIAL YEARS			
1960-61	-	448	-	448	-	448
1965-66	-	2046	1427	3473	-	3473
1970-71	-	3367	3455	6822	-	6822
1971-72	-	3630	3669	7299	-	7299
1972-73	-	3609	3712	7321	-	7321
1973-74	-	3589	3600	7189	-	7189
1974-75	-	3814	3870	7684	-	7684
1975-76	-	4300	4148	8448	-	8448
1976-77	-	4305	4187	8492	406	8898
1977-78	-	4534	4155	8689	2074	10763
1978-79	-	4085	4238	8323	3310	11633
1979-80	-	3578	3766	7344	4422	11766
1980-81	2	1712	3808	5522	4985	10507
1981-82	2	4795	3422	8219	7975	16194
1982-83	1	5000	3185	8186	12877	21063
1983-84	31	5009	3588	8628	17392	26020

State-wise Gross and Net Production of Natural Gas.

(Mn. Cubic Metres)

PERIOD	Gross Prodn.	Re-injected	Flarred	Net Prodn.
1.	2.	3.	4.	5.
		ON- SHORE		
GUJARAT				
1970-71	465	-	155	310
1971-72	523	-	143	380
1972-73	531	-	117	414
1973-74	518	-	144	374
1974-75	653	-	121	532
1975-76	773	-	136	637
1976-77	822	-	131	691
1977-78	893	-	147	746
1978-79	908	-	164	744
1979-80	840	-	178	662
1980-81	842	-	146	696
1981-82	758	-	77	681
1982-83	750	-	55	695
1983-84	748	-	67	681
ASSAM				
1970-71	980	36	607	337
1971-72	1012	49	625	338
1972-73	1034	141	536	357
1973-74	1195	115	692	388
1974-75	1388	139	830	419
1975-76	1595	162	946	487
1976-77	1558	190	678	690
1977-78	1717	184	818	715
1978-79	1518	148	607	763
1979-80	1385	127	616	642
1980-81	843	67	257	519
1981-82	1748	110	768	870
1982-83	1829	91	876	862
1983-84	1954	45	1025	884

State-wise Gross and Net Production of Natural Gas.

(Mn. Cubic Metres)

PERIOD	Gross Prodn.	Re-injected	Flarred	Net Prodn.
1.	2.	3.	4.	5.
		OFFSHORE		
BOMBAY- HIGH				
1970-71	-	-	-	-
1971-72	-	-	-	-
1972-73	-	-	-	-
1973-74	-	-	-	-
1974-75	-	-	-	-
1975-76	-	-	-	-
1976-77	48	-	48	-
1977-78	229	-	226	3
1978-79	386	-	182	204
1979-80	542	-	170	372
1980-81	673	-	366	307
1981-82	1345	-	674	671
1982-83	2357	-	957	1400
1983-84	3259	-	1425	1834
T O T A L				
1970-71	1445	36	762	647
1971-72	1535	49	768	718
1972-73	1565	141	653	771
1973-74	1713	115	836	762
1974-75	2041	139	951	951
1975-76	2368	162	1082	1124
1976-77	2428	190	857	1381
1977-78	2839	184	1191	1464
1978-79	2812	148	953	1711
1979-80	2767	127	964	1676
1980-81	2358	67	769	1522
1981-82	3851	110	1519	2222
1982-83	4936	91	1888	2957
1983-84	5961	45	2517	3399

STATE-WISE GROSS PRODUCTION OF NATURAL GAS IN INDIA

(Million Cubic Metres)

YEAR	ONSHORE			OFFSHORE	GRAND TOTAL
	Assam	Gujarat	Total		
1.	2.	3.	4.	5.	6.
			CALENDAR YEARS		
1970	966	458	1424	-	1424
1971	993	516	1509	-	1509
1972	1031	533	1564	-	1564
1973	1155	519	1674	-	1674
1974	1328	590	1918	-	1918
1975	1550	760	2310	-	2310
1976	1595	815	2410	28	2438
1977	1677	888	2565	161	2726
1978	1527	903	2430	340	2770
1979	1709	843	2552	532	3084
1980	621	868	1489	588	2077
1981	1605	761	2366	1120	3486
1982	1855	741	2596	2065	4661
1983	1903	760	2664@	3104	5768
			FINANCIAL YEARS		
1970-71	980	465	1445	-	1445
1971-72	1012	523	1535	-	1535
1972-73	1034	531	1565	-	1565
1973-74	1195	518	1713	-	1713
1974-75	1388	653	2041	-	2041
1975-76	1595	773	2368	-	2368
1976-77	1558	822	2380	48	2428
1977-78	1717	893	2610	229	2839
1978-79	1518	908	2425	386	2811
1979-80	1385	840	2225	542	2767
1980-81	843	842	1685	673	2358
1981-82	1748	758	2506	1345	3851
1982-83	1829	750	2579	2357	4936
1983-84	1954	748	2702	3259	5961

@ - Includes one million Cubic Metres of Natural Gas production from Arunachal Pradesh.

State-wise Utilisation of Natural Gas in India

(Mn. Cubic Metres)

YEAR	ON-SHORE			OFFSHORE	GRAND TOTAL
	Gujarat	Assam	Total	BOMBAY HIGH	
1.	2.	3.	4.	5.	6.
1970-71	310	337	647	-	647
1971-72	380	338	718	-	718
1972-73	414	357	771	-	771
1973-74	374	388	762	-	762
1974-75	532	419	951	-	951
1975-76	637	487	1124	-	1124
1976-77	691	690	1381	-	1381
1977-78	746	715	1461	3	1464
1978-79	744	763	1507	204	1711
1979-80	662	642	1304	372	1676
1980-81	696	519	1215	307	1522
1981-82	681	870	1551	671	2222
1982-83	695	862	1557	1400	2957
1983-84	681	884	1565	1834	3399

Industry-wise Offtakes of Natural Gas in India.

(Million Cubic Metres)

YEAR	Energy Purposes							Non Energy Purpose				Grand Total
	Power Generation	Industrial Fuel	Tea plantation	LPG Shrinkage	Domestic Fuel	Captive use by oil Comp.	Total	Fertilizer	Petrochemicals	Others	Total	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1970-71	261	116	15	-	-	68	460	187	-	-	187	647
1971-72	313	129	19	-	-	61	522	196	-	-	196	718
1972-73	339	148	20	-	Neg.	63	570	201	-	-	201	771
1973-74	323	157	22	-	Neg.	81	583	179	-	-	179	762
1974-75	354	164	29	-	6	80	633	318	-	-	318	951
1975-76	366	143	33	-	13	104	659	463	-	2	465	1124
1976-77	344	155	38	-	15	142	694	663	-	24	687	1381
1977-78	372	165	39	-	13	171	760	673	9	22	704	1464
1978-79	560	175	43	-	13	176	967	721	5	18	744	1711
1979-80	514	156	39	-	13	174	896	755	7	18	780	1676
1980-81	492	163	45	-	14	176	890	611	5	16	632	1522
1981-82	612	166	47	37	15	327	1204	991	8	19	1018	2222
1982-83	1025	185	51	100	14	399	1774	1155	7	21	1183	2957
1983-84(P)	1209	230	56	161	16	411	2083	1283	10	23	1316	3399

Neg.: - Negligible

* - Provisional.

VII. REFINING

PETROLEUM REFINING CAPACITY IN INDIA

(Million Tonnes Per Annum)

Refinery	Year of Commissioning	Capacity as on 1.4.1984	Capacity after expansion under implementation	Likely date of completion
1.	2.	3.	4.	5.
A. Refineries in Operation				
i) Public Sector				
1. IOC, Digboi	1901	0.50		
2. BPCL, Bombay	1955	5.25		
3. HPCL, Bombay	1954	3.50		
4. HPCL, Vizag	1957	1.50		
5. IOC, Gauhati	1962	0.85		
6. IOC, Barauni	1964	3.30		
7. IOC, Koyali	1965	7.30		
8. IOC, Haldia	1974	2.50		
9. IOC, Mathura	1982	6.00		
10. CRL, Cochin	1966	3.30		
11. MRL, Madras	1969	2.80		
12. BRPL, Assam	1979	1.00		
	Total	37.80		
B. Refineries under expansion				
1. BPCL, Bombay		5.25	6.00	January,85
2. HPCL, Vizag		1.50	4.50	November,84
3. MRL, Madras		2.80	5.60	October,84
4. CRL, Cochin		3.30	4.50	December,84
C. Projects under Advance Stage of Consideration				
1. Barauni		3.30	4.50	7th Plan
2. Haldia		2.50	5.50	
3. Karnal			6.00	
4. Mangalore			6.00	

REFINERY CRUDE THROUGHT-PUT AND PRODUCTION OF PETROLEUM PRODUCTS

('000' Tonnes)

YEAR	CRUDE THROUGHPUT			PRODUCTION		
	Public Sector	Private Sector	Total (2+3)	Public Sector	Private Sector	Total (5+6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			CALENDAR YEAR			
1960	-	6091	6091	-	5747	5747
1961	-	6440	6440	-	6090	6090
1962	241	6762	7003	193	6391	6584
1963	470	7668	8138	407	7243	7650
1964	911	8021	8932	778	7650	8428
1965	1549	8205	9754	1328	7785	9113
1966	3476	8554	12030	3186	8097	11283
1967	6359	8071	14430	5814	7638	13452
1968	7707	8389	16096	7085	7838	14923
1969	9514	7981	17495	8736	7503	16239
1970	10994	7465	18459	10132	7040	17172
1971	11198	8390	19588	10293	7932	18225
1972	11838	7834	19672	10835	7363	18198
1973	11484	9034	20518	10522	8567	19089
1974	15107	5676	20783	13935	5306	19241
1975	16723	5112	21835	15602	4766	20368
1976	21163	1599	22762	19669	1519	21188
1977	23903	527	24430	22297	498	22795
1978	25096	530	25626	23372	505	23877
1979	27649	504	28153	25874	486	26360
1980	24668	407	25075	23213	384	23597
1981	29128	400	29528	27193	382	27575
1982	32107	-	32107	29993	-	29993
	34534	-	34534	32263	-	32263

REFINERY CRUDE THROUGH-PUT AND PRODUCTION OF PETROLEUM PRODUCTS

('000 Tonnes)

YEAR	CRUDE THROUGHPUT			PRODUCTION		
	Public Sector	Private Sector	Total (2+3)	Public Sector	Private Sector	Total (5+6)
1	2	3	4	5	6	7
			FINANCIAL YEARS			
1960-61	-	6130	6130	-	5777	5777
1961-62	60	6524	6584	11	6184	6195
1962-63	300	6964	7264	274	6627	6901
1963-64	554	7920	8474	493	7492	7985
1964-65	1005	8005	9010	842	7636	8478
1965-66	1966	8267	10233	1733	7828	9561
1966-67	4166	8547	12713	3741	8141	11882
1967-68	6783	8022	14805	6257	7512	13769
1968-69	8088	8459	16547	7457	7932	15389
1969-70	10087	7825	17912	9250	7342	16592
1970-71	10820	7559	18379	9965	7145	17110
1971-72	11575	8467	20042	10623	8016	18639
1972-73	11565	7763	19328	10575	7255	17830
1973-74	11616	9342	20958	10647	8848	19495
1974-75	15572	5522	21094	11572	8031	19603
1975-76	17045	5238	22283	15895	4934	20829
1976-77	21694	1301	22995	20203	1229	21432
1977-78	24364	534	24898	22712	507	23219
1978-79	25450	524	25974	23692	501	24193
1979-80	27066	408	27474	25403	391	25794
1980-81	25333	503	25836	23646	477	24123
1981-82	29911	234	30145	27931	251	28182
1982-83	33156	-	33156	31067	-	31067
1983-84	35263	-	35263	32887	-	32887

Refinery-wise Crude Run And Total Production (NET) of POL Products

('000 Tonnes)

YEAR	AOC/ AOE (1)	BSR/ BPCL (2)	ESSO/ HPCL (3)	CORIL/ HPC(VMU) (4)	GAUHATI (5)	BARAUNI (6)
1960-61						
Total Production	416	2731	1772	858	-	-
Crude Run	446	2879	1904	901	-	-
1965-66						
Total Production	479	3743	2552	1053	721	613
Crude Run	488	3989	2672	1118	804	753
1970-71						
Total Production	452	3333	2275	1085	631	1996
Crude Run	476	3541	2367	1175	686	2191
1975-76						
Total Production	489	3438	2635	1007	762	2722
Crude Run	527	3630	2830	1081	827	2949
1978-79						
Total Production	501	4472	2624	1221	745	2474
Crude Run	524	4693	2800	1329	825	2661
1979-80						
Total production	391	4615	2926	1000	606	2144
Crude Run	408	4821	3130	1100	646	2285
1980-81						
Total Production	477	4629	2907	1208	577	432
Crude Run	503	4901	3113	1319	639	504
1981-82						
Total Production	474	4754	3253	1067	667	2773
Crude Run	496	4999	3483	1178	746	3030
1982-83						
Total Production	501	4272	2919	1004	733	2861
Crude Run	521	4485	3124	1077	802	3071
1983-84*						
Total Production	528	5057	3076	978	796	2665
Crude Run	549	5258	3308	1093	871	2907

* Provisional

Refinery-wise Crude Run And Total Production (NET) of POL Products

('000' Tonnes)

YEAR	GUJARAT	HALDIA	MATHURA	CRL	MRL	BR&P	TOTAL
	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1960-61							
Total Production	-	-	-	-	-	-	5777
Crude Run	-	-	-	-	-	-	6130
1965-66							
Total Production	400	-	-	-	-	-	9561
Crude Run	409	-	-	-	-	-	10233
1970-71							
Total Production	3208	-	-	2346	1784	-	17110
Crude Run	3463	-	-	2398	1982	-	18379
1975-76							
Total Production	3859	1295	-	2187	2435	-	20829
Crude Run	4145	1348	-	2294	2690	-	22283
1978-79							
Total Production	4937	1967	-	2719	2496	37	24193
Crude Run	5251	2213	-	2862	2759	57	25974
1979-80							
Total Production	6350	2313	-	2731	2564	154	25794
Crude Run	6714	2492	-	2866	2822	190	27474
1980-81							
Total Production	6629	2056	-	2795	2376	37	24123
Crude Run	6974	2308	-	2912	2611	52	25836
1981-82							
Total Production	6711	2067	466	2999	2570	381	28182
Crude Run	7042	2277	520	3120	2801	453	30145
1982-83							
Total Production	6667	2302	3610	3048	2635	515	31067
Crude Run	7089	2503	3844	3187	2857	596	33156
1983-84							
Total Production	6814	2374	4914	2740	2438	530	32887
Crude Run	7331	2500	5223	2847	2647	649	35263

TRENDS IN DOMESTIC PRODUCTION OF PETROLEUN PRODUCTS DURING THE PERIOD 1970-71 TO 1983-84

(Qty. '000 Tonnes)

Products	1970-71	1975 76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-(P) 84
1. Light Distillates	3021	3630	3818	4051	4295	4459	4101	5138	5313	6136
of which :										
LPG	169	331	363	383	403	406	366	410	406	514
Mogas	1526	1275	1340	1423	1515	1512	1519	1614	1797	1937
Naphtha	1205	1910	1986	2120	2262	2415	2115	3004	2986	3580
2. Middle Distillates	8562	10769	11233	12079	12476	13080	12115	14134	15626	16876
of which:										
Kerosene	2896	2439	2581	2450	2514	2539	2396	2907	3393	3528
ATF	710	925	981	1077	1177	1104	1001	1009	1137	1195
HSD	3840	6285	6399	7129	7350	7975	7371	9042	9761	10865
LDO	986	946	1087	1224	1227	1230	1108	949	1121	1081
3. Heavy Ends	5527	6430	6381	7089	7422	8255	7907	8910	10128	9875
of which:										
F.O.	2987	3595	3256	3454	3425	4086	4041	4015	4829	4588
LSHS/HHS	1103	1488	1472	1878	2219	2265	2079	2893	3135	3412
Total Fuel Oils.	4090	5083	4728	5332	5644	6351	6120	6908	7964	8000
Lube Oils	231	342	368	413	490	487	426	407	434	470
Petroleum coke	151	160	163	155	122	99	86	141	149	135
Bitumen	805	697	945	992	962	1103	1082	1298	1397	1069
TOTAL PRODUCTION	17110	20829	21432	23219	24193	25794	24123	28182	31067	32887
Crude Throughput	18379	22283	22995	24898	25974	27474	25836	30145	33156	35263
LPG Production from Natural Gas	--	--	--	--	--	--	--	73	169	223

(P) = Provisional.

PRODUCTION OF PETROLEUM PRODUCTS - 1980 TO 1983.

('000 Tonnes)

Product	PRODUCTION 1980	1981	1982	1983 (P)	% Variation 1982/1981	1983/1982
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(a) From Crude Oil					
1. Light Distillates	3953	5008	5112	5955	+2.1	+16.5
of which						
L.P. Gas	367	411	377	484	-8.3	+28.4
Naphtha	2017	2865	2871	3474	+0.2	+21.0
Mogas	1459	1629	1750	1880	+7.4	+ 7.4
SBPS/Hexane	46	47	49	33	+4.3	-32.6
2. Middle Distillates	11722	13933	15013	16513	+7.8	+10.0
of which						
ATF/Jet A-1	1010	981	1092	1163	+11.3	+ 6.5
Kerosene	2343	2844	3253	3467	+14.4	+ 6.6
M.T.O.	109	98	90	84	- 8.2	- 6.7
H.S.D.	6991	8904	9365	10589	+ 5.2	+13.1
L.D.O.	1141	961	1104	1077	+14.9	- 2.4
J.B.O.	92	90	61	80	-32.2	+31.2
3. Heavy Ends	7922	8634	9868	9795	+14.3	- 0.7
of which						
F.O.	4184	3825	4801	4486	+25.5	- 6.6
LSHS/HHS	1929	2818	3010	3335	+ 6.8	+10.8
Total(Fuel Oils)	6113	6643	7811	7821	+17.6	+ 0.1
Lube Oils	439	416	404	462	- 2.9	+14.4
Bitumen	1102	1285	1300	1216	+ 1.2	- 6.5
Pet. Coke*	94	126	159	127	+26.2	+20.1
Waxes	32	52	58	63	+11.5	+ 8.6
4. Total Production	23597	27575	29993	32263	+ 8.8	+ 7.6
5. Crude Run	25075	29528	32107	34534	+ 8.7	+ 7.6
	(4) From Natural Gas					
6. L.P.G.	-	45	145	208	+222.2	+43.4

* Includes calcined Pet. Coke. (P) Provisional

PATTERN OF REFINERY PRODUCTION

(Percentages)

Products	1980	1981	1982	1983
Light Distillages@	15.8	17.0	15.9	17.2
Middle Distillates	46.7	47.2	46.8	47.8
Heavy Fuel Oils	24.4	22.5	24.3	22.7
Bitumens	4.4	4.4	4.0	3.5
Lubes	1.8	1.4	1.3	1.3
Others	1.0	0.9	1.1	0.9
Total Production	94.1	93.4	93.4	93.4
RBF & Losses/ Inventories	5.9	6.6	6.6	6.6
Crude Run	100	100	100	100

PRODUCTION OF PETROLEUM PRODUCTS - 1980-81 TO 1983-84

('000 Tonnes)

PRODUCTS	PRODUCTION				% Variation	
	1980-81	1981-82	1982-83	1983-84 (P)	1982-83 / 1981-82	1983-84 / 1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(a) From Crude Oil					
1. Light Distillates	4101	5138	5313	6136	+ 3.4	+15.5
of which						
L.P. Gas	366	410	406	514	- 1.0	+26.6
Naphtha	2115	3004	2986	3580	- 0.6	+19.9
Mogas	1519	1614	1797	1937	+11.3	+ 7.8
SBPS/Hexane	45	48	54	33	+12.5	-38.9
2. Middle Distillates	12115	14134	15626	16876	+10.6	+ 8.0
of which						
ATF/Jet A-1	1001	1009	1137	1195	+12.7	+ 5.1
Kerosene	2396	2907	3393	3528	+16.7	+ 4.0
M.T.O.	106	84	98	82	+16.7	-16.3
H.S.D.	7371	9042	9761	10865	+ 8.0	+11.3
L.D.O.	1108	949	1121	1081	+18.1	- 3.6
J.B.O.	91	87	60	74	-31.0	+23.3
3. Heavy Ends	7907	8910	10128	9875	+13.7	- 2.5
of which						
F.O.	4041	4015	4829	4588	+20.3	- 5.0
LSHS/HHS	2079	2893	3135	3412	+ 8.4	+ 8.8
Total Fuel Oils	6120	6908	7964	8000	+15.3	+ 0.5
Lube Oils	426	407	434	470	+ 6.6	+8.3
Bitumen	1082	1298	1397	1069	+ 7.6	-23.5
Pet Coke*	86	141	149	135	+ 5.7	- 9.4
Waxes	43	55	58	64	+ 5.5	+10.3
4. Total Production	24123	28182	31067	32887	+10.2	+.5.9
5. Crude Run	25836	30145	33156	35263	+10.0	+ 6.4
	(b) From Natural Gas					
6. L.P. Gas	-	73	169	223	+131.5	+32.0

(P) Provisional * Includes calcined Pet Coke.

PATTERN OF REFINERY PRODUCTION

(Percentages)

Products	1980-81	1981-82	1982-83	1983-84
Light Distillates	15.9	17.0	16.0	17.4
Middle Distillates	46.9	46.9	47.1	47.9
Heavy Fuel Oils	23.7	22.9	24.0	22.7
Bitumans	4.2	4.3	4.2	3.0
Lubes	1.7	1.4	1.3	1.3
Others	1.0	1.0	1.1	1.0
Total Production	93.4	93.5	93.7	93.3
RBF & Losses/ Inventories	6.6	6.5	6.3	6.7
Crude Run	100	100	100	100

VIII. CONSUMPTION/SALES

TOTAL CONSUMPTION OF PETROLEUM PRODUCTS

(Incl. Sales to Nepal*, Sikkim, Bhutan and Bunkers/ International Air Lines)

Qty. '000 Tonnes

Year	Total Consumption	% age Growth	Year	Total consumption	% age Growth
	CALENDAR YEARS			FINANCIAL YEARS	
1948	2657	- 2.9	1948-49	2774e	+ 2.1
1949	3125	+17.6	1949-50	3174e	+14.4
1950	3319	+ 6.2	1950-51	3485e	+ 9.8
1951	3888	+17.1	1951-52	3851e	+10.5
1952	3741	- 3.8	1952-53	3785e	- 1.7
1953	3916	+ 4.7	1953-54	3948e	+ 4.3
1954	4089	+ 4.4	1954-55	4270e	+ 8.2
1955	4817	+17.8	1955-56	4920e	+15.2
1956	5229	+ 8.6	1956-57	5376e	+ 9.3
1957	5819	+11.3	1957-58	5894e	+ 9.6
1958	6117	+ 5.1	1958-59	6291e	+ 6.7
1959	6812	+11.4	1959-60	7100e	+12.9
1960	7964	+16.9	1960-61	8285	+16.7
1961	8570	+ 7.6	1961-62	8724	+ 5.3
1962	9536	+11.3	1962-63	9832	+12.7
1963	10387	+ 8.9	1963-64	10671	+18.3
1964	11478	+10.5	1964-65	11700	+ 9.7
1965	12356	+ 7.6	1965-66	12437	+ 6.3
1966	12990	+ 5.1	1966-67	13348	+ 7.3
1967	14133	+ 8.8	1967-68	14397	+ 7.9
1968	15871	+12.3	1968-69	16305	+13.3
1969	17371	+ 9.3	1969-70	17797	+ 9.2
1970	18816	+ 8.3	1970-71	19135	+ 7.5
1971	20706	+10.0	1971-72	21299	+11.3
1972	22675	+ 9.5	1972-73	22978	+11.3
1973	23726	+ 4.6	1973-74	23574	+ 2.6
1974	23023	+ 3.0	1974-75	23302	+ 1.2
1975	23541	+ 2.2	1975-76	23673	+ 1.6
1976	24897	+ 5.8	1976-77	25400	+ 7.3
1977	26570	+ 6.7	1977-78	26990	+ 6.3
1978	28894	+ 8.7	1978-79	29719	+10.1
1979	31306	+ 8.3	1979-80	31323	+ 5.4
1980	31633	+ 1.0	1980-81	32261	+ 3.0
1981	34037	+ 7.6	1981-82	34107	+ 5.7
1982	35403	+ 4.0	1982-83	36395	+ 6.7
1983(P)	37225	+ 5.1	1983-84(P)	37771	+ 3.8

Note:- i) Includes Refinery fuel from 1960/1960-61 onwards.
ii) Prior to that Refinery fuel consumption is not available.

* - Excludes sales to Nepal from 1975/1975-76 onwards.

P - Provisional e - Estimated.

TRENDS IN SALES/CONSUMPTION OF PETROLEUM PRODUCTS DURING THE PERIOD 1970-71 TO 1983-84.

('000' Tonnes)

PRODUCTS	1970-71	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	Annual Rate of Grwtg 1983-84/70-71
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. LIGHT DISTILLATES	2697	3596	4042	4228	4583	4460	4388	5187	5420	5600	+ 5.8
of which: LPG	176	336	368	391	408	410	405	492	601	746	+11.7
Mogas	1453	1275	1316	1391	1499	1490	1522	1599	1722	1891	+ 2.0
Naphtha	904	1836	2196	2290	2515	2413	2325	2963	2958	2804	+ 9.1
2. MIDDLE DISTILLATES	9040	11653	12655	13771	15172	16321	17056	17919	19660	20651	+ 6.6
of which: Kerosene	3283	3104	3322	3634	3952	3872	4228	4693	5214	5524	+ 4.1
ATF/Jet A-1	689	897	956	1041	1154	1144	1125	1128	1145	1208	+ 4.4
HSD	3837	6595	7106	7736	8638	9801	103 5	10832	12013	12600	+ 9.6
LDO	1092	878	1082	1164	1216	1266	1122	1036	1067	1097	neg.
HEAVY ENDS	6175	7198	7404	7540	8486	9102	9452	9417	9577	9590	+ 3.2
FO/TDO	3513	4279	4220	3958	4395	4796	5406	4306	4208	4207	+ 1.4
LSHS	962	1381	1499	1847	2189	2268	2065	2878	3093	3351	++8.6
HHS	189	121	14	34	84	17	2	-	-	-	-
Total Fuel Oils	4664	5781	5733	5839	6668	7081	7473	7184	7301	7558	+ 3.8
Lube Oils	523	425	436	459	526	546	570	567	577	590	-
Greases	22	16	18	19	18	20	23	25	28	27	-
Lubes & Greases(Total)	545	441	454	478	544	566	593	592	605	617	+ 1.0
Bitumens	777	690	882	908	943	1069	1064	1292	1379	1050	+ 2.4
Petroleum coke	107	151	175	146	155	185	137	174	103	114	+ 0.5
Other miso.	82	135	160	170	176	201	185	175	189	251	+ 9.0
TOTAL (1+2+3)	17912	22447	24101	25539	28241	29883	30896	32523	34657	35841	+ 5.5
Refinery Fuel	1223	1226	1299	1451	1478	1440	1365	1584	1738	1930(P)	+ 3.6
GRAND TOTAL	19135	23673	25400	26990	29719	31323	32261	34107	36395	37771	+ 5.4

(P)= Provisional

PRODUCT-WISE SALES/CONSUMPTION OF PETROLEUM PRODUCTS DURING THE YEARS 1980, 1981, 1982 AND 1983

(Qty. '000 Tonnes)

Product	1980	1981	1982	1983	%change 1983/82	% to Total (1983)
1	2	3	4	5	6	7
1. Light Distillates	4227	5125	5327	5390	+ 1.2	14.5
L.P. Gas	400	468	560	702	+25.4	1.9
Naphtha	2162	2954	2944	2696	- 8.4	7.3
Mogas	1522	1574	1691	1834	+ 8.5	4.9
SBP/Hexane	50	46	48	52	+ 8.3	0.1
Others	93	83	84	106	+26.2	0.3
2. Middle Distillates	16810	17714	19166	20363	+ 6.2	54.7
Kerosene	4092	4588	5125	5392	+ 5.2	14.5
ATF/Jet A-1	1142	1116	1128	1187	+ 5.2	3.2
HSD	10159	10748	11642	12459	+ 7.0	33.5
LDO/MDO	1189	1022	1050	1095	+ 4.3	2.9
JBO	84	79	70	76	+ 8.6	0.2
MTO	102	92	87	85	- 2.3	0.2
Others	42	68	64	69	+ 7.8	0.2
3. Heavy Ends	9262	9651	9340	9591	+ 2.7	25.7
(a) Fuel Oils(Total)	7354	7369	7126	7527	+ 5.6	20.2
F.O./TDO	5395	4607	4107	4269	+ 3.9	11.5
LSHS	1958	2762	3019	3258	+ 7.9	8.7
HHS	1	-	-	-	-	-
(b) Lubes & Greases	572	616	597	605	+ 1.3	1.6
(c) Bitumen/Asphalt	1036	1302	1304	1134	-13.0	3.0
(d) Pet. coke	123	188	125	101	-19.2	0.3
(e) Wax	46	71	56	75	+33.9	0.2
(f) Others	131	105	132	149	+12.9	0.4
Total (1+2+3)	30299	32490	33833	35344	+ 4.5	94.9
Refinery Fuel@	1334	1547	1570	1881(P)	+19.8	5.1
GRAND TOTAL	31633	34037	35403	37225	+ 5.1	100.0

@ = RBF, Lube Refinery Fuel & TPs Fuel.

PRODUCT-WISE SALES/CONSUMPTION OF PETROLEUM PRODUCTS DURING THE YEARS 1980-81 TO 1983-84

(Qty. '000 Tonnes)

Product	1980-81	1981-82	1982-83	1983-84	% change 1983-84 1982-83	%age of total 1983-84
1. Light Distillates	4388	5187	5420	5600	+ 3.3	14.8
L. Gas	405	492	601	746	+24.1	2.0
Naphtha	2325	2963	2958	2804	- 5.2	7.4
Mogas	1522	1599	1722	1891	+ 9.8	5.0
SBP/Hexane	46	48	47	54	+14.9	0.1
Others	90	85	92	105	+14.1	0.3
2. Middle Distillates	17056	17919	19660	20651	+ 5.0	54.7
Kerosene	4228	4693	5214	5524	+ 5.9	14.6
ATF/Jet-1	1125	1128	1145	1208	+ 5.5	3.2
HSD	10345	10832	12013	12600	+ 4.9	33.4
LDO/MDO	1122	1036	1067	1097	+ 2.8	2.9
JBO	85	75	72	64	-11.1	0.2
MTO	112	89	85	88	+ 3.5	0.2
Others	39	66	64	70	+ 9.4	0.2
3. Heavy Ends	9452	9417	9577	9590	+ 0.1	25.4
(a) Fuel Oils(Total)	7473	7184	7301	7558	+ 3.5	20.0
(b) FO/TDO	5406	4306	4208	4207	-	11.1
LSHS/HHS	2067	2878	3093	3351	+ 8.3	8.9
(b) Lubes & Greases	593	592	605	617	+ 2.0	1.6
(c) Bitumen/Asphalt	1064	1292	1379	1050	-23.9	2.8
(d) Wax	47	67	60	70	+16.7	0.2
(e) Petroleum Coke	137	174	103	114	+10.7	0.3
(f) Others	138	108	129	181	+40.3	0.5
Total (1+2+3)	30896	32523	34657	35841	+ 3.4	94.9
Refinery Fuel @	1365	1584	1738	1930(P)	+11.0	5.1
GRAND TOTAL	32261	34107	36395	37771	+ 3.8	100.0

(P)= Provisional. @ = R.B.F., Lube Refinery Fuel & TPS Fuel.

Seasonal Indices of the Sales/Consumption of Major Petroleum Products - in India.

MONTH	M. S.	A.T.F.	KEROSENE	H.S.D.	L.D.O.	BITUMEN	All Products
1.	2.	3.	4.	5.	6.	7.	8.
April	8.34	8.42	7.83	8.75	8.16	7.50	8.16
May	9.25	8.34	7.83	9.17	8.09	7.75	8.42
June	8.50	7.91	7.75	8.34	7.08	7.75	8.00
i) Quarter Total	26.09	24.67	23.41	26.26	23.33	23.00	24.58
July	8.16	8.16	8.00	7.75	6.50	7.92	8.00
August	7.83	8.09	8.09	7.08	6.75	7.58	7.83
September	7.92	8.16	8.34	7.50	7.67	7.84	8.00
ii) Quarter Total	23.91	24.41	24.43	22.33	20.92	23.34	23.83
October	8.16	8.67	8.58	8.00	8.75	8.50	8.42
November	8.00	8.50	8.83	8.50	9.92	8.25	8.59
December	8.67	8.42	9.08	9.00	10.17	9.33	9.00
iii) Quarter Total	24.83	25.59	26.49	25.50	28.84	26.08	26.01
January	8.25	8.42	9.00	8.75	9.66	8.50	8.67
February	8.50	8.16	8.25	8.25	8.34	8.42	8.16
March	8.42	8.75	8.42	8.91	8.91	10.66	8.75
iv) Quarter Total	25.17	25.33	25.67	25.91	26.91	27.58	25.58
TOTAL:	100	100	100	100	100	100	100

NOTE :- Based on Sales/Consumption data from 1970-71 to 1982-83.

SALES/CONSUMPTION AND MARKET PARTICIPATION OF OLD COMPANIES IN INDIA

Qty. '000' Tonnes.

YEAR		I.O.C.	B.Shell/ BPCL	Esso/ HPCL	Caltex/@ HPCL(VMU)	Others	TOTAL
1.		2.	3.	4.	5.	6.	7.
1960-61	S/C	38	3722	2302	1270	653	7985
(E)	%	0.5	46.6	28.8	15.9	8.2	100
1965-66	S/C	2812	4270	2816	1390	629	11917
(E)	%	23.6	35.8	23.6	11.7	5.3	100
1970-71	S/C	9212	4219	2538	1279	644	17912
	%	51.4	23.6	14.2	7.1	3.7	100
1971-72	S/C	10959	4153	2717	1316	926	20071
	%	54.6	20.7	13.5	6.6	4.6	100
1972-73	S/C	12788	4085	2620	1185	1038	21716
	%	58.9	18.8	12.1	5.4	4.8	100
1973-74	S/C	13745	3985	2392	1095	1129	22346
	%	61.5	17.8	10.7	4.9	5.1	100
1974-75	S/C	14363	3184	2510	972	1076	22105
	%	65.0	14.4	11.4	4.4	4.8	100
1975-76	S/C	14525	3151	2647	932	1192	22447
	%	64.7	14.0	11.8	4.2	5.3	100
1976-77	S/C	15321	3775	2809	974	1222	24101
	%	63.6	15.7	11.6	4.0	5.1	100
1977-78	S/C	15721	4217	3083	1146	1372	25539
	%	61.5	16.5	12.1	4.5	5.4	100
1978-79	S/C	17223	4601	3488	1348	1581	28241
	%	61.0	16.3	12.3	4.8	5.6	100
1979-80	S/C	18136	4968	3768	1393	1618	29883
	%	60.7	16.6	12.6	4.7	5.4	100
1980-81	S/C	18293	5297	5596	-	1710	30896
	%	59.2	17.1	18.1	-	5.6	100
1981-82	S/C	19725	5317	5687	-	1794	32523
	%	60.6	16.4	17.5	-	5.5	100
1982-83	S/C	20817	5760	6079	-	2001	34657
	%	60.1	16.6	17.5	-	5.8	100
1983-84P	S/C	21062	6211	6491	-	2077	35841
	%	58.6	17.6	18.1	-	5.8	100

S/C - Sales/Consumption E = Estimated

P - Provisional @ - Included under ESSO/HPCL from 1980-81 onwards.

Deliveries* made to International/Coastal Bunkers during 1970-71, 1975-76, 1981-82, 1982-83 & 1983-84.

(Qty. '000' Tonnes)

PRODUCTS	1970-71	1975-76	1979-80	1980-81	1981-82	1982-83	1983-84
1.	2.	3.	4.	5.	6.	7.	8.
Shipping International Bunkers							
F.O.	207.9	137.2	135.8	148.7	67.1	85.0	140.4
H.S.D.	6.4	11.4	17.7	15.4	16.8	14.5	17.0
L.D.O.	20.0	39.5	63.1	50.4	52.3	41.7	42.3
Total:	234.3	188.1	216.6	214.5	136.2	141.2	199.7
Coastal Bunkers							
F.O.	196.9	178.3	126.4	128.9	149.6	172.2	142.0
H.S.D.	22.4	25.9	41.9	42.0	61.4	81.0	86.3
L.D.O.	21.6	28.1	28.4	32.5	36.8	47.8	47.1
Total:-	240.9	232.3	196.7	204.3	247.8	301.0	275.4
Total Bunkers							
F.O.	404.8	315.5	262.2	277.6	216.7	257.2	282.4
H.S.D.	28.8	37.3	59.6	58.3	78.2	95.5	103.3
L.D.O.	41.6	67.6	91.5	82.9	89.1	99.5	89.4
Total:	475.2	420.4	413.3	418.8	384.0	442.2	475.1

* - Excluding sales to foreign bunkers on KNPC account. by IOC.

STATE-WISE CONSUMPTION OF BULK PETROLEUM PRODUCTS@ 1983-84.

('000 Tonnes)

STATE/UNION	ATF	M.S.	SKO	HSD	LDO	F.O. (Neg.)	LSHS	NAPHTHA	LPG	BITUMEN	OTHER	TOTAL
A. STATE	37	99	399	978	25	188	41	83	60	70	54	2034
Andhra	41	35	170	203	8	38	34	-	11	29	15	584
Assam	8	73	275	693	86	164	275	120	16	28	63	1801
Bihar												
Gujarat	33	157	522	865	262	460	1241	537	59	118	156	4410
Haryana	24	42	106	424	29	189	156	-	16	36	17	1039
H. Pradesh	-	7	22	53	1	2	-	-	2	2	3	92
J & K	9	17	44	85	5	3	-	-	3	10	4	180
Karnataka	26	120	293	646	17	156	-	118	36	48	29	1489
Kerala	19	106	158	428	12	101	107	158	12	44	20	1166
M. Pradesh	6	69	246	750	6	307	1	10	28	48	64	1535
Maharashtra	434	350	990	1636	223	848	761	286	212	148	246	6134
Manipur	-	6	13	14	2	Neg.	-	-	1	26	1	63
Meghalaya	-	7	10	24	neg.	Neg.	-	-	1	8	1	51
Nagaland	neg.	6	9	12	neg.	1	-	-	1	3	1	33
Orissa	9	26	91	231	6	86	55	59	4	23	14	604
Punjab	57	109	224	799	18	231	315	-	22	38	24	1837
Rajasthan	34	58	165	668	24	72	-	145	17	52	24	1259
Sikkim	neg.	2	3	3	neg.	neg.	-	-	neg.	1	neg.	9
Tamil Nadu	50	129	440	1325	51	545	234	341	62	83	73	3333
Tripura	1	3	11	13	neg.	neg.	-	-	1	4	neg.	33
Uttar Pradesh	48	148	606	1315	109	218	47	631	61	65	118	3366
West Bengal	71	112	505	776	142	368	84	131	33	79	290	2591
TOTAL (A)	907	1681	5302	11941	1026	3977	3351	2619	659	963	1217	33643
B. UNION TERRITORIES.												
Delhi	266	171	157	449	63	119	neg.	-	76	37	53	1391
Chandigarh	21	12	14	22	2	4	-	-	6	31	1	113
Goa Daman & Diu	7	11	19	81	4	101	-	185	13	9	5	425
TOTAL (B).	296	206	209	628	70	228	neg.	185	87	83	63	2055
C. OUTSIDE TERRITORIES.												
Bhutan	-	2	2	12	-	-	-	-	neg.	neg.	-	16
Adjustment (+)/(-)	+5	+2	+11	+19	+1	+2	-	-	-	+4	+83	+127
GRAND TOTAL (A+B+C)	1208	1891	5524	12600	1097	4207	3351	2804	746	1050	1363	35841

@ = Based on all Petroleum Products including international bunkers.

Estimated State-wise per capita Sales/Consumption of Pe, Products (excluding International Bunkers).

(Kgs.)

States/ Territores	1979-80	1980-81	1981-82	1982-83	1983-84
A. STATES					
Andhra Pradesh	33.7	33.3	32.7	34.3	36.2
Assam	23.0	26.6	27.0	28.4	27.6
Bihar	19.3	20.5	23.5	26.4	24.7
Gujarat	116.1	114.6	112.3	124.6	123.4
Haryana	59.1	64.7	78.7	76.9	77.0
Himachal Pradesh	19.1	19.9	19.8	19.5	20.9
Jammu & Kashmir	28.6	27.7	27.3	26.4	28.6
Karnataka	36.4	34.1	35.9	36.6	38.4
Kerala	43.0	44.9	44.4	43.3	44.3
Madhya Pradesh	20.5	21.6	23.0	25.4	28.1
Maharashtra	88.7	92.4	90.0	87.3	92.8
Manipur	22.5	29.2	32.6	33.3	42.3
Meghalaya	21.5	20.2	21.1	26.2	36.2
Nagaland	30.0	28.4	31.2	33.8	39.8
Orissa	20.1	20.5	24.4	23.6	22.2
Punjab	79.5	84.0	96.5	100.1	105.8
Rajasthan	31.7	31.8	33.2	35.8	34.9
Sikkim	32.4	36.7	25.8	27.6	27.3
Tamil Nadu	63.3	66.8	60.8	66.5	65.6
Tripura	11.1	13.1	17.1	17.5	15.2
Uttar Pradesh	23.1	23.1	26.7	28.9	29.0
West Bengal	36.2	39.8	41.6	42.0	45.4
B. OTHER AREAS					
Chandigarh	177.6	209.3	217.8	185.8	226.0
Delhi	184.4	187.6	188.4	195.0	208.2
Goa (incl. Daman & Diu Dadra & Nagar Haveli)	416.7	290.6	401.8	414.8	368.1
Others	82.1	52.0	54.6	60.2	56.9
TOTAL ALL-INDIA @	47.9	48.2	49.5 r	52.0r	52.8

Estimated per capita consumption of selected petroleum products - 1979-80 to 1983-84 (incl. Bunkers).

PRODUCT	1979-80	1980-81	1981-82	1982-83	1983-84
Naphtha	3.7	3.5	4.3	4.2	3.9
M.S.	2.3	2.3	2.3	2.5	2.6
SKO	5.9	6.3	6.9	7.5	7.7
HSDO	15.0	15.5	15.7	17.2	17.6
LDO	1.9	1.7	1.5	1.5	1.5
F.O. (Regular)	7.3	8.1	6.3	6.0	5.9
LSHS/HHS	3.5	3.1	4.2	4.4	4.7
TOTAL ALL-INDIA @ SALES CONSUMPTION	47.9	48.2	49.5r	52.0 r	52.8

Note : i) Based on Expert Committee's population projections as on 1st July each year and projections on 1971 Consus basis.

ii) Includes Mogas, Kerosene, ATF, HSDO, LDO, Fuel Oils, LPG, Naphtha and Bitumen in 1979-80 and all products except (lubricants) for 1980-81 to 1982-83 but incl. lubricants in 1983-84. @ All-India actual consumption of all products incl. Ref. Fuel & I t. Bunkers.

r = Revised.

ESTIMATED SECTORWISE (ENDUSE) INDUSTRY CONSUMPTION OF SELECTED PETROLEUM PRODUCTS:1981-82, 1982-83 & 1983-84.

(Qty. '000 Tonnes)

ITEM	1981-82 Consumption	1981-82 % to total	1982-83 Consumption	1982-83 % to total	1983-84 Consumption	1983-84 % to total
1	2	3	4	5	6	7
		L.P. GAS				
1. Domestic	424	86.2	530	88.2	660	88.5
2. Commercial/Industry	67	13.6	70	11.6	86	11.5
3. Others	1	0.2	1	0.2	neg.	neg.
4. TOTAL	492	100.0	601	100.0	746	100.0
		NAPHTHA				
1. Fertilizers	2316	78.2	2282	77.1	2134	76.1
2. Petrochemicals	639	21.5	658	22.3	653	23.3
3. Others	8	0.3	18	0.6	17	0.6
4. TOTAL	2963	100.0	2958	100.0	2804	100.0
		H.S.D.				
1. Transport						
i) Railways	902	8.3	1040	8.7	1105	8.8
ii) Waterways:						
a) Coastal & inland bunkers	61	0.6	81	0.7	86	0.7
iib) International bunkers	17	0.2	15	0.1	17	0.1
iii) Other Transport (incl. Agr. retail trade)	8525	78.7	9267	77.1	9841	78.1
Total	9505	87.8	10403	86.6	11049	87.7
2. Plantation/Food (incl. Processing)	198	0.9	114	0.9	119	0.9
3. Power generation (utilities)	177	1.6	226	1.9	145	1.2
4. Iron & Steel	50	0.5	51	0.4	53	0.4
5. Textiles & fibre	151	1.4	216	1.8	189	1.5
6. Cement	25	0.2	40	0.3	68	0.5
7. Ceramics & Glass	5	neg.	6	0.1	8	0.1
8. Chemicals & Allied	53	0.5	77	0.6	65	0.5
9. Aluminium	3	neg.	3	neg.	3	neg.
10. Sugar	33	0.3	42	0.4	38	0.3
11. Mining & Quarrying	214	2.0	258	2.2	324	2.6
12. Engg.	86	0.8	104	0.9	111	0.9
13. Fertilizers	31	0.3	17	0.2	24	0.2
14. Other industries	70	0.6	62	0.5	88	0.7
15. Mic. services (incl. DGS&D)	331	3.1	393	3.2	316	2.5
TOTAL	10832	100.0	12012	100.0	12600	100.0

ESTIMATED SECTORWISE (ENDUSE) INDUSTRY CONSUMPTION OF SELECTED PETROLEUM PRODUCTS - 1981-82, 1982-83 & 1983-84.

(Qty. '000 Tonnes)

ITEMS.	1981-82 Consumption	1981-82 % to total	1982-83 Consumption	1982-83 % to total	1983-84 Consumption	1983-84 % to total
1	2	3	4	5	6	7
L. D. O.						
1. Transport						
i) Railways	6	0.2	6	0.6	5	0.5
ii) Waterways:						
a) Coastal & inland bunkers	37	0.6	48	4.5	47	4.3
b) International bunkers	52	3.6	42	3.9	42	3.8
iii) Other Transport (incl. Agr. Trade)	2	5.0	3	0.3	8	0.7
Total transport	97	9.4	99	9.3	102	9.3
2. Agr./Planatation/ Food(incl. Processing)	30	2.9	27	2.5	26	2.4
3. Power generation (utilities)	178	17.2	216	20.3	219	20.0
4. Iron & Steel	14	1.4	25	2.3	11	1.0
5. Textiles & fibres	19	1.8	22	2.1	24	2.2
6. Cement	3	0.3	3	0.3	3	0.3
7. Ceramics & glass	30	2.9	28	2.6	26	2.4
8. Chemicals & allied	50	4.8	60	5.6	73	6.6
9. Aluminium	1	0.1	1	0.1	1	0.1
10. Sugar	4	0.4	3	0.3	4	0.4
11. Mining & Quarrying	5	0.5	6	0.6	6	0.5
12. Engg.(Mech. &Elec.)	72	6.9	74	6.9	79	7.2
13. Fetilizers	10	0.9	4	0.4	4	0.4
14. Other industries & construction	86	8.3	76	7.1	68	6.2
15. Misc. services (incl. DGS&D)	437	42.2	423	39.6	451	41.0
TOTAL	1036	100.0	1067	100.0	1097	100.0
F. O. (Regular)						
1. Transport						
i) Railwasy	75	1.8	45	1.1	52	1.2
ii) Watherways:						
a) Coastal & inland bunkers	150	3.5	172	4.1	142	3.4
b) International bunkers	67	1.6	85	2.0	141	3.4
iii) Other Transport (Incl. Agr. Trade)	24	0.5	15	0.4	51	1.2
Total transport	316	7.1	317	7.6	386	9.2
2. Plantation/Food (incl. processing)	159	3.7	149	3.6	128	3.0
3. Power generation (Utilities)	629	14.6	833	19.8	952	22.6
4. Iron & Steel	235	5.5	273	6.5	143	3.4
5. Textiles & fibre	342	8.0	241	5.7	263	6.3
6. Cement	51	1.2	31	0.7	32	0.8

Contd.../-

ESTIMATED SECTORWISE (ENDSUSE) INDUSTRY CONSUMPTION OF PETROLEUM PRODUCTS : 1981-82, 1982-83 & 1983-84.

(Qty. '000 Tonnes)

ITEMS	1981-82 Consum-ption	% to total	1982-83 Consumption	% to total	1983-84 Consim-ption	% to total
F.O. (Regular).						
7. Ceramics & Glass	152	3.5	150	3.6	132	3.0
8. Chemicals & Allied	673	15.6	619	14.7	568	13.5
9. Aluminium	98	2.3	86	2.1	80	1.9
10. Sugar	26	0.6	21	0.5	19	0.5
11. Mining & Quarrying	131	3.1	97	2.3	39	0.9
12. Engg.(Mech.&Elec.)	218	5.1	206	4.9	191	4.5
13. Fetilizers	617	14.3	670	15.9	574	13.7
14. Other Inds. & Const.)	343	8.0	211	5.0	407	9.7
15. Misc. Services (inc. DGS&D)	316	7.4	304	7.1	293	7.0
TOTAL	4306	100.0	4208	100.0	4207	100.0
LSHS/ HHS						
1. Plantation/Food (incl.Processing)	14	0.5	23	0.8	26	0.8
2. Power generation (Utilities)	1136	39.5	1191	38.5	1273	38.0
3. Iron & Steel	356	12.4	260	8.4	193	5.8
4. Textiles & fibre	1666	5.8	93	3.0	168	5.0
5. Cement	4	0.1	10	0.3	8	0.2
6. Ceramics & Glass	29	1.0	39	1.3	58	1.7
7. Chemicals & Allied	325	11.3	397	12.8	416	12.4
8. Aluminium	neg.	-	1	neg.	8	0.2
9. Mining & Quarrying	neg.	-	13	0.4	87	2.6
10. Engg.(Mech.&Elec.)	neg.	-	3	0.1	10	0.3
11. Fetilizers	769	26.7	883	28.5	913	27.2
12. Other Indus. & Const.	neg.	-	5	0.2	5	0.1
13. Misc. Services (incl. DGS&D)	79	2.7	176	5.7	186	5.6
TOTAL	2878	100.0	3094	100.0	3351	100.0
GRADEWISE CONSUMPTION/SALES OF LUBES.						
Total Lubes Oils						
of which:						
a) Automotive Oils	325.9	57.5	341.6	59.3	331.9	56.2
HVI	325.8	57-5	341.5	59.3	331.9	56.2
MVI	0.1	neg.	0.1	neg.	neg.	neg.
LVI	neg.	-	-	-	neg.	neg.
b) Industrial Oils	240.7	42.5	234.7	40.7	258.5	43.8
Total (a+b)	566.6	100.0	576.3	100.0	590.4	100.0
Industrial Oils- Break-up						
1. Spindle Oils	5.3	2.2	5.3	2.3	5.3	2.1
2. Transformer Oil	0.3	0.1	0.4	0.2	0.4	0.2
3. Rly./Other axel Oil	10.4	4.3	7.7	3.3	9.9	3.8
4. Cylinder Oil	11.2	4.7	10.2	4.3	10.2	3.9
5. Turbine/Hydraulic Oil	49.3	20.5	52.9	22.5	52.1	20.2
6. Other Spl. Oils	74.3	30.9	70.4	30.0	71.5	27.6
7. Misc. grades	89.8	37.3	87.8	37.4	109.1	42.2
TOTAL	240.7	100.0	234.7	100.0	258.5	100.0

CONSUMPTION OF DIESEL OIL IN INDIAN RAILWAYS DURING 1960-61 TO 1983-84.

Year	No. of Diesel Locomotives Nos.	Consumption of Diesel Oil (In Kls.)	Consumption of per Diesel Locomotive (In Kls.)
1960-61	181	62771	346.8
1961-62	228	59444	260.7
1962-63	349	98481	282.2
1963-64	486	182328	375.2
1964-65	621	245633	395.5
1965-66	727	310813	427.5
1966-67	776	365582	471.1
1967-68	892	427126	478.8
1968-69	996	486084	488.0
1969-70	1091	536301	491.6
1970-71	1169	569025	486.8
1971-72	1288	626983	486.8
1972-73	1431	667414	466.4
1973-74	1610	683140	424.3
1974-75	1702	720047	423.1
1975-76	1731	797619	460.8
1976-77	1903	867330	455.8
1977-78	2025	949077	468.7
1978-79	2126	960545	451.8
1979-80	2243	992060	442.3
1980-81	2403	1067477	444.2
1981-82	2515	1179682	469.1
1982-83	2520	1227236	468.1
1983-84*	2638	1277772	465.2

* = Provisional.

Source: For Col 2 & 3 Indian Railways Annual Statistical Year Book.

INDUSTRY/PLANT-WISE OFFTAKE OF NAPHTHA

(Qty. '000 Tonnes)

Category and Plant	Calender Year			Financial Year		
	1981	1982	1983	1981-82	1982-83	1983-84
I. Fertilizer Plants:						
Madras Ferts. Ltd.	231	221	109	218	207	139
FCI, Durgapur	123	46	137	124	66	131
FCI, Gorakhpur	81	98	97	83	94	108
FCI, Sindri	27	26	-	52	-	-
FCI, Barauni	103	101	120	66	127	120
SFC, Kota	133	142	147	142	147	145
IEL, Kanpur	219	308	292	244	320	288
HSL, Rourkela	97	78	47	98	62	59
GSFC, Baroda	105	101	101	104	96	113
FACT, Cochin	127	126	100	131	113	110
ZAC, Goa	145	207	187	184	217	185
IFFCO, Phulpur	209	217	230	234	221	234
IFFCO, Kalol	54	54	43	57	54	41
IFFCO, Kandla	1	-	-	-	-	-
MCFL, Mangalore	162	141	104	153	124	118
SPIC, Tuticorin	258	238	198	239	263	202
EID Parry Ltd., Madras	7	6	neg.	8	4	neg.
GNFC, Dharuch	neg.	1	1	1	1	1
FACT, Alwaye	65	57	39	57	54	57
FCI, Bombay	46	55	0	56	45	-
Coromandal Forts., Vizag	72	72	76	75	66	83
Sub-Total Fertilizer	2265	2295	2035	2317	2283	2134
II. Petrochemical Plants.						
HOC, Nasayani	3	4	4	3	4	5
IPCL, Baroda	348	355	375	344	372	383
NOCIL, Bombay	241	197	189	210	200	187
FCI, Bombay (Mathanol)	14	16	16	13	16	16
UCIL, Bombay	74	63	63	68	66	62
Sub-Total (Petro-Chem.)	680	635	647	638	658	653
III. Others						
HSL, Bhilai etc.	9	14	14	8	19	17
Sub- Total (Others)	9	14	14	8	19	17
GRAND TOTAL (I+II+III)	2954	2944	2696	2963	2958	2804

P = Provisional.

Source = IOC's Industry performance Review & IOC's Final Sales Report.

PLANT/CUSTOMER-WISE OFFTAKE OF LSHS/HHS

(Qty. '000 Tonnes)

	1978-79	1979-80	1980-81	1981-82 (R)	1982-83 (P)	1983
1. POWER						
BITS, Barauni	34.5	32.1	3.9	21.3	31.3	20.8
GEB, Gandhinagar	96.2	49.6	28.6	16.1	7.7	18.9
GEB, Kalol	1.3	1.3	-	-	-	-
GEB, Ukai	70.4	86.9	82.7	66.6	76.8	49.8
GNTP, Bhatinda	-	-	-	-	2.7	-
DEH, Dhuvaran	661.0	633.6	616.6	624.5	675.6	636.7
DTPS, Durgapur	-	-	-	1.3	-	-
OTPS, Obra	-	-	-	-	5.3	13.9
TTP, Tuticorin	-	-	-	-	5.2	41.8
Tata Thermal Bombay	448.2	601.3	397.6	382.1	348.7	394.3
AEC, Ahmedabad	45.3	57.3	29.1	23.6	15.3	21.9
ASEB, Chandrapur	39.5	26.3	26.5	-	12.9	26.4
ASEB, Gauhati	-	-	-	-	-	7.3
MSEB, Koradi	1.0	-	-	-	-	-
MSEB, Uran	-	-	-	-	-	4.0
MSEB, Nasik	-	-	-	-	-	37.6
NLC, Neyveli	-	-	-	-	8.4	-
Sub Total -1	1397.4	1488.4	1182.0	1135.5	1190.9	1271.4
2. FERTILIZER/PETROCHEM.						
NFL, Nangal	82.4	113.2	120.8	202.3	188.8	172.1
NFL, Bhatinda	9.9	8.7	70.7	146.1	203.2	102.9
NFL, Panipat	1.1	-	30.4	182.0	234.0	145.8
HFC, Barauni	7.6	7.6	0.7	12.3	17.1	21.5
FCI, Sindri	-	31.1	14.8	26.2	178.6	174.4
FCI, Talchar	-	-	-	-	-	1.5
IFFCO, Phulpur	-	-	-	1.1	8.8	17.6
IFFCO, Kalol	39.6	31.5	41.4	41.3	44.7	40.8
IPCL, Baroda (GA&GO)	64.4	87.6	100.3	152.9	191.0	166.4
GSFC, Baroda/Bajuwa	17.9	20.0	33.0	73.7	69.6	78.9
GNFC, Dharuch	-	-	1.4	16.3	29.1	164.7
FACT, Cochin	8.8	51.9	64.4	66.2	69.6	60.5
HOC, Rasayani	20.7	4.8	15.0	0.9	11.7	10.0
Petrochem.-Dongaigaon	-	-	-	-	0.5	-
NOCIL, Bombay	-	-	-	-	28.8	29.6
SPIC, Tuticorin	-	-	-	-	27.9	33.8
MRL/MFL, Madras	-	-	-	-	15.7	27.7
NLC, Neyeli	-	-	-	-	-	71.2
Other Chenicals	-	-	-	-	-	68.6
Sub-Total - 2.	252.4	356.4	492.9	921.4	1319.1	1388.0
3. STEEL PLANTS						
TISCO, Jamshedpur	99.9	62.1	19.5	62.5	61.0	57.0
RSP, Rourkela	107.2	83.0	7.1	71.3	90.0	50.4
DSP, Durgapur	105.4	96.2	24.0	221.7	109.0	83.8
Total - 3	312.5	241.3	50.6	355.5	260.0	193.2
4. GENERAL TRADE	310.9	198.3	342.0	466.0	323.7	496.0
GRAND TOTAL	2273.2	2284.4	2067.5	2878.4	3093.7	3350.6

* = Included in General Trade.
R = Revised.
P = Provisional
Source : IOC's Industry Performance Review/Final Sales Reports.

State-wise Fuel Consumption and Power Generated in Gas Turbine and Diesel Power Stations in India 1981-82.

STATE	Gas Station		Diesel Stations		
	Natural Gas @ Mn. Cubic Metres)	Generation (GWH)	Diesel Oil (KL)	Generation (GWH)	Average Oil Consumption (Lts/Kwh)
1	2	3	4	5	6
Assam	241.26	495.55	4000(e)	15.11	0.27
Bihar	-	-	565	1.56	0.36
Gujarat	2490*(Gas)				
	(Oil) 67 25	22.00	42	0.10	0.42
Himachal Pradesh	-	-	27	0.04	0.68
Jammu & Kashmir	-	-	40(e)	0.14	0.29
Manipur	-	-	4970(e)	16.56	0.30
Meghalaya	-	-	7	0.01	0.70
Nagaland	-	-	228	0.54	0.42
Punjab	-	-	2750(e)	5.14	0.54
Rajasthan	-	-	109	0.23	0.47
Sikkim	-	-	35(e)	0.09	0.39
Tripura	-	-	400(e)	1.15	0.35
Uttar Pradesh	95e (Oil)	0.28	-	-	-
West Bengal	77041 (oil)	178.74	3481	10.05	0.35
Maharashtra	1120 (Oil)	1.93	-	-	-
Other States	-	-	-	-	-
Union Territores					
A & N Islands	-	-	3801	10.00	0.38
Arunachal Pradesh	-	-	620(e)	2.13	0.29
Chandigarh	-	-	85(e)	0.24	0.35
Laksh deweep	-	-	776	1.70	0.46
Delhi	-	-	420	1.34	0.31
Mizoram	-	-	1100(e)	3.12	0.35
Other Union Territores	-	-	-	-	-
Total	gas=241.26+ 2490* Oil= 84886	698.50	23456	69.25	0.34

@ = The figures relating to Oil are in Kilo leters.

e = Stands from estimated figures.

* = Figures are in thousand tonnes.

Source = Directorate of Central Electricity Authority.

State-wise Consumption of Fossil Fuels for Electricity Generation from Thermal Power Station in India 1981-82.

STATES	Fuel Consumption in Steam Power Station						Heat input K. Cal x 10')	Gross generation (GWH)	Average heat-input (K.Cal/KWH)
	Coal '000' Tonnes	Lignites '000' Tonnes	F.O. ('000' K.L)	L.DO. ('000 K.L)	LSHS/ ('000 (MT)	N. Gas (Mn. Cubic Metres)			
Andhra Pradesh	3704	3	4	5	6	7	8	9	10
Andhra Pradesh	3704	-	51.9	6.37	-	-	15553.75	5092.90	3054
Assam	112	-	15.8	3.66	-	43.89	1172.00	230.50	5085
Bihar	1864	-	28.4	39.7	-	-	8111.06	2408.51	3368
Gujarat	3374 (14.6)	14.6	768.3	5.69	-	128.7	26476.40	9046.20	2927
Haryana	1011	-	59.89	15.25	-	-	5268.00	1322.83	3982
Madhya Pradesh	5470	-	103.1	1.98	-	*	20696.40	6816.48	3036
Maharashtra	6785	-	74.4	15.1	381.2	161.1(M)	35590.54	12346.71	2883
Orissa	676	-	-	2.13	-	-	2672.16	785.75	3401
Punjab	1230	-	26.5	9.9	-	-	4991.45	1593.00	3133
Rajasthan	35.5	-	-	-	-	-	204.75	25.91	7902
Tamil Nadu	2053	-	164.4	12.8	-	-	10684.42	3174.12	3366
Uttar Pradesh	5784	-	75.7	62.2	-	-	26125.76	7512.14	3478
West Bengal	3446	-	54.5	5.0	-	-	19372.89	5382.23	3599
Central Govt. Project	1833	-	65.5	2.0	-	-	7660.45	2283.52	3486
D.V.C.	3889	4632	73.9	7.91	-	-	18246.85	5779.32	3157
UNION TERRITORIES									
A & N Island	4.93	-	-	0.47	-	-	19.53	1.72	11355
Delhi	949	-	20.8	2.51	-	-	4838.29	1362.95	3550
GRAND TOTAL	42235 +(4.93*)	4646.6	1592.9	195.7	381.2	172.55 +161.1	220388.49	68747.86	3206

Figures in parenthesis relates to wood fuel.

* = Refinery Gas.

Source:- Directorate of Central Electricity Authority.

IX. FOREIGN TRADE

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

(Qty.'000 Tonnes
Value: Rs. Crores)

Year	Crude Oil		Products		Total	
	Qty.	Value	Qty.	Value	Qty.	Value
			GROSS IMPORTS			
1970	11665	102.36	970	30.53	12635	132.89
1971	12688	139.88	1932	43.49	14620	183.37
1972	12310	144.25	3257	56.69	15567	200.94
1973	13443	244.56	3735	88.03	17178	332.59
1974	13973	899.36	2949	209.90	16922	1109.26
1975	13600	992.02	2291	199.46	15891	1191.48
1976	13883	1145.56	2293	219.70	16176	1365.26
1977	14548	1258.92	2664	272.99	17212	1531.91
1978	14892	1243.89	3916	414.13	18808	1658.02
1979	15382	1787.38	4019	727.56	19401	2514.94
1980	15976	3038.66	6800	1788.28	22776	4826.94
1981	15528	3793.83	5697	1638.58	21225	5432.41
1982	17327	4116.89	4942	1551.37	22269	5668.26
1983	15552	3471.47	4075	1197.59	19627	4669.06
			EXPORTS			
1970	-	-	412	5.72	412	5.72
1971	-	-	152	2.55	152	2.55
1972	-	-	109	8.94	109	8.94
1973	18	0.42	155	5.35	173	5.77
1974	-	-	202	19.37	202	19.37
1975	-	-	166	13.83	166	13.83
1976	-	-	82	7.60	82	7.60
1977	-	-	59	6.50	59	6.50
1978	-	-	43	4.20	43	4.20
1979	-	-	59	14.94	59	14.94
1980	-	-	70	17.98	70	17.98
1981	-	-	55	15.13	55	15.13
1982	4391	1044.71	648	101.23	5039	1145.94
1983	4302	953.76	1051	253.43	5353	1207.19
			NET IMPORTS			
1970	11665	102.36	558	24.81	12223	127.17
1971	12688	139.88	1780	40.94	14468	180.82
1972	12310	144.25	3148	47.75	15458	192.00
1973	13425	244.14	3580	82.68	17005	326.82
1974	13973	899.36	2747	190.53	16720	1089.89
1975	13600	992.02	2125	185.63	15725	1177.65
1976	13883	1145.56	2211	212.10	16094	1357.66
1977	14548	1258.92	2605	266.49	17153	1525.41
1978	14892	1243.89	3873	409.93	18765	1653.82
1979	15382	1787.38	3960	712.62	19342	2500.00
1980	15976	3038.66	6730	1770.30	22706	4808.96
1981	15528	3793.83	5642	1623.45	21170	5417.28
1982	12936	3072.18	4294	1450.14	17230	4522.32
1983	11250	2517.71	3024	944.16	14274	3461.87

Note:- Figures exclude adjustments on account of i. Crude processed abroad during 1983/1984.

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

('000 Tonnes)
(Value: Rs. Crores)

Year	Crude Oil		Products		Total	
	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7
			GROSS IMPORTS			
1970-71	11683	106.72	1084	29.91	12767	136.63
1971-72	12951	147.02	2147	46.88	15098	193.90
1972-73	12084	146.37	3525	60.58	15609	206.95
1973-74	13873	416.39	3548	124.50	17421	540.89
1974-75	14016	916.99	2648	195.00	16664	1111.99
1975-76	13624	1051.76	2218	204.34	15842	1256.10
1976-77	14048	1175.91	2624	248.23	16672	1424.14
1977-78	14507	1246.20	2879	305.34	17386	1551.54
1978-79	14657	1251.17	3878	429.99	18535	1681.16
1979-80	16121	2187.53	4724	1082.39	20845	3269.92
1980-81	16248	3348.97	7289	1917.52	23537	5266.49
1981-82	15298	3736.38	4884	1453.16	20182	5189.54
1982-83	16949	4043.74	5028	1553.94	21977	5597.68
1983-84	15967	3541.05	4052	1195.95	20019	4737.00
			EXPORTS			
1970-71	-	-	332	4.67	332	4.67
1971-72	-	-	136	3.91	136	3.91
1972-73	-	-	126	8.16	126	8.16
1973-74	18	0.42	161	8.05	179	8.47
1974-75	-	-	175	17.46	175	17.46
1975-76	-	-	170	13.96	170	13.96
1976-77	-	-	74	6.89	74	6.89
1977-78	-	-	47	5.69	47	5.69
1978-79	-	-	44	4.11	44	4.11
1979-80	-	-	88	24.02	88	24.02
1980-81	-	-	36	8.41	36	8.41
1981-82	838	196.23	55	15.33	893	211.36
1982-83	4352	1023.29	795	133.79	5147	1157.08
1983-84	4986	1111.37	1334	310.25	6320	1421.62
			NET IMPORTS			
1970-71	11683	106.72	752	25.24	12435	131.96
1971-72	12951	147.02	2011	42.97	14962	189.99
1972-73	12084	146.37	3399	52.42	15483	198.79
1973-74	13855	415.97	3387	116.45	17242	532.42
1974-75	14016	916.99	2473	177.54	16489	1094.53
1975-76	13624	1051.76	2048	190.38	15672	1242.14
1976-77	14048	1175.91	2550	241.34	16598	1417.25
1977-78	14507	1246.20	2832	299.65	17339	1545.85
1978-79	14657	1251.17	3834	425.88	18491	1677.05
1979-80	16121	2187.53	4636	1058.37	20757	3245.90
1980-81	16248	3348.97	7253	1909.11	23501	5258.08
1981-82	14460	3540.15	4829	1438.03	19289	4978.18
1982-83	12597	3020.45	4233	1420.15	16830	4440.60
1983-84	13981	2429.68	2718	885.70	13699	3315.38

Note:- Figures exclude adjustments on account of Lt. Crude processed abroad during 1983/1984.

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS DURING 1981 to 1983

(Qty: '000 Tonnes)
(Value : Rs. Crores)

	1981		1982		1983	
	Qty.	Value	Qty.	Value	Qty.	Value
GROSS IMPORTS						
A. Crude Oil	15528	3793.83	17327	4116.89	15552	3471.47
B. Petroleum Products						
I. Light Distillates	275	86.75	175	61.62	123	44.69
1. Naphtha	223	63.76	101	29.89	77	22.66
2. Others	52	22.99	74	31.73	46	22.03
II. Middle Distillates	4395	1300.57	4592	1424.67	3848	1095.89
1. ATF	78	24.99	223	71.59	223	67.13
2. SKO	1996	608.82	1936	620.90	1819	538.22
3. HSD	2209	634.63	2401	722.06	1784	485.32
4. LDO	112	32.13	32	10.12	22	5.22
III. Heavy Ends	1026	251.26	175	65.08	104	57.01
1. Furnace Oil	829	161.94	23	5.22	-	-
2. Lubes	119	64.18	88	45.27	100	55.92
3. Waxes	19	15.04	4	2.92	-	-
4. Others	59	10.10	60	11.67	4	1.09
Total (B)	5697	1638.58	4942	1551.37	4075	1197.59
GRAND TOTAL(A+B)	21225	5432.41	22269	5668.26	19627	4669.06
EXPORTS @						
A. Crude Oil	-	-	4391	1044.71	4302	953.76
B. Petroleum Products						
I. Light Distillates	55	15.13	0.3	0.15	809	214.01
1. Naphtha	55	15.13	-	-	809	214.01
2. Others	-	-	0.3	0.15	-	-
II. Middle Distillates	-	-	22	5.63	-	-
1. LDO	-	-	22	5.63	-	-
III. Heavy Ends	-	-	626	95.45	242	39.42
1. F.O.	-	-	626	95.45	219	35.94
2. LSHS	-	-	-	-	23	3.48
Total (B)	55	15.13	648	101.23	1051	253.43
GRAND TOTAL(A+B)	55	15.13	5039	1145.94	5353	1207.19
NET IMPORTS						
A. Crude Oil	15528	3793.83	12936	3072.18	11250	2517.71
B. Petroleum Products	5642	1623.45	4294	1450.14	3024	944.16
TOTAL(Net Imports)	21170=	5417.28	17230	4522.32	14274	3461.87

@ Excludes supplies of POL Products to Nepal.

Note:- Figures exclud[e] adjustments on account of crude processed abroad during 1983/1984.

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS DURING 1981-82 To 1983-84

(Qty. '000 Tonnes)
(Value: Rs. Crores)

Item	1981-82 Qty.	1981-82 Value	1982-83 Qty.	1982-83 Value	1983-84 Qty.	1983-84 Value
			GROSS IMPORTS			
A. Crude Oil	15298	3736.38	16949	4043.74	15967	3541.05
B. Petroleum Products						
I. Light Distillates	160	52.69	178	62.68	172	57.67
1. Naphtha	114	31.54	101	29.89	129	37.34
2. Others	46	21.15	77	32.79	43	20.33
II. Middle Distillates	4000	1217.02	4726	1435.68	3771	1080.12
1. ATF	110	36.32	244	76.77	169	50.63
2. SKO	1969	606.55	1881	595.89	1955	581.37
3. HSD	1838	549.45	2582	756.91	1604	437.32
4. LDO	83	27.40	19	6.11	43	10.80
III. Heavy Ends	724	183.45	124	55.59	109	58.16
1. Furnace Oil	527	103.23	-	-	-	-
2. Lubes	91	52.23	105	51.05	97	54.98
3. Waxes	15	11.64	0.3	0.27	-	-
4. Others	91	16.35	18.4	4.27	12	3.18
Total(B)	4884	1453.16	5028	1553.94	4052	1195.95
GRAND TOTAL(A+B)	20182	5189.54	21977	5597.68	20019	4737.00
			EXPORTS @			
A. Crude Oil	838	196.23	4352	1023.29	4983	1111.37
B. Petroleum Products						
I. Light Distillates	55	15.13	96	24.96	901	237.64
1. Naphtha	55	15.13	96	24.81	901	237.64
2. Others	-	-	neg.	0.15	-	-
II. Middle Distillates	-	-	22	5.63	-	-
1. LDO	-	-	22	5.63	-	-
III. Heavy Ends	-	-	677	103.20	433	72.61
1.F.O.	-	-	677	103.20	410	69.13
2. LSHS	-	-	-	-	23	3.48
Total (B)	55	15.13	795	133.79	1334	310.25
Grand Total(A+B)	893	211.36	5147	1157.08	6320	1421.62
			NET IMPORTS			
A. Crude Oil	14460	3540.15	12597	3020.45	10981	2429.68
B. Pet. Products	4829	1438.03	4233	1420.15	2718	885.70
GRAND TOTAL (NET IMPORTS)	19289	4978.18	16830	4440.60	13699	3315.38

@ Excludes supplies of POL products to Nepal.

Note:- Figures exclude [illegible] on account of i.. Crude processed [illegible] during 1983/1984.

EXPORT EARNINGS DURING THE YEARS 1980-81 TO 1983-84

Qty. : '000 tonnes
Value : Rs. Crores.

Category/Product	1980-81 Qty.	1980-81 Value	1981-82 Qty.	1981-82 Value	1982-83 Qty.	1982-83 Value	1983-84 Qty.	1983-84 Value
1. SALES TO BUNKERS								
(a) Shipping Bunkers								
International F/V	67	15.16	49	14.24	47	12.96	50	13.96
International I/V	148	30.10	87	22.87	94	23.19	150	35.04
Coastal F/V	31	6.63	21	5.68	10	2.92	6	1.55
Total (a)*	246	51.89	157	42.79	151	39.07	206	50.55
(b) International Airlines (excl.Air India)	435	182.85	394	179.39	388	177.03	392	177.75
Total (1)	681	234.74	551	222.18	539	216.10	598	228.30
2. EXPORTS OF POL PRODUCTS/CRUDE OIL								
(i) Exports of POL Products:								
Naphtha	36	8.34	55	15.13	96	24.81	901	237.64
F.O.	-	-	-	-	677	103.20	410	69.13
LSHS	-	-	-	-	-	-	23	3.48
L.D.O.	-	-	-	-	22	5.63	-	-
Other Products	neg.	0.07	-	-	neg.	0.15	-	-
Total (i)	36	8.41	55	15.13	795	133.79	1334	310.25
(ii) Crude Oil	-	-	838	196.23	4352	1023.29	4986	1111.37
Total (2)**	36	8.41	893	211.36	5147	1157.08	6320	1421.62
GRAND TOTAL(1+2)	717	243.15	1444	433.54	5686	1373.18	6918	1649.92

* Excluding sales of Marine Lubricants.

** Excluding supplies of POL products to Nepal and those exported directly from Aden Refinery.

F/V = Foreign Flag Vessels. I/V = Indian Flag Vessels.

INDIA'S REVENUES FROM HIL CRUDE

Year	Quantity ('000 tonnes)	Value (Rs. Crores)
1974	654	38.59
1975	567	41.96
1976	410	32.14
1977	465	38.26
1978	371	29.36

Note : No liftings since October/November, 1978.

TREND IN INDIA'S OVERALL TRADE BALANCE AND TRADE BALANCE WITH OPEC COUNTRIEE

(Rs./Crores)

Year	India's Overall Trade					India's Trade with OPEC Countries					% of India's trade with OPEC to India's total Trade	
	Exports	Imports	Balance of Trade	% Variation Over preceding year Exports	Imports	Exports	Imports	Balance of trade	% variation over preceding year Exports	Imports	Exports	Imports
1	2	3	4	5	6	7	8	9	10	11	12	13
1970-71	1535	1634	- 99	8.6	3.3	99	126	- 27	-	-	6.4	7.7
1971-72	1608	1825	- 217	4.8	11.3	76	182	- 106	-23.2	44.4	4.7	10.7
1972-73	1971	1867	+ 104	22.6	2.3	94	200	- 106	23.7	9.9	4.8	10.0
1973-74	2583	2955	- 432	28.0	58.3	187	532	- 345	98.9	166.0	7.4	18.0
1974-75	3329	4519	-1188	32.0	52.9	467	1100	- 633	149.7	106.8	14.0	24.3
1975-76	4043	5265	-1222	21.4	16.5	633	1166	533	35.6	6.0	15.7	22.1
1976-77	5142	5074	+ 72	27.2	-3.6	707	1296	589	11.7	11.2	13.8	25.5
1977-78	5408	6020	- 612	5.2	18.6	674	1340	666	4.7	3.4	12.5	22.3
1978-79	5726	6814	-1088	5.9	13.2	733	1382	649	8.8	3.1	12.8	20.3
1979-80	6459	9022	-2563	12.8	32.4	717	2410	1693	2.2	74.4	11.1	26.7
1980-81	6711	12560	-5849	3.9	39.2	745	3489	-2744	3.9	62.1	11.1	27.8
1981-82	7806	13608	-5802	16.3	8.3	899	3790	-2891	20.7	8.6	11.5	27.9
1982-83	8638	14054	-5416	10.7	3.3	858	3916	-3058	-4.6	3.3	9.9	27.9

* - Provisional.

% - Of variation over the corresponding period in the preceding year.

Source - Ministry of Commerce/Economice Survey.

INDIA'S FOREIGN EXCHANGE RESERVES
(1970-71 to 1983-84)

Year	S.D.R.s Million	GOLD (Rs. Crores)	Foreign Exchange (Rs. Crores)
1	2	3	4
1970-71	148.9	182.53	438.12
1971-72	247.7	182.53	480.38
1972-73	246.5	182.53	478.90
1973-74	244.9	182.53	580.78
1974-75	234.9	182.53	610.50
1975-76	202.8	182.53	1491.70
1976-77	187.4	187.80	2862.99
1977-78	161.6	193.09	4499.75
1979-80	529.1	224.71	5163.66
1980-81	490.5	225.58	4822.12
1981-82	425.1	225.58	3354.47
1982-83	270.2	225.58	4265.26
1983-84	216.4	225.58	5497.85

INDIA'S POL IMPORTS AS A PROPORTION OF ITS TOTAL EXPORTS

(Rs./Crores)

Year	P.O.L.(Gross) Imports	INDIA'S Total Exports	% of P.O.L. Imports to Total Exports
1	2	3	4
1970-71	137	1535	8.9%
1971-72	194	1608	12.1%
1972-73	207	1971	10.5%
1973-74	541	2523	21.4%
1974-75	1112	3329	33.4%
1975-76	1256	4043	31.1%
1976-77	1424	5142	27.7%
1977-78	1552	5404	28.7%
1978-79	1681	5726	29.4%
1979-80	3270	6459	50.7%
1980-81	5266	6711	78.5%
1981-82	5190	7803	66.5%
1982-83	5598	8834	69.4%
1983-84(P)	4737	9396	50.4%

Source for Exports data: Bulletin of Industrial Statistics, brough out by the Ministry of Industry.

(P) - Provisional.

X. MAN-POWER EMPLOYED.

DIRECT EMPLOYED IN THE PETROLEUM INDUSTRY.IN INDIA.

(Number)

CATEGORY	1970	1975	1980	1982	1983	1984
1	2	3	4	5	6	7
1. Exploration & & Production	26051	27067	31413	36089	38063	43535
2. Refining*	10715	12327	15334	18359	19507	20885
3. Marketing	20362	19072	19920	22858	24468	26490
4. Others:-						
1. IOC(Pipeline)	487	724	1312	1445	1592	1767
2. ONGC(Pipeline)	346	233	411	203	280	391
3. OIL(Pipeline)	443	431	492	490	538	539
4. I.I.P.	588	676	754	744	744	767
5. E.I.L.	N.A.	1940	2661	3176	3422	3558
TOTAL	1864	4004	5630	6058	6576	7022
GRAND TOTAL	58992	62470	72297	83364	88614	97932

CATEGORY-WISE DIRECT EMPLOYED IN THE PETROLEUM INDUSTRY IN INDIA.

(Number)

CATEGORY	1970	1975	1980	1982	1983	1984
1	2	3	4	5	6	7
1. Executive/ Managerial	4793	6461	9311	13027	15666	18620
2. Supervisory	6205	6659	6512	7388	8221	9299
3. Clerical	11457	11723	12403	13921	13626	14698
4. Workmen	36437	37611	44057	48969	51023	55175
5. TOTAL	58892	62454	72283	83305	88536	97792
6. Expatriates/ Foreign Experts	100	16	14	59	78	140
GRAND TOTAL	58992	62470	72297	83364	88614	97932

Note :- 1. Staff Employed as on 1st April of each year.

2. Total does not include staff Employed on contract basis.

CATEGORY WISE DIRECT EMPLOYED @ IN VARIOUS SECTOR OF PETROLEUM INDUSTRY IN INDIA

(Number)

CATEGORY	1970	1975	1980	1982	1983	1984
1	2	3	4	5	6	7
EXPLORATION AND PRODUCTION						
1. Executive/ Managerial	1765	1967	3394	4396	6796	8450
2. Supervisory	2774	3538	1994	3068	3191	4104
3. Clerical	3764	3538	3795	4405	3930	4526
4. Workmen	17704	18013	22216	23683	24068	26215
5. TOTAL	26007	17056	31399	36052	37985	43395
6. Expatriates/ Foreign Experts	44	11	14	37	78	140
GRAND TOTAL	26051	27067	31413	36089	38063	43535
PETROLEUM REFINING *						
1. Executive/ Managerial	258	818	2055	2825	2892	3700
2. Supervisory	1076	1313	1050	956	1409	1162
3. Clerical	1219	1568	1791	2277	2344	2540
4. Workmen	7857	8626	10438	12279	12862	13483
5. TOTAL	10677	12325	15334	18337	19507	20885
6. Expatriates/ Foreign Experts	38	2	-	22	-	-
GRAND TOTAL	10745	12327	15334	18359	19507	20885
M A R K E T I N G						
1. Executive/ Managerial	2367	3519	3318	4632	5203	5599
2. Supervisory	2081	910	1591	1049	1145	1384
3. Clerical	6220	5870	5820	6183	6350	6488
4. Workmen	9680	8770	9191	10994	17770	13019
5. TOTAL	20348	19069	19920	22858	24468	26490
6. Expatriates/ Foreign Experts	14	3	-	-	-	-
GRAND TOTAL	20362	19072	19920	22858	24468	26490

@ = Date relates to the number of person directly employed by various oil companies as on 1st April of each year. Staff Employed on contract basis is not covered.

* = Includes IOC's Head Office, Regional office and R & D Centre.

XI. PRICES

WHOLESALE PRICE INDICES OF Petroleum Products, Petro-based Industries & other Energy Items

(1970-71 = 100)

Items	1972-73	1973-74	1979-80	1980-81	1981-82	1982-83	1983-84*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			I. Petroleum Products				
Petrol	121.6	178.6	361.3	430.7	505.5	517.5	522.6
Diesel Oil	105.9	119.5	186.5	279.6	373.3	389.5	414.9
L.D.O.			329.8	548.1	732.5	760.8	800.1
Kerosene	114.9	113.1	266.1	277.3	315.9	328.1	343.0
F.O.	113.3	150.7	529.9	880.1	1148.5	1185.6	1228.1
Aviation Spirit	125.4	173.9	431.7	581.8	589.6	593.4	593.4
Petroleum Crude & Natural Gas	142.0	317.1	1384.0	2041.8	2130.7	1984.8	1739.5
			II. Petro-Based Industries				
Lubricating Oil	99.0	135.8	319.6	373.6	416.1	441.9	464.4
Nylon & Terene Mixed cloth	98.9	104.7	131.6	139.7	147.9	154.4	155.4
Benzene	106.1	125.7	480.3	709.0	758.4	769.5	769.5
Nitrogenous fertilizers	104.7	109.5	171.7	254.7	281.0	283.1	277.0
Insecticides	111.6	131.6	272.2	328.6	351.8	393.2	425.9
Syn. Detergents	105.2	105.7	230.5	274.8	294.2	295.8	297.3
Polystyrene	101.0	121.8	349.8	425.8	464.8	414.1	425.1
Polyethylene Moulding Powder	105.4	122.8	228.9	291.9	303.7	285.5	276.9
PVC Compounds	104.3	132.2	222.6	309.1	303.3	323.3	323.3
PVC Sheets	98.2	129.8	196.0	224.9	228.4	231.7	231.7
Syn. Resins(nes)	99.8	121.3	199.8	219.0	232.5	249.4	275.7
Syn. Fibre	101.4	106.2	150.2	157.4	147.5	168.4	169.8
Syn. Rubber	100.0	100.0	138.3	174.4	190.1	199.6	201.2
Polythene films	108.8	131.2	248.6	296.7	901.9	301.9	301.9
Carbon black	99.6	99.6	347.4	532.7	664.0	675.5	678.6
Plasticizers	104.6	103.1	269.5	314.9	310.9	313.7	320.1
			III. Other Energy Items				
Electricity	105.7	111.3	225.6	239.0	279.6	324.6	371.8
Coke	134.7	136.4	262.8	291.7	382.8	451.4	489.1
Coal Liqnite	110.8	121.7	299.5	347.6	432.1	493.3	542.3
Lignite	-	-	-	-	-	-	370.8
			IV. All commodity Index				
All commodities	116.2	139.7	217.6	257.2	281.3	288.3	315.3

Source: Monthly Bulletins of Index Numbers of wholesale Price Indices brought out by the office of the Economic Adviser, Ministry of Industry.

* Provisional.

Prices of Indigenous Onshore and Offshore Crude Oil of % 349 API Gravity

Item	Unit	Price effective from					
		14.7.75	8.9.76	16.12.77	1.4.81	11.7.81	15.2.83
(i) Onshore Crude Oil							
1. Base Price as fixed by the Govt.	Rs/Bbl	36.64*	33.30*	27.60	27.60	138.54	138.54
2. Conversion factor	Bbl/MT	7.37	7.37	7.37	7.37	7.37	7.37
3. Base Price	Rs/MT	270.04*	245.42*	203.41	203.41	1021.00	1021.00
4. Oil Development Cess	Rs/MT	@	60.00	60.00	60.00	100.00	300.00
5. Royalty	Rs/MT	@	@	42.00	61.00	61.00	61.00
6. Total price including Cess & royalty	Rs/MT	270.04	305.41	305.41	324.41	£ 1182.00	£ 1382.00
(ii) Offshore Crude Oil							
1. Base Price fixed by the Govt.	Rs/Bbl			45.00	45.00	138.54	138.54
2. Conversion factor	Bbl/MT			7.37	7.37	7.37	7.37
3. Base Price	Rs /MT			331.65	331.65	1021.00	1021.00
4. Oil Development Cess	Rs/MT			60.00	60.00	100.00	300.00
5. Royalty	Rs/MT			42.00	61.00	61.00	61.00
6. Total Price including Cess & royalty	Rs/MT			433.65	452.65	£ 1182.00	£ 1382.00

* Inclusive of royalty @ Rs. 15/MT and Oil Development Cess @ Rs. 60 M/T

** Inclusive of royalty @ Rs. 42/MT

@ included in the base price

£ shows price fixed by the government inclusive of royalty and Oil Development Cess.

Note: 1. The above prices are for 34 API gravity crude oil Excentral tank farm of the producer and are subject to gravity escalation @ Rs. 0.16 per degree API upto 45° API, no limit for downward escalation has been laid down.

2. The prices are inclusive of sales tax which is the liability of the producer.

Successive increase in Basic Celling Selling Prices Ex-storage point (Bombay) during the period August, 1979 to 1.9.1983 (Current)

(Rs./Selling Unit)

Product	Selling Unit (SU)	BCSP prior to 17.8.79	BCSP w.e.f 17.8.79	BCSP w.e.f. 8.6.80	BCSP w.e.f. 13.1.81	BCSP w.e.f. 11.7.81	BSCP w.e.f. 18.3.83	BRSP w.e.f. 1.9.83 (current)	%increase in Col. 9 over Col. 3.
1	2	3	4	5	6	7	8	9	10
ATF	KL	1377	2117	3217	3537	3872	4122	4122	199.3
MS 83/87	"	3538	3888	4538	4908	5438	5438	5538**	53.7
MS 93	"	3693	4043	4693	5063	5593	5593	5593	51.4
HSDO	"	1209	1310	1960	2330	2650	2850	2850	135.7
SKO	"	1194	1295	1295	1395	1545	1645	1645	37.8
LDO	"	807	1207	1857	2227	2506	2656	2656	199.4
FO for non-ferts	"	889	1209	1859	2189	2424	2524	2524	183.9
FO for ferts.	"	--	829	829	1039	1274	1274	1274	--
Bitumen St-Gr. Bulk	MT	676	1176	1826	2061	2323	2196	2196	224.9
Bitumen St-Gr. Packed	"	961	1461	2111	2345	2608	2696	2696	180.5
Naphtha for non-ferts	"	1012	2482	2692	2792	2792	2792	2792	175.9
Naphtha for ferts	"	596	596	1071	1371	1723	1723	1723	189.1
JBO*	"	789	989	1679	1999	2358	2358	2358	198.9
SBP Spirit 64/69*	KL	1111	1861	2961	3331	3629	3629	3629	226.6
Hexane *	"	1111	1861	2961	3331	3629	3629	3629	226.6
MTO 140/205*	"	762	1124	1774	2044	2348	2348	2348	208.1
MTO Laws *	"	844	1206	1856	2126	2430	2430	2430	187.9
LPG-domestic Use	MT	1633	1966	1966	2301	2634	2634	2634	61.3
LPG-Indl. Bulk	"	1927	2260	2260	2595	2928	2928	2928	51.9

* Prices shown against these items are exclusive of customs and excise duties chargeable extra at applicable rates.

Figures Rounded to nearest rupee.

** = Prices for MS-87 which was introduced w.e.f. 1.9.83.

Price build-up of Selected Petroleum Products as on 1.4.1984

(Rs./K.L.)

	Bombay	Madras	Delhi	Calcutta	Kanpur
MOTOR SPIRIT 87 ON					
Ex-MI Price	5538.07	5538.07	5617.91	5567.94	5687.67
State Surcharge/BMC Octroi Surcharge	28.50	35.00	-	10.00	30.00
Entry Tax	-	-	-	20.00	-
RPO Charges	11.36	11.36	11.36	11.36	11.36
Delivery Charges beyond FDZ	-	-	-	2.88	-
RPO Surcharge	15.00	15.00	15.00	15.00	15.00
TOTAL	5592.93	5599.43	5644.27	5627.18	5744.03
Sales Tax	671.15	783.92	395.10	562.72	459.52
Dealer's Commission	50.00	50.00	50.00	50.00	50.00
TOTAL RS./KL	6314.08	6433.35	6089.37	6239.90	6253.55
R S P Rs./Litre	6.32	6.44	6.09	6.24	6.26
HIGH SPEED DIESEL OIL					
Ex-MI Price	2849.55	2849.55	2932.00	2871.48	2982.84
State Surcharge/BMC Octroi Surcharge	18.50	35.00	-	1.00	20.00
Entry tax	-	-	-	20.00	-
RPO charges	7.27	7.27	7.27	7.27	7.27
RPO Surcharge	20.00	20.00	20.00	20.00	20.00
Delivery charges beyond FDZ	-	-	-	2.88	-
Local levies/Octroi/ T.Tax	-	-	4.68	-	-
Sub-Total	2895.32	2911.82	2963.95	2922.63	3031.11
Sales Tax	289.53	407.65	207.48	350.72	363.61
Dealer's Commission	20.00	20.00	20.00	20.00	20.00
Total Rs./KL	3204.85	3339.47	3191.43	3293.35	3413.72
RSP Rs./Litre	3.21	3.34	3.20	3.30	3.42
FUEL OIL (NON-FERTILIZER USE)					
Ex MI/Storage Point Price	2524.06	2524.06	2628.49	2548.35	
State/Surcharge/Octroi/Entry Tax BMC Octroi Surcharge	18.47	35.00	5.18	20.00	
TOTAL	2542.53	2559.06	2633.67	2568.37	
Sales Tax	101.70	281.50	184.36	205.47	
TOTAL RS./KL	2644.23	2840.56	2818.03	2773.84	

NOTE : FO not sold in Retail.

In case of Kanpur there is no storage facilities of FO.

Price build-up of Selected Petroleum Products as on 1.4.1984

(RS./KL)

	Bombay	Madras	Calcutta	Kanpur	Delhi
LIGHT DIESEL OIL					
Ex-MI Storage Point Price	2655.97	2655.97	2678.57	2812.45	2753.07
State Surcharge/BMC Octroi/ Entry tax Surcharge	13.50	35.00	20.00	20.00	4.82
Total	2669.47	2690.97	2698.57	2832.45	2757.89
Sales tax	106.78	376.74	323.83	339.89	193.05
Total	2776.25	3067.71	3022.40	3172.34	2950.94
Leakage/EDA/Handling etc.	-	42.17	-	20.00	-
Dealer's Commission	-	6.00	-	58.00	-
Transportation	-	25.00	-	60.00	-
Total RS./KL	2776.25	3140.88	3022.40	3310.34	2950.94
RSP Rs./Litre	No Retail Sale	628.18/ bbl	No Retail sale	3.32	No. Retail sale
LIQUIFIED PETROLEUM GAS (14.2 Kg. CYL)					
Nett	37.19	37.19	41.61	39.71	38.78
Octroi/Entry Tax/BMC Octroi Surcharge	0.30	-	0.54	0.60	0.20
Sub- Total	37.49	37.19	42.15	40.31	38.98
Local Delivery charges	0.75	0.75	0.75	0.75	0.75
Billable rate excl. of Sales Tax	38.24	37.94	42.90	41.06	39.73
CST/ Sales tax	1.53	3.04	6.44	3.29	1.99
Surcharge on Sales Tax	-	0.15	-	-	-
TOT /Addl. Sales tax	-	0.15	-	-	-
Billable rate incl. of Sales tax	39.77	41.28	49.34	44.35	41.72
Distributor's Commission	3.37	3.37	3.37	3.37	3.37
Retail Selling Price	43.14	44.65	52.71@	47.72	45.09

@ - Relates to 15 Kg.- Cyl.

Price Build up of selected Petroleum Products As on 1.4.1984.

	Bombay	Madras	Delhi	Calcutta	Kanpur
	SUPERIOR KEROSENE OIL				
Ex-MI/Storage Point Price	1644.93	1644.93	1706.52	1665.74	1745.12
State Surcharge/SSB Tax/ BMC Octroi Surcharge	13.50	35.00	15.00	-	-
Sales tax	Exempted	67.20	51.65	83.29	139.61
Total	1658.43	1747.13	1773.17	1749.03	1884.73
Transportation	39.83	19.70	43.66	15.00	50.00
Dealer's Commission	30.30	8.00	7.70	30.30	-
EDA/Leakage etc.	19.50	23.47	-	-	23.00
Wholesale Price	1748.06	1798.30	1824.53	1794.33	1957.73
Leakage/Extraordinary Allowance	19.00	-	-	-	-
Retailer's Transportation	-	-	-	22.93	20.00
Retailer's Profit	39.70	81.70	62.45	39.70	50.00
Adhoc increase for retailer's transport	-	-	-	58.00	-
Total	1806.76	-	-	-	-
Rounding off benefit	3.24	-	-	-	-
Total Rs./KL	1810.00	1880.00	1886.98	1914.96	2027.73
RSP Rs./Litre	1.81	1.88	1.89	1.92	2.05
	ATF (DOMESTIC AIRLINES)				
EX MI/STORAGE POINT PRICE	4121.85	4121.85	4199.27	4142.24	4333.50
BMC Octroi/Entry Tax Surcharge	13.50	-	15.00	20.00	10.00
Airfield Charges	24.44	24.44	24.44	24.44	41.94
Sub Total	4159.79	4146.29	4238.71	4186.68	4385.44
Sales Tax	135.76*	456.09	296.71	1046.67	350.84
Total Rs./KL	4295.55	4602.38	4535.42	5233.35	4736.28
	ATF (INTERNATIONAL AIRLINES)				
Ex MI/Storage Point Price	4121.85	4121.85	4214.27	4142.24	
Less : Refund of Basic Excise Duty w.e.f.11.9.79	333.52	333.52	3333.52	33.52	
Duty free price	3788.33	3788.33	3880.75	3808.72	
BMC Octroi/Entry Tax Surcharge	13.50	-	-	-	
Sub-Total	3801.83	3788.33	3880.75	3808.72	
Add: Applicable Concessional Duty w.e.f.18.8.79	24.60	24.60	24.60	24.60	
Add: Airfield Surcharge	24.44	24.44	24.44	24.44	
Sub Total	3850.87	3837.37	3929.79	3857.76	
Adhoc Surcharge	(385.00)	(385.00)	(385.00)	(385.00)	
Total Rs./KL	3465.87	3452.37	3544.79	3472.76	
Sales Tax		362.50			

* Sales Tax included in the price build-up is at concessional rate for supplies to IAC Flights only in Maharashtra State.

NOTE: For Scheduled Airlines payment of Sales Tax is exempted except in the case of Madras.

Trends in Retail Selling Prices of Selected Petroleum Products in Metropolitan Towns in India.

Prices as on	Bombay	Calcutta	Delhi	Madras	Kanpur
	MOTOR SPIRIT 83 (Rs./litre)				
1.1.1971	1.16	1.23	1.19	1.16	1.24
1.1.1972	1.42	1.46	1.43	1.39	1.46
1.1.1973	1.43	1.46	1.44	1.41	1.47
1.1.1974	2.82	2.81	2.78	2.69	2.73
1.1.1975	3.26	3.27	3.27	3.19	3.35
1.1.1976	3.36	3.39	3.39	3.30	3.47
1.1.1977	3.39	3.38	3.39	3.29	3.48
1.1.1978	3.38	3.38	3.39	3.29	3.48
1.4.1979	4.04	4.04	4.04	4.90	4.14
17.8.1979	4.43	4.42	4.41	4.25	4.52
8.6.1980	5.15	5.14	5.11	4.90	5.22
13.1.1981	5.56	5.54	5.50	5.29	5.62
11.7.1981	6.15	6.13	6.07	6.17	6.19
1.4.1982	6.15	6.13	6.07	6.17	6.19
15.2.1983	6.21	6.16	5.90	6.17	6.25
1.4.1983	6.21	6.31	5.99	6.16	6.15
1.4.1984 (MS-870N)	6.32	6.24	6.09	6.44	6.26
	HIGH SPEED DIESEL OIL (Rs./litre)				
1.1.1971	0.79	0.86	0.83	0.82	0.85
1.1.1972	0.83	0.90	0.86	0.87	0.88
1.1.1973	0.83	0.90	0.86	0.87	0.88
1.1.1974	0.81	0.87	0.84	0.88	0.87
1.1.1975	1.06	1.10	1.11	1.15	1.15
1.1.1976	1.28	1.35	1.36	1.36	1.32
1.1.1977	1.27	1.36	1.34	1.35	1.33
1.1.1978	1.27	1.36	1.34	1.35	1.33
1.4.1979	1.39	1.49	1.47	1.49	1.50
17.8.1979	1.58	1.68	1.66	1.66	1.69
11.9.1979	1.50	1.60	1.58	1.59	1.61
8.6.1980	2.21	2.25	2.28	2.24	2.34
13.1.1981	2.61	2.66	2.67	2.66	2.76
11.7.1981	2.96	3.01	3.02	3.05	3.11
1.4.1982	2.96	3.01	3.02	3.05	3.11
15.2.1983	3.21	3.31	3.18	3.27	3.46
1.4.1983	3.21	3.30	3.19	3.26	3.40
1.4.1984	3.21	3.30	3.20	3.34	3.42

Contd...../-

Trends in Retail Selling Prices of Selected Petroleum products in Metropolitan Towns in India.

Prices as on	Bombay	Calcutta	Delhi	Madras	Kanpur
	SUPERIOR KEROSENE (Rs./litre)				
1.1.1971	0.54	0.58	0.58	0.56	0.65
1.1.1972	0.57	0.61	0.61	0.57	0.69
1.1.1973	0.61	0.65	0.65	0.65	0.74
1.1.1974	0.82	0.84	0.82	0.85	0.86
1.1.1975	1.04	1.05	1.08	1.10	1.25
1.1.1976	1.21	1.25	1.29	1.31	1.39
1.1.1977	1.21	1.24	1.30	1.31	1.34
1.1.1978	1.18	1.24	1.30	1.31	1.34
1.4.1979	1.29	1.38	1.43	1.43	1.47
17.8.1979	1.46	1.56	1.61	1.62	1.66
11.9.1979	1.39	1.49	1.54	1.55	1.59
8.6.1980	1.39	1.49	1.54	1.55	1.59
13.1.1981	1.49	1.60	1.65	1.67	1.70
11.7.1981	1.60	1.76	1.81	1.84	1.90
1.4.1982	1.66	1.80	1.81	1.78	1.90
15.2.1983)Subsidised	1.70	1.80	1.77	1.78	1.95
)Non-subsi-	3.00	3.12	3.10	3.15	3.35
)dised					
18.3.1983	1.80	1.91	1.88	1.89	2.10
1.4.1983	1.80	1.90	1.88	1.88	2.05
1.4.1984	1.81	1.92	1.89	1.88	2.05

LIQUIFIED PETROLEUM GAS (Rs./Cylinders)

	14.2 Kg.cyl	15 Kg. cyl	15 Kg. cyl	15 Kg cyl	15 Kg. cyl
1.1.1971	-	23.33	22.01	23.96	22.49
1.1.1974	20.01	25.28	25.20	21.60	25.13
1.1.1975	22.10	27.79	27.36	23.94	27.61
1.1.1976	26.75@	33.31	32.61	29.36	32.85
1.4.1979	26.94@	37.06	34.98	31.90	35.42
17.8.1979	33.96@	42.93	40.23	37.32	40.82
8.6.1980	33.96@	42.93	40.23	37.81	40.82
13.1.1981	38.94@	49.09	45.53	-	46.26
11.7.1981	43.52@	54.84	50.78	48.74	53.06
1.4.1982	43.52@	54.84	50.78	48.74	53.06
1.9.1982	43.14@	51.93	44.58@	47.17	49.41
1.4.1983	43.14@	52.71	45.09@	47.17	50.41
1.4.1984	43.14@	52.71	45.09@	44.65@	47.72@

@ For 14.2 Kg. Cylinder.

Rates of Dealers Commission for MS, HSDO and LPG in India

Slab of Annual Volumes of Sales (KL/Annual)	Dealers Commission effective from 1.4.77	15.7.80	1.3.81	16.8.81	1.10.82	15.2.83	1.9.83
MOTOR SPIRIT (Rs/KL)							
Prior to 1.7.1982							
0 480	80*	100	107	114			
481-1080	50*	70	75	82			
Over 1080	35*	50	55	61			
Effective from 1.7.1982							
0- 360					134		135
361- 600					98		99
601- 1080					86		87
Above 1080					69		70
HIGH SPEED DIESEL OIL (Rs./KL)							
Prior to 1.7.1982							
0 - 600	50	55	58	60			
601 - 1200	25	30	33	35			
Above 1200	20	25	28	30			
Effective from 1.7.1982.							
0 - 360					79	81	
361 - 600					58	60	
601 - 1080					42	43	
Above 1080					36	37	

L.P.G. (Rs./CYLINDER)

	Prior to 1st March 1982	Effective from 1.3.1983
Per Cylinder	3.37	3.62

* The minimum rate of commission wss Rs. 50/KL.

Note: The rates of dealership commission fixed at 3 Annas per imperial gallon for MS in 1954 and at 1 Anna and 3 paise per imperial gallon for HSDO in 1955 continued upto 30to June 1976. The revised commission rates effective 1.7.1976 were as follows:

Sales per Annum Combined MS/HSDO Sales)	Rs/KL. MS.	HSDO
Upto 360	80	50
361 to 720	35	15
721 and above	25	10

XII. EXCISE/CUSTOM DUTIES AND SALES TAX

REALISATION OF EXCISE & CUSTOM DUTIES FROM CRUDE OIL AND PETROLEUM PRODUCTS DURING 1970-71 TO 1984-85 (B.E.)

(Rs./ Crores)

PRODUCTS	Actuals					R.E.	B.E.
	1970-71	1975-76	1980-81	1981-82	1982-83	1983-84	1984-85
A. EXCISE DUTIES							
1. Mogas	173	404	493	518	559	628	666
2. Kerosene Oil	121	161	124	150	168	179	186
3. Refined Diesel Oil & Vaporising oil	232	300	280	359	380	413	476
4. Diesel Oil(Nos.)	23	21	20	19	21	19	20
5. Furnace Oil	33	49	45	39	44	41	33
6. Asphalt/Bitumen & Tar	9	11	16	19	36	34	35
7. Blended or Compounded Lubes & Greases	-	45	-	-	-	-	-
8. Petroleum Products (Nos.)	17	46	175	182	188	200	239
9. Calcined Pet.Coke	-	3	5	7	(included in item No.6 above)		
10. Petroleum Gas			-	1	12	21	25
TOTAL (A)	608	1040	1158	1294	1408	1539	1680
B. CUSTOM DUTIES							
1. Petroleum Crude	-	13	16	16	17	14	147
2. Mogas	5	9	8	10	6	3	4
3. Kerosene Oil	10	37	83	87	79	109	111
4. Batching Lubricating & Other Mineral Oils	9	21	103	92	55	59	63
5. HSD & Vap. Oil	1	26	127	76	99	110	100
6. Indl. Fuel Oil	5	9	17	7	neg.	7	20
TOTAL(B)	30	115	354	288	256	302	445
GRAND TOTAL (A+B)	638	1155	1512	1582	1664	1837	2125

Figures rounded to nearest crores.

Source : Budget Papers of the Central Government.

Percentage share of Central Excise on POL to Total Central Excise and to Net National Products

Year	Net National Product at current prices (.....Rs. Crores.....)	Central Excise (.....Rs. Crores.....)	Central Excise on Pol (.....Rs. Crores.....)	Central Excise as % of NNP (%)	Central Excise on Pol as % of NNP (%)	Central Excise on POL as % of Total Central Excise (%)
1.	2.	3.	4.	5.	6.	7.
1960-61	13263	416	101	3.1	0.8	24.3
1965-66	20637	898	261	4.4	1.3	29.1
1970-71	34235	1759	608	5.1	1.8	34.6
1971-72	36573	2061	708	5.6	1.9	34.4
1972-73	40270	2324	767	5.8	1.9	33.0
1973-74	50424	2602	874	5.2	1.7	33.6
1974-75	59446	3231	1011	5.4	1.7	31.3
1975-76	62069	3845	1040	6.2	1.7	27.1
1976-77	66754	4221	1110	6.3	1.7	26.3
1977-78	75[illegible]	4448	1152	5.9	1.5	25.9
1978-79	81[illegible]	5194	1290	6.4	1.6	24.0
1979-80	88506	6148	1407	7.0	1.6	22.9
1980-81	105834	6479	1158	6.1	1.1	17.9
1981-82	121989	7444	1294	6.1	1.1	17.4
1982-83	134066	8302	1408	6.2	1.1	17.0
1983-84 (RE)	N.A.	10983	1535	N.A.	N.A.	14.0

SOURCE:- i) Government of India's Economic Survey for N.N.P.

ii) Budget papers of Central Government.

COMPOSITE INCIDENCE OF EXCISE AND CUSTOM DUTIES ON PETROLEUM PRODUCTS

YEAR	Consumption of POL Products(Excl. R.B.F. ('000' MTS)	Central Excise Duty realisation. Rs./Crores	Customs Duties realisation Rs./Crores	Total Central Excise & Customs duties Rs./Crores	Composite Incidence of Excise & Customs duties Rs./MT
1.	2.	3.	4.	5.	6.
1960-61	7985	101	23	124	155.29
1965-66	11917	261	83	344	288.66
1970.71	17912	608	30	638	356.19
1971-72	20071	709	63	772	384.63
1972-73	21715	767	86	853	392.82
1973-74	22346	874	96	970	434.08
1974-75	22105	1011	96	1106	500.34
1975-76	22447	1040	115	1155	514.55
1976-77	24101	1110	112	1222	507.03
1977-78	25539	1152	127	1279	500.80
1978-79	28241	1290	190	1480	524.06
1979-80	29883	1407	213	1620	542.10
1980-81	30896	1158	354	1512	489.38
1981-82	32523	1294	288	1582	486.42
1982-83	34657	1408	256	1664	480.13
1983-84	35041	1535	302	1837	512.54

ROYALTY AND OIL DEVELOPMENT CESS PAID BY OIL COMPANIES ON PRODUCTION OF CRUDE OILAND NATURAL GAS SINCE 1970-71 ONWARDS

(Rs. /Lakhs)

YEAR	ROYALTY ON CRUDE OIL				ROYALTY ON NATURAL GAS				OIL DEVELOPMENT CESS.
	Gujarat	Assam	B.High	Total	Gujarat	Assam	B&H.	Total	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1970-71	501	352	-	853	21	4	-	25	-
1971-72	439	372	-	811	26	4	-	30	-
1972-73	581	570	-	1151	27	5	-	32	-
1973-74	560	558	-	1118	24	5	-	29	-
1974-75	611	566	-	1177	34	8	-	42	3081
1975-76	658	649	-	1307	42	26	-	68	5007
1976-77	1325	1097	156	2578	45	59	-	104	5289
1977-78	1791	1903	[illegible]	[illegible]	48	[illegible]	-	[illegible]	6375
1978-79	1832	1716	1335	4883	48	[illegible]	-	[illegible]	6889
1979-80	1610	1793	1357	4760	42	[illegible]	-	[illegible]	6970
1980-81	1884	[illegible]	2424	[illegible]	45	[illegible]	-	[illegible]	6940
1981-82	2106	[illegible]	3118	[illegible]	44	[illegible]	-	[illegible]	13897
1982-83	1926	3498	7505	12929	169	123	593	885	26884
1983-84	2177	3055	10305	15537	183	108	948	1239	81280
(1984-85	2366	3035	11932	17333	183	126	2071	2380	84434

NOTE :- 1. Royalty figures in respect of OIL prior to 1981-82 pertains to calender years and thereafter to Financial year basis.

2. Oil Development cess was levied w.e.f. 23.7.1974.

EXCISE DUTY ELEMENT INCLUDED IN SELLING PRICES OF BULK REFINED PETROLEUM PRODUCTS.

(In Rupees)

PRODUCTS	Unit.	w.e.f 1-3-79	w.e.f. 17-8-79	w.e.f. 11-9-79	w.e.f. 8-6-80	w.e.f. 13.1.81	w.e.f. 11-7-81	w.e.f. 15-2-83	w.e.f. 1-4-83	w.e.f. 1.9.83/1.4.84
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Avgas 100/130	KL	2702.43	2214.89	2214.89	2214.89	2214.89	2214.89	2214.89	2214.89	2214.89
2. Avgas115/145	KL	2700.50	2213.32	2213.32	2213.32	2213.32	2213.32	2213.32	2213.32	2213.32
3. Avgas 73	KL	2701.60	2214.21	2214.21	2214.21	2214.21	2214.21	2214.21	2214.21	2214.21
4. M.S. - 87@@	KL	2703.25	2215.56	2215.56	2215.56	2215.56	2215.56	2215.56	2215.56	2215.56
5. M.S. - 93	KL	2704.90	2216.92	2216.92	2216.92	2216.92	2216.92	2216.92	2216.92	2216.92
6. A.T.F.	KL	493.10	402.56	402.56	333.52@	333.52	333.52	333.52	333.52	333.52
7. S.K.O.	KL	493.20	402.63	333.59	333.59@	333.59	333.59	333.59	333.59	333.59
8. H.S.D.O.	KL	493.95	399.15	330.00	330.00@	330.00	330.00	330.00	330.00	330.00
9. L.D.O.	KL	74.15@@	153.96	153.96	153.96	153.96	153.96	153.96	153.96	153.96
10. F.O. (Fert.Use)	KL	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82
11. F.O.(Non-Ferts) Use.	KL	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82
12. Bitumen(Bulk)	MT	157.55	110.30	110.30	110.30	110.30	110.30	110.30	110.30	110.30
13. Bitumen(Packed)	MT	157.55	157.55	157.55	157.55	157.55	157.55	157.55	157.55	157.55
14. LPG(Domestic)	MT	400.00	262.50	262.50	262.50	262.50	262.50	262.50	262.50	262.50
15. LPG(Industrial)	MT	400.00	262.50	262.50	262.50	262.50	262.50	262.50	262.50	262.50
16. Naphtha*(Fert Use)	KL	4.50	4.50	4.36	4.36	4.36	4.36	-	-	-
17. Naphtha*(For Non Fert. Use)	KL	26.50	26.50	26.50	26.50	26.20	26.50	-	-	-

@@ - Concession of Excise duty on L.D.O. was withdrawn w.e.f. 17.8.79 duty became Rs.153.96 per KL from that date.

* - Duty at 15°C. w.e.f. = with effect from. @@ - MS 83 replaced by MS 87 w.e.f. 1.9.1984.

@ - Revision effective from 11-9-1979.

EXCISE AND CUSTOM DUTIES IN THE BASIC CEILING SELLING PRICES (BCSP) EX-STORAGE POINT EFFECTIVE 1-4-1984.

PRODUCT	Selling Unit	Ex-Storage Point @ (Bombay) (Rs.)	Excise/ Custom Duties (Rs.)	Col.4 as % of Col. 3.
1.	2.	3.	4.	5.
A.T.F.	KL	4121.85	333.52	8.1%
Motor Spirit 87	KL	5538.07	2215.56	40.0%
Motor Spirit 93	KL	5593.48	2216.92	39.6%
H.S.D.	KL	2849.55	330.00	11.6%
S.K.O	KL	1644.93	333.59	20.3%
L.D.O.	KL	2655.97	153. 96	5.8%
F.O. (Non-Fertilizers)	KL	2524.06	125.82	5.0%
F.O. (Fertilizers)	KL	1274.06	125.82	9.9%
Bitumen St. Grade (Bulk)	MT	2195.85	110.30	5.0%
Bitumen St. Grade (Packed)	MT	2695.91	157.55	5.8%
Naphtha for non-Ferts.*	MT	2792.00		
Naphtha for ferts.*	MT	1723.31		
J.B.O.*	KL	2358.42		
SBP Spirit 55/115*	KL	3453.56		
SBP Spirit 64/69*	KL	3453.56		
Solvent 1425*	KL	3453.56		
Hexane*	KL	3629.36		
M.T.O. 140/205*	KL	2348.26		
M.T.O. (Laws)*	KL	2429.96		
L.P.G. (Domestic)(Packed)	MT	2633.98	262.50	10%
L.P.G. (Industrial) Bulk	MT	2928.31	262.50	10%

* Prices shown against these products are exclusive of Custom/Excise duties chargeable extra at applicable rates.

@- Based on the Basic ceiling selling prices for all refinery points (Primary pricing points) applicable as at Bombay w.e.f. 1.4.83.

Sales Tax Rates Applicable on Crude oil, Natural Gas & Petroleum Products as on 1.4.1984

Sl. No.	Products	Andhra Pradesh	Assam	Bihar	Chandigarh	Delhi	Goa, Daman & Diu	Gujarat
1	2	3	4	5	6	7	8	9
1.	Aviation Sprit	16%	10%	16%	15 P/L	7%	12%	Bonded 20% D. paid 9%
2.	Aviation Turbine Fuel	13.1%	10%	16%	15 P/L	7%	12%	20%
3.	Motor Spirit	16%	10%	9%	15 P/L	7%	12%	12%
4.	H.S.D.	14.5%	11%	12%	10 P/L	7%	12%	12%
5.	L.D.O.	14.5%	11%	14%	6%	7%	12%	5%
6.	M.L.O.	14.5%	7%	9%	6%	7%	6%	5%
7.	S.K.O.	5.2%	2%	6%	6%	3%	4%	3%
8.	I.K.O.	5.2%	2%	5%	6%	3%	4%	3%
9.	F.O.	5.2%	7%	8%	6%	7%	12%	4%
10.	M.T.O.	5.2%	7%	9%	6%	7%	6%	5%
11.	Lubes	9%	9%	9%	6%	7%	6%	6%
12.	Greases	9%	9%	9%	6%	7%	6%	6%
13.	Petroleum Naphtha	7.7%	7%	9%	6%	7%	6%	5%
14.	Bitumen	6.5%	7%	9%	6%	7%	6%	5%
15.	Petroleum Coke	4.00%	4%	4%	-	4%	4%	4%
16.	Indane(LPG)	6.5%	7%	9%	6%	5%	12%	12% (Packed)
17.	Transformer Oil	5.2%	7%	9%	6%	7%	6%	5%
18.	Tins & Containers	5.2%	6%	9%	6%	7%	6%	4%
19.	H.B.Fluid	6.5%	9%	9%	6%	7%	6%	10%
20.	Crude Oil	4.00%	4%	4%	-	-	-	4%
21.	Natural Gas		7%					10% + 10% SC on ST.

Sales Tax Rates Applicable on Crude oil, Natural Gas&Petroleum Products as on 1.4.1984

Sl. No.	Products	Haryana	Himachal Pradesh	J & K	Kerala	Madhya Pradesh	Maha-rash-tra	Kar-nataka
1	2	3	4	5	6	7	8	9
1.	Aviation Spirit	6%	7PP L	12%PPL	12%	12%	Bonded 23% D. paid 9%	15%
2.	Aviation Turbine	6%	7 PPL	8%	8%	12%	Bonded 30% D. paid 23%	15%
3.	Motor Spirit	6%	7 PPL	4%	15%	13.50%	12%	15%
4.	H.S.D.	6%	7 PPL	8%	20%	13.50%	10%	14%
5.	L.D.O.	8%	7%	8%	20%	13.50%	4%	13%
6.	M.L.O.	8%	7%	8%	4%	5%	4%	5%
7.	S.K.O.	8%	7%	2%	4%	2%	Exempted	4%*
8.	I.K.O.	8%	7%	2%	4%	2%	Exempted	4%*
9.	F.O.	8%	7%	8%	5%	12%	4%	10%
10.	M.T.O.	8%	7%	8%	4%	10%	4%	-
11.	Lubes	8%	7%	8%	7%	10%	6%	10%
12.	Greases	8%	7%	8%	7%	10%	6%	10%
13.	Petroleum Naphtha	8%	7%	8%	5%	10%	4%	5%
14.	Bitumen	8%	7%	5%	4%	10%	4%	8%
15.	Petroleum Coke	4%	4%	-	4%	4%	4%	4%
16.	Indane(LPG)	8%	7%	Exempted	15%	12%	4%	8%
17.	Transformer Oil	8%	7%	8%	7%	10%	4%	10%
18.	Tins & Containers	8%	7%	8%	4%	5%	10%	5%
19.	H.B. Fluid	8%	7%	8%	7%	10%	10%	8%
20.	Crude Oil	4%	4%	-	4%	4%	4%	4%
21.	Natural Gas					8% + 12% SC on ST		

*There is no surcharge on SKO/IKO in Karnataka eff. 1.4.82

Sales Tax Rates Applicable on Crude oil Natural Gas&Petroleum Products as on 1.4.84

Sl.No.	Products	Manipur	Nagaland	Orissa	Pondicherry
1	2	3	4	5	6
1.	Aviation Spirit	20 PPL	8 PPL	16%	3%
2.	A.T.F.	20 PPL	8 PPL	10%	3%
3.	Motor Spirit	20 PPL	8 PPL	10%	4%
4.	H.S.D.	15 PPL	7 PPL	13%	4%
5.	L.D.O.	15 PPL	7 PPL	13%	3%
6.	M.L.O.	6%	5%	7%	2%
7.	S.K.O.	3%	3 PPL	8%	Abolished
8.	I.K.O.	3%	2 PPL	Exempted	Abolished
9.	F.O.	6%	5%	8%	3%
10.	M.T.O.	6%	-	7%	-
11.	Lubes	15 PPL	9 PPL	12%	3%
12.	Greases	15 PPL	9 PPL	12%	3%
13.	Petroleum Naphtha	6%	-	7%	-
14.	Bitumen	6%	5%	7%	-
15.	Petroleum Coke	4%	4%	4%	3%
16.	Indane(LPG)	6%	5%	8%	-
17.	Transformer Oil	-	-	-	-
18.	Tins & Containers	-	5%	7%	-
19.	H.B. Fluid	-	-	-	-
20.	Crude Oil	2 PPL	4%	4%	3%

Sales Tax Rates Applicable on Crude oil Natural Gas Petroleum Products as on 1.4.84

Sl. No.	Products	Punjab	Rajas-than	Tamil Nadu	Uttar Pradesh	West Bengal
1	2	3	4	5	6	7
1.	Aviation Spirit	15 PPL	12%	10%	8%	9%
2.	A.T.F.	7.14%	12%	10%	8%	25%
3.	Motor Spirit	15 PPL	15%	14%	8%	9.9%
4.	H.S.D.	10 PPL	12½%	14%	12%	12%
5.	L.D.O.	7.14%	12½%	14%	12%	12%
6.	M.L.O.	7.14%	8%	10%	4%	8.02%
7.	S.K.O.	7.14%	8%	4%	8%	5%
8.	I.K.O.	7.14%	8%	4%	8%	Exempted
9.	F.O.	7.14%	8%	10%	4%	8%
10.	M.T.O.	7.14%	8%	8%	4%	8.02%
11.	Lubes	7.14%	8%	10%	8%	10%
12.	Greases	7.14%	8%	10%	8%	10%
13.	Petroleum Naphtha	7.14%	8%	10%	8%	8.02%
14.	Bitumen	7.14%	8%	8%	8%	8.02%
15.	Petroleum Coke	4%	4%	4%	4%	4%
16.	Indane (LPG)	7.14%	8%	8%	8%	15%
17.	Transfermer Oil	7.14%	8%	4%	8%	8.02%
18.	Tins & Containers	6.12%	8%	5%	8%	8.02%
19.	H.B. Fluid	7.14%	8%	8%	8%	8.04%
20.	Crude Oil	4%	4%	4%	4%	4%

Note: There is no tax on crude oil; Natural Gas and Petroleum Products in Arunachal Pradesh.

IN ADDITION TO THE SALES TAX PAYABLE THE FOLLOWING TAX AMOUNTS ARE ALSO PAYABLE/ RECOVERABLE

1.	Haryana	Surcharge at 2% on Sales Tax on all products undersales tax Act is payable. This is recoverable.
2.	Madhya Pradesh	The Salex tax rates are inclusive of turnover tax levies. Surcharge @ 7% on tax is also recoverable.
3.	Punjab	Addl. tax at 2% of the salex tax on products under General Sales tax act is payable and is recoverable. This has already been included in ST Rates.
4.	West Bengal	Turnover tax @ 1% of the gross turnover of the bill is payable. This is non-recoverable.
5.	Kerala	Surcharge at 8% of sales tax is payable, but the same is not recoverable from the market. Addl. S.Tax @ 15% of S. Tax is also payable which is recoverable on our sales.
6.	Jammu & Kashmir	Surcharge at 5% of sales tax is payable and the same is recoverable from the market. This does not apply to MST products.
7.	Maharashtra	Addl. Sales tax @ 12% of tax is payable under the sales tax act but the same is not recoverable from the market. This does not apply to kerosene and declared goods.
8.	Karnataka	Surcharge at 10% on tax (recoverable on the Invoice) is also payable w.e.f. 1.4.79 not on kerosene. 0.5% turnover tax on value of oil is non recoverable w.e.f. 1.4.82. Held Ultra-Vires by High Court of Karnataka pending for decision in the Supreme Court. Entry tax @ 1% on oil value of Pet.products under "the Karnataka Tax on entry of goods into local areas for consumption use or sale therein 1979" (Not applicable for LPG, Kero, Naphtha for use in manufacturer of fertilizers). 10% Rural Dev. Cess eff. 1.4.84.

IN ADDITION TO THE SALES TAX PAYABLE THE FOLLOWING TAX AMOUNTS ARE ALSO PAYABLE/ RECOVERABLE.

9.	Tamil Nadu	Surcharge at 5.0% on tax is payable on all products which is recoverable, in specified area. Addl. turnover tax at 0.7% on taxable turnover under Sales Tax Act is also payable which has to be borne by seller. Addl. S/C @ 5% on tax is payable but not applicable for Petrol, HSD, SKO, LDO effective 10.6.81. Applies to Sales within Madras City and its suburban area within 32 Kms.
10.	Gujarat	Addl. Sales tax at 10% on sales tax in respect of products under Gujarat Sales Tax Act; and on MST product is also payable. This is recoverable.
11.	Orissa	Addl. Sales tax at ½% of invoice value is payable on all products. This is recoverable.
12.	Goa, Daman & Diu	Addl. S. Tax @ 10% of sales tax is payable which is not recoverable on our sales.
13.	Andhra Pradesh	Surcharge at ½% per rupee of taxable turnover. This applies to all products. This is included in the sales tax rates indicated and it is recoverable. Also surcharge @ 10% on tax . Already included in S.T. Rates.
14.	Bihar	10% surcharge on tax with effect from 15.1.81. This is non-recoverable. 1% addl. Tax on gross turnover recoverable (Not on MS, ATF, AVN Spirit; HSD; LDO, SKO etc.) eff. 1.4.81.
15.	Himachal Pradesh	10% surcharge recoverable under GST Act.
16.	Chandigarh	2% Addl. tax on tax. It is recoverable.
17.	U.P.	7½% Non-recoverable additional tax on tax.

Direct Sales Tax Payments (inclusive of MST and CST) on Crude Oil, Natural Gas & Petroleum Products made by the Oil Companies to State/Union Territory Governments during the years 1979-80 to 1983-84.

(Rs. in lakhs)

S T A T E	1979-80	1980-81	1981-82	1982-83	1983-84
1. Crude Oil					
Assam	396	193	1707	2226	2752
Gujarat	471	476	1228	1467	1911
Arunachal Pradesh	-	1	1	1	8
Maharashtra	-	-	-	-	3487
Total (1)	866	670	2936	3694	8158
2. Natural Gas					
Assam	70	56	84	113	98
Gujarat	185	214	227	232	259
Maharashtra (Bombay-High)	-	-	-	862	602
Total (2)	255	270	311	1207	959
3. POL Products					
(a) States					
Andhra Pradesh	2831	4727	5865	6193	8046
Assam	720	798	965	1189	1614
Bihar	2143	2992	4702	4166	5366
Gujarat	4798	7254	9323	10712	12126
Haryana	590	678	870	1093	1459
Himachal Pradesh	17	20	22	24	43
Jammu & Kashmir	189	264	336	342	372
Karnataka	2711	4034	4652	5697	6328
Kerala	3466	4854	6409	6830	8473
Madhya Pradesh	1700	2760	3014	3525	4102
Maharashtra	6383	9342	11672	12300	15559
Manipur	33	29	32	29	29
Meghalaya	neg.	1	1	1	neg.
Nagaland	neg.	neg.	neg.	neg.	neg.
Orissa	528	748	1027	1061	1410
Punjab	1085	1220	1383	1534	1811
Rajasthan	1666	2244	3055	3439	4083
Tamil Nadu	8398	8407	10292	11296	12932
Tripura	21	38	61	72	519
Uttar Pradesh	3584	4637	6641	8226	10683
West Bengal	3474	4366	5459	7413	8078
(b) Union Territories					
Chandigarh	34	34	32	35	68
Delhi	1291	1859	2243	2384	3474
Goa	502	558	887	1054	1101
Total (3)	46164	61864	78943	88615	107676
GRAND TOTAL	47285	62804	82190	93516	116793

XIII. TANKERS AND FREIGHT RATES

Tonnage of Indian Tankers Fleet (DWT in '000)

Year*	Oil Tanker		Ore/Oil Carrier		Total	
	No of Tankers	DW Tonnage	No. of Ships	DW Tonnage	No. of Ships	DW Tonnage
1	2	3	4	5	6	7
		(A) Coastal Tankers				
1970	5	74.1	-	-	5	74.1
1971	5	74.1	-	-	5	74.1
1972	4	58.0	-	-	4	58.0
1973	3	47.9	-	-	3	47.9
1974	5	80.7	-	-	5	80.7
1975	9	137.6	-	-	9	137.6
1976@	9	137.6	-	-	9	137.6
1977@	9	137.2	-	-	9	137.2
1978@	8	126.8	-	-	8	126.8
1979@	9	132.9	-	-	9	132.9
1980@	10	158.5	-	-	10	158.5
1981@	16	247.7	-	-	16	247.7
1982@	18	300.6	-	-	18	300.6
1983@	18	300.6	-	-	18	300.6
		(B) Overseas Tankers				
1970	7	409.9	9	381.5	16	791.4
1971	7	409.9	10	467.0	17	876.9
1972	8	427.6	10	467.0	18	894.6
1973	9	449.7	10	659.7	19	1109.4
1974	14	826.8	12	952.2	26	1779.0
1975	20	1542.8	11	877.2	31	2420.0
1976	22	1840.6	14	1237.4	36	3078.0
1977@	23	1871.1	14	1237.8	37	3108.9
1978@	23	1871.1	17	1573.4	40	3444.5
1979@	22	1850.6	17	1573.4	39	3424.0
1980@	22	1850.6	16	1484.7	38	3335.3
1981@	23	1879.3	16	1484.7	39	3364.0
1982@	26	2034.1	16	1484.7	42	3518.8
1983@	25	1997.4	16	1484.7	41	3482.1
		(C) All Tankers				
1970	12	484.0	9	381.5	21	865.5
1971	12	484.0	10	467.0	22	951.0
1972	12	485.6	10	467.0	22	952.6
1973	12	497.6	10	659.7	22	1157.3
1974	19	907.5	12	952.2	31	1859.7
1975	29	1680.4	11	877.2	40	2557.6
1976	31	1978.2	14	1237.8	45	3215.6
1977@	32	2008.3	14	1237.8	46	3246.1
1978@	31	1997.9	17	1573.4	48	3571.3
1979@	31	1983.5	17	1573.4	48	3556.9
1980@	32	2009.1	16	1484.7	48	3493.8
1981@	39	2127.0	16	1484.7	55	3611.7
1982@	44	2334.7	16	1484.7	60	3819.4
1983@	43	2298.0	16	1484.7	59	3782.7

*- As on 31st December of each year.
@- DWT in Metric Tonnes. Source- Ministry of Shipping & Trassport

INDIAN TANKER FLEET AS ON 31.12.1983

OWNER/Name of the Ship	Coastal/ Overseas	DWT (Tonnes)	Year of the Built
A. SHIPPING CORP. OF INDIA			
1. Maharishi Dayanand	Overseas	123450	1978
2. Vishvesvaraya	Coastal	16450	1973
3. Sarojni Naidu	Coastal	16440	1975
4. Bhagat Singh	Coastal	16540	1974
5. R.A. Kidwai	Coastal	24439	1975
6. J.N. Vyas	Coastal	24439	1975
77. Aurobindo	Overseas	24411	1976
8. Kolandia	Overseas	24490	1976
9. Lala Lajpat Rai	Overseas	49337	1965
10. Gargi	Overseas	58379	1963
11. Jawahar Lal Nehra	Overseas	87170	1969
12. Lal Bahadur Shastri	Overseas	87170	1970
13. Satya Murti	Overseas	89351	1975
14. Vivekananda	Overseas	89371	1974
15. Netaji Subhash Chandar Bose	Overseas	89392	1973
16. Lokmanya Tilak	Overseas	89411	1975
17. B.R. Ambedkar	Overseas	89454	1974
18. Chhatra Pati Shivaji	Overseas	89490	1974
19. Dr. Rajendra Prasad	Overseas	115723	1975
20. Dr. Zakir Hussain	Overseas	115853	1975
21. Kanchanjunga	Overseas	276755	1975
22. Koyali	Overseas	276800	1976
23. Dada Bhai Naroji	Overseas	24400	1977
24. Bhaskara*	Overseas	21941	1965
25. Chankya*	Overseas	21962	1965
26. Leelavati	Overseas	21962	1965
27. Bailadila*	Overseas	86890	1971
28. Ballary*	Overseas	86959	1970
29. Barauni*	Overseas	87200	1970
30. Vallabh Bhai Patel*	Overseas	113920	1977
31. Moti Lal Nehru*	Overseas	114086	1973
32. Vallathol*	Overseas	114152	1976
33. Abul Kalam Azad*	Overseas	11340	1974
34. Maharishi Karve*	Overseas	123450	1978
35. C.V. Raman	Coastal	41123	1981
36. Homo Bhaba	Coastal	41123	1982
B. GREAT EASTERN SHIPPING CO.			
1.			
1. Jag Ladki	Overseas	103124	1972
2. Jag Laxmi*	Overseas	121423	1976
3. Jag Leela*	Overseas	125085	1976
4. Jag Jyoti*	Overseas	17892	1968
5. Jag Prakash	Overseas	25480	1974
6. Jag Priya	Overseas	32878	1975
7. Jag Preeti	Overseas	28679	1981
8. Jag Pari	Overseas	29139	1982

Contd..../-

INDIAN TANKER FLEET AS ON 31.12.1983.

OWNER/Name of the Ship	Coastal/ Overseas	DWT (Tonnes)	Year of the Built
C. Varun Shipping Co. Ltd.			
1. Meghdoot	Coastal	6102	1973
2. Premdoot	Coastal	6145	1972
3. Pavandoot	Coastal	26042	1971
D. Eassar Bulk Carriers Ltd.			
1. Nand Kala	Coastal	6703	1972
2. Nand Kavita	Coastal	25604	1970
3. Nand Kishore	Coastal	19500	1981
4. Nand Hari	Coastal	19604	1981
5. Nand Smita	Coastal	6700	1982
6. Nand Shiv Chand	Overseas	65000	1982
E. Sagar Lines Pvt.			
1. Sagar Tarni	Coastal	712	1965
F. Scindia Steam Navigation Co.			
1. Wal Chand*	Overseas	104750	1973
G. Ratnakar Shipping Co.			
1. Ratna Jayashree	Overseas	60252	1966
2. Ratna Abha	Overseas	60725	1982
H. Raj Lines Ltd., Calcutta			
1. Raj Sewek	Coastal	1356	1966
2. Raj Lok	Coastal	1446	1966

* Ore/Oil Bulk carriers.

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1983-84.

(Million Tonnes)

Name of the Port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
1	2	3	4	5
Calcutta/ Haldia	1965-66	9.84	1.53	15.6
	1969-70	6.89	1.53	22.5
	1973-74	6.33	1.97	31.1
	1977-78	7.55	3.41	42.2
	1979-80	8.56	4.58	53.5
	1981-82	9.75	4.55	46.7
	1982-83	10.5	4.59	43.7
	1983-84	10.27	4.74	46.2
Bombay	1965-66	18.12	9.35	51.6
	1969-70	15.04	8.60	57.2
	1973-74	18.46	11.05	59.9
	1977-78	16.90	9.86	58.3
	1979-80	16.57	7.84	47.3
	1981-82	19.63	10.37	52.8
	1982-83	24.85	16.91	68.0
	1983-84	25.02	16.89	67.5
Madras	1965-66	4.87	0.93	19.1
	1969-70	6.44	2.24	34.8
	1973-74	7.75	3.47	44.8
	1977-78	8.07	3.47	43.0
	1979-80	9.99	3.73	37.3
	1981-82	11.41	4.59	40.2
	1982-83	12.41	5.81	46.8
	1983-84	13.32	6.61	49.6
Cochin	1965-66	2.87	1.04	36.2
	1969-70	4.79	3.56	74.3
	1973-74	3.72	2.50	67.2
	1977-78	5.17	3.81	73.7
	1979-80	5.47	3.87	70.8
	1981-82	5.51	4.18	75.9
	1982-83	5.72	4.33	75.7
	1983-84	5.13	3.9	76.0
Kandla	1965-66	2.51	0.93	37.1
	1969-70	2.41	0.98	46.4
	1973-74	3.12	1.50	51.3
	1977-78	3.82	2.75	72.0
	1979-80	7.27	5.45	75.0
	1981-82	9.53	7.16	75.1
	1982-83	12.65	10.74	84.9
	1983-84	14.16	11.36	80.2

Kaudla POL traffic indludes traffic handled at Vadinar

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1983-84

Million Tonnes

Name of the Port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
1	2	3	4	5
Vishakhapatnam	1965-66	4.38	2.01	45.9
	1969-70	8.30	1.94	23.4
	1973-74	7.95	1.93	24.3
	1977-78	9.69	1.74	18.0
	1979-80	10.23	1.94	19.0
	1981-82	10.85	2.11	19.4
	1982-83	10.18	2.10	20.6
	1983-84	11.35	2.56	22.6
Marmugao	1965-66	7.86	0.09	1.1
	1969-70	9.03	0.15	1.1
	1973-74	14.34	0.55	4.5
	1977-78	11.28	0.62	5.5
	1979-80	14.80	0.73	4.9
	1981-82	14.89	0.66	4.4
	1982-83	12.76	0.78	6.1
	1983-84	13.21	0.64	4.8
Paradeep	1965-66	-	-	-
	1969-70	1.75	-	-
	1973-74	2.29	-	-
	1977-78	2.74	-	-
	1979-80	2.31	-	-
	1981-82	2.17	-	-
	1982-83	1.81	-	-
	1983-84	1.59	-	-
Port of Tuticorin	1977-78	0.63	0.35	55.6
	1979-80	2.41	0.44	18.3
	1981-82	2.69	0.47	17.5
	1982-83	3.23	0.52	16.1
	1983-84	3.55	0.43	13.5
New Mangalore	1977-78	0.38	0.20	52.6
	1979-80	0.90	0.21	23.3
	1981-82	1.64	0.36	22.0
	1982-83	2.27	0.35	15.4
	1983-84	2.84	0.35	12.3
GRAND TOTAL	1965-66	50.46	15.88	31.5
	1969-70	54.35	19.02	35.0
	1973-74	63.96	23.07	36.1
	1977-78	66.23	26.21	39.6
	1979-80	78.49	28.78	36.7
	1981-82	88.06	34.44	39.1
	1982-83	96.12	46.16	48.0
	1983-84	100.45	47.47	47.3

ESTIMATED FREIGHT PAID ON IMPORTS@ OF CRUDE OIL/POL PRODUCTS TRANSPORTED BY INDIAN/FOREIGN FLAG TANKERS DURING THE YEARS. 1981 TO 1983

Products/Tankers	1981		1982 (R)		1983	
	Qty.	Value	Qty.	Value	Qty.	Value
A. Crude Oil						
Indian Tankers	8.12	61.20	10.82	87.91	13.26	90.18
Foreign tankers	6.35	49.80	5.76	24.17	2.26	12.69
Total (A)	14.47	111.00	16.58	112.08	15.52	102.87
B. POL Products						
Indian tankers	1.01	21.49	1.18	24.70	0.94	21.63
Foreign tankers	4.20	24.05	3.77	20.53	3.25	27.04
Total (B)	5.21	45.54	4.95	45.23	4.19	48.67
C. Crude Oil/POL Products						
Indian Tankers	9.13	82.69	12.00	112.61	14.20	111.81
Foreign tankers	10.55	73.85	9.53	44.70	5.51	39.73
Total (C)	19.68	156.54	21.53	157.31	19.71	151.54

@ As per Bill of lading quantity. Qty. in Million Tonnes
R- Revised Value in Rs./Crores.

COASTAL MOVEMENT OF PETROLEUM PRODUCTS
(Qty. moved to Indian ports)

('000 Tonnes)

Year	I/FV	F/FV	Total	Estimated freight paid (Rs. Million)
1968	754.71	2442.61	3197.32	60.04
1969	1089.76	1941.68	3031.44	54.20
1970	1131.23	1695.36	2826.59	65.79
1971	1190.04	1656.50	2846.54	82.79
1972	1452.89	1138.18	2591.07	75.50
1973	1477.73	1168.25	2645.98	86.97
1974	1640.71	1055.65	2696.35	136.59
1975	2191.35	177.62	2368.97	117.52
1976	2060.77	20.65	2081.42	84.63
1977	2342.19	-	2342.19	101.37
1978	2823.67	-	2823.67	146.06
1979	2889.00	-	2889.00	194.61
1980	2713.78	-	2713.78	254.60
1981	3200.63	-	3200.63	309.86
1982	2671.27	-	3061.28	306.13
1983 (P)	3312.44	-	3312.44	339.70

N.B.: I/FV - Indian Flag Vessels. F/FB- Foreign Flag Vessels.
* Includes freight paid on demurrage and dead freight paid.
R - Revised.

XIV. : GENERAL

Retail outlets in India as on 1st January of each year

(Number)

Year	Nos.	B/Shell/Esso/ BPCL	HPCL	Caltex/ HPCL(VMU)	IOC	IBP	AOC/ AOD	TOTAL
1	2	3	4	5	6	7	8	9
1968	Nos.	3683	1955	1437	1516	229	119	8939
	%	41.2	21.9	16.1	16.9	2.6	1.3	100
1969	Nos.	3700	1948	1396	2131	223	124	9522
	%	38.8	20.5	14.7	22.4	2.3	1.3	100
1970	Nos.	3577	1922	1392	2655	233	129	9908
	%	16.1	19.3	14.0	26.8	2.4	1.4	100
1971	Nos.	3583	1928	1384	2967	249	144	10255
	%	35.0	18.8	13.5	28.9	2.4	1.4	100
1972	Nos.	3535	1923	1384	3129	297	150	10418
	%	33.9	18.5	13.3	30.0	2.9	1.4	100
1973	Nos.	3478	1920	1372	3274	440	155	10639
	%	32.7	18.0	12.9	30.8	4.1	1.5	100
1974	Nos.	3262	1887	1359	3349	487	164	10508
	%	31.0	18.0	12.9	31.9	4.6	1.6	100
1975	Nos.	3173	1867	1206	3546	525	163	10480
	%	30.3	17.8	11.5	33.8	5.0	1.6	100
1976	Nos.	3157	1872	1201	3583	619	164	10596
	%	29.8	17.7	11.3	33.8	5.8	1.6	100
1977	Nos.	3183	1916	1200	3804	717	166	10986
	%	29.0	17.5	10.9	34.6	6.5	1.5	100
1978	Nos.	3241	1965	1198	4051	850	168	11473
	%	28.3	17.1	10.4	35.3	7.4	1.5	100
1979	Nos.	3288	1966	1201	4150	998	173	11806
	%	27.8	16.9	10.2	35.2	8.4	1.5	100
1980	Nos.	3296	3198@		4231	975	173	11873
	%	27.8	26.9		35.6	8.2	1.5	100
1981	Nos.	3308	3225@		4333	1001	175	12042
	%	27.5	26.8		36.0	8.3	1.4	100
1982	Nos.	3314	3247@		4413	1019	178	12171
	%	27.2	26.7		36.2	8.4	1.5	100
1983	Nos.	3232	3124@		4504	1024	*	11884
	%	27.2	26.3		37.9	8.6		100
1984	Nos.	3378	3391		4654	1051	*	12474
	%	27.1	27.2		37.3	8.4		100

Note :- 1. % = Percentage 2. The data excludes consumers outlets.
* Included in IOC. @ Inclues HPCl(VMU) retail outlets.

STATE-WISE NUMBER OF RETAIL OUTLETS, MPDCs/FFCs, LDO/SKO DEALER AND LPG DISTRIBUTO'S AS ON 1.4.1984.

(Numbers)

State/Union Territories	Retail outlets	MPDC/ FFC	LDO/SKO dealers	LPG distributiors
1. Andhra Pradesh	1027	54	550	139
2. Arunachal Pradesh	15	-	10	1
3. Assam	253	8	309	36
4. Bihar	735	38	311	62
5. Bhutan	8	-	2	-
6. Gujarat	836	25	325	167
7. Haryana	412	29	124	39
8. Himachal Pradesh	55	3	17	7
9. Jammu & Kashmir	99	1	22	21
10. Karnataka	784	22	267	113
11. Kerala	615	8	235	36
12. Madhya Pradesh	746	38	303	103
13. Maharashtra	1337	63	502	351
14. Manipur	12	-	24	3
15. Meghalaya	31	-	23	6
16. Mizoram	6	-	8	2
17. Nagaland	15	-	9	4
18. Orissa	265	14	162	36
19. Punjab	827	34	213	61
20. Rajasthan	669	166	210	57
21. Sikkim	7	-	7	1
22. Tamil Nadu	1185	31	421	130
23. Tripura	23	-	37	2
24. Uttar Pradesh	1575	107	551	167
25. West Bengal	892	26	377	107
UNION TERRITORIES				
26. A.N. Islands	1	-	1	-
27. Chandigarh	16	-	9	10
28. D.N. Haveli	1	-	-	1
29. Delhi	230	1	63	108
30. Goa, Daman & Diu	62	1	17	19
31. Pondicherry	21	-	7	2
GRAND TOTAL	12760	669	5118	1791

Statewise Number of Domestic Consumers of LPG as on 1.4.1984*

(Number)

State/Union Territory	BPCL	HPCL	IOC	Total
1.	2.	3.	4.	5.
1. Andhra Pradesh	51746	305253	176976	533975
2. Assam	-	-	66396	66396
3. Bihar	-	12165	214219	226384
4. Gujarat	149049	117768	461652	728469
5. Haryana	32440	11419	109043	152902
6. Himachal Pradesh	-	-	25140	25140
7. Jammu & Kashmir	-	35111	2631	37742
8. Karnataka	73417	182412	148815	404644
9. Kerala	12884	6441	147131	166456
10. Madhya Pradesh	46280	130760	236727	413767
11. Maharashtra	861987	721162	17	1583166
12. Manipur	-	-	5458	5458
13. Meghalaya	-	-	5439	5439
14. Nagaland	-	-	4595	4595
15. Orissa	-	45241	47392	92633
16. Punjab	59990	21449	146231	227670
17. Rajasthan	44092	46191	127002	217285
18. Sikkim	-	-	2583	2583
19. Tamil-Nadu	34219	18286	644242	696746
20. Tripura	-	-	3553	3553
21. Uttar Pradesh	81419	18424	609173	709016
22. West Bengal	-	60708	297213	357921
23. Arunachal Pradesh	-	-	976	976
24. Chandigarh	-	13692	43293	56985
25. D.N. Haveli	-	860	-	860
26. Delhi	126105	63829	408975	598909
27. Goa, Daman & Diu	19772	24727	-	44499
28. Mizoram	-	-	2878	2878
29. Pondicherry	-	-	14948	14948
			55338@	55338@
Total :-	1593399	1835898	4008036	7437333

@ - Relates to number of LPG consumers of IOC in North Eastern States for which break up is not available.

Crude Oil & Product Pipelines in India
as on 1.4.1984.

Pipelines	Owned by	Length in KMS	Diametre in inches
1.	2.	3.	4.
1. CRUDE PIPELINES (ONSHORE)			
Ankleshwer - Koyali (Baroda)	ONGC	94.77	16"
Kalol - Nawagam	ONGC	48.90	12 ¾"
Nawagam- Koyali	ONGC	77.63	14"
Sanand - Kalol	ONGC	12.52	8 5/8"
Sobhashan - North Kadi	ONGC	20.23	8 5/8
North Kadi - Kalol	ONGC	35.59	12 3/4
Jhalora- Sanand	ONGC	9.36	8 5/8
Lakwa- Moran	ONGC	17.50	12 3/4"
Rudrasagar- Lakwa	ONGC	37.90	8 5/8
Geleki-Dikhow	ONGC	18.90	8 5/8
Goleki-Jorhat	ONGC	48.40	14"
Charali to Dikhow-Geleki	ONGC	6.00	5"
Anguri to Geleki-Jorhat	ONGC	6.00	6"
Digboi oilfield-Digboi Refinery	OIL	12.50	6"
Digboi oilfield-Digboi Refinery	OIL	10.4	4"
Nahorkatiya- Digboi	OIL	35.0	8"
Nahorkatiya- Gauhati loopline	OIL	100.0	16"
Nahorkatiya- Gauhati	OIL	404.0	16"
Gauhati- Barauni	OIL	754.0	14"
Gauhati-Barauni loopline	OIL	112.0	16"
Nararabet to Salaya tank Farm (2 lines)	IOC	5.70 each	42"
Salaya- Viramgam	IOC	275.00	20"
Viramgam- Koyali	IOC	141.00	18"
Viramgam- Mathura	IOC	803.00	24"
North Kalol. GGS-I to S. Kadi	ONGC	5.10	12 3/4
Santhol to North Kadi	ONGC	4.32	12 3/4
Jotana to Santhol	ONGC	2.70	4 ½"
Viraj to South Kadi	ONGC	5.83	8 5/8"
Total Onshore		3109.95	

Crude Oil & Product Pipelines in India
as on 1.4.1984.

Pipelines	Owned by	Length in KMS	Diametre in inches
1.	2.	3.	4.
II. CRUDE PIPELINES (OFFSHORE)		236.67	
BH (Platform 'F') to Uran	ONGC	203.00	30"
Uran- Trambay	ONGC	24.00	36"
Trombay- Bhutcher	ONGC	4.40	36"
SBM to Nararabet	IOC	5.27	42"
Total Crude Pipelines (I+II)		3346.62	
PRODUCT PIPELINES			
Gauhati- Siliguri	IOC	425.85	8 5/8"
Koyali- Ahmedabad	IOC	115.70	8 5/8"
Barauni- Kanpur	IOC	668.78	12 3/4"
Haldia- Mourigram- Rajbandh	IOC	268.58	12 3/4"
Haldia- Barauni	IOC	524.83	12 3/4"
Mathura- Delhi	IOC	147.00	16"
Delhi- Ambala	IOC	202.00	14"
Ambala-Jullunder	IOC	164.00	12 3/4"
Ernakulane Ins. to fact	BPCL	13.00	4"
BPCL (R) to Wadibunder Ins.	BPCL	22.00	12"
HPCL (R) to BPCL (R)	BPCL	3.00	8"
BPCL (R) to HPCL (R)	BPCL	1.50	8"
BPCL (R) to Pirpau	BPCL	4.50	14"
Total Product Pipeline		2560.74	
III. GAS PIPELINES (OFFSHORE)			
BH (Platform 'F') to Uran	ONGC	203.00	30"
Uran - Trambay	ONGC	24.00	18"
Uran - Trambay	ONGC	24.00	8"
Total (Offshore)		251.00	

...Contd. 3/- .....

Crude Oil & Product Pipelines in India
as on 1.4.1984.

PIPELINE	OWNED BY	LENGTH IN KMS.	DIAMETRE IN INCHES
1.	2.	3.	4.
IV. GAS PIPELINES (ONSHORE)		352.57	
Canbey- Dhuwaran	ONGC	25.00	14"
Ankleshwer-Uttaran	ONGC	30.25	16"
Ankleshwer- Baroda	ONGC	96.55	14"
Nawagam- Calico Mills	ONGC	24.50	8 5/8"
Sanand- Kalol	ONGC	12.67	8 5/8"
Kalol- IFFCO (FG)	ONGC	2.51	8 5/8"
Kalol- IFFCO (AS)	ONGC	2.51	12 3/4"
Sobhashan-Dudh Sagar	ONGC	9.20	8 5/8"
Dabka- Saraswani Platform	ONGC	10.50	4 1/2"
North Kadi to S. Kadi	ONGC	16.40	8 5/8"
Jhalora to Sanand	ONGC	9.27	8 5/8"
Jotana Santhal- N. Kadi	ONGC	7.17	8 5/8"
Motwan to Ankleshwer	ONGC	2.89	8 5/8"
Kalol - Kadi GIDC	ONGC	19.40	8 5/8"
Ranol - Nawagam	ONGC	17.45	6 5/8"
ASEB Gas Pipeline From Lakwa to Maibella	ONGC	16.10	12 3/4"
Digboi- Duliajan	OIL	42.00	10"
Total Gas Pipelines (III+IV)		603.37	
V. LPG Pipelines (OFFSHORE)			
Uran- Trombay	ONGC	24.00	8"
Grand Total (I to VI)		6534.73	

GROSS PRODUCTIONS OF ENERGY BY VARIOUS SOURCES IN INDIA

Year	Coal & Lignite			Hydro-carbon			Power Millsion (KWH)			
	Coal (M.T.)	Lignite (M.T.)	Total (M.T.)	Natural Gas (Mn.cubic Meters)	Crude Petroleum ('000' Tonnes)	Total domestic@ Petroleum ('000'MT)	Thermal	Hydl.	Nuclear	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1960-61	55.67	0.05	55.72	-	448	6077	9100	7837	-	16937
1965-66	67.73	2.57	70.30	507	3473	10081	19641	16734	-	36375
1970-71	72.95	3.39	76.34	1445	6822	18333	28162	25248	2417	55827
1971-72	72.42	3.72	76.14	1535	7290	19867	31713	28024	1189	60926
1972-73	77.22	2.89	80.11	1565	7321	19092	36217	27196	1133	64546
1973-74	78.17	3.32	81.49	1713	7189	20724	35321	28972	2396	66689
1974-75	88.41	2.94	91.35	2041	7684	20800	40109	27875	2206	70190
1975-76	99.68	3.03	102.71	2368	8448	22055	43303	33302	2626	79231
1976-77	104.02	4.01	105.03	2428	8898	22732	50245	34836	3252	88333
1977-78	101.00	3.59	104.59	2839	10763	24670	52495	37961	1740	92196
1978-79	101.97	3.27	105.24	2811	11633	25671	53420	47138	2770	103328
1979-80	103.90	3.05	106.95	2767	11766	27258	57155	45494	2876	105525
1980-81	114.01	4.80	118.81	2358	10507	25492	61301	46542	3001	110844
1981-82	124.23	5.88	130.11	3851	16194	30141	69392	49597	3021	122010
1982-83	130.50	6.40	136.90	4936	21060	32813	79686	48273	2024	129983
1983-84*	139.39	6.63	146.02	5963	26020	34820	86516	49869	3492	139877

@ - Includes R.B.R., * - Provisional

Source:- I) Central Electricity Authority and Economic Survey.

II) Coal Statistics - Coal Controller's Organisation, Departmentof Energy.

Contribution of Petroleum Sector to N.N.P.(at current prices)

(Rs./Crores)

Year	Petroleum & Natural Gas	Petroleum Refining	Total	N.N.P. at current prices	%
1970-71	27.72	47.84	75.56	34235	0.22
1971-72	32.43	59.33	91.76	36573	0.25
1972-73	32.12	N.A.		40270	
1973-74	44.63	43.97	88.60	50424	0.18
1974-75	87.10	84.47	171.57	59446	0.29
1975-76	92.14	89.78	181.92	62069	0.29
1976-77	118.25	153.35	271.60	66754	0.41
1977-78	166.26	194.06	360.32	75336	0.48
1978-79	221.10	113.77	334.87	81123	0.41
1979-80	259.62	134.64	394.26	88372	0.45
1980-81	173.55	159.66	333.21	106539	0.31
1981-82	1166.18	N.A.	N.A.	121243	
1982-83 (quick estimate)	2051.30	N.A.	N.A.	134066	

Gross Domestic Product of Crude Petroleum & Natural Gas and Coal and lignite at current prices.

(Rs. Lakhs)

Year	Crude Petroleum & Natural Gas	Coal & Lignite
1976-77	18978	51671
1977-78	27278	51504
1978-79	33148	50615
1979-80	37221	75908
1980-81	33084	101437
1981-82	136867	131188
1982-83 (quick estimates)	240547	155116

MOVEMENT OF POL TRAFFIC ON RAILWAYS SINCE-1970-71.

YEAR	Tonnes Originating ('000 TNES)	Earnings ('000'Rs.)	Average lead (Kms)	Earnings (Paise/ Tonnes Kms)	Average Frt. (Col. 3/2 (Rs./Tonnes)
1.	2.	3.	4.	5.	6.
1970-71	8857	464081	594	9.1	52.40
1971-72	10063	523049	593	8.8	51.98
1972-73	10181	550982	614	8.8	54.12
1973-74	9994	555560	638	8.7	55.59
1974-75	10751	723192	642	10.5	67.27
1975-76	11663	860925	605	12.2	73.82
1976-77	12395	1030462	609	13.8	83.78
1977-78	13062	1120693	631	13.6	85.80
1978-79	14301	1324332	698	13.3	92.60
1979-80	14266	1497510	729	14.4	104.97
1980-81	14954	1835693	780	15.7	122.76
1981-82	16555	2848050	731	23.5	172.04
1982-83	17342	3588169	647	32.0	206.91

RAIL FREIGHT IN RESPECT OF PETROLEUM PRODUCTS.

Distance Kms.	1.4.1980		1.4.1981		14.8.1981		1.1.1982 1.4.1982 1.4.1983 1.4.1984	
	Non dange-rous POL	Dange-rous POL	Non-dange-rous POL	Dange-rous POL	Non-dange-rous POL	Dange-rous POL	Non-dange-rous POL	Dange-rous POL
1.	2.	3.	4.	5.	6.	7.	8.	9.
100	24.40	38.20	34.30	56.60	42.40	64.90	46.60	71.40
300	47.70	76.20	67.20	113.40	83.80	130.30	92.20	143.30
500	68.50	110.10	96.70	164.00	121.30	188.70	133.40	207.60
800	111.00	181.10	158.10	270.00	198.70	310.60	288.50	357.20
1000	132.90	215.50	187.80	321.40	236.40	370.00	271.90	425.50
1500	181.60	295.50	257.10	441.10	323.80	508.20	372.40	584.40
2000	223.50	364.40	316.60	544.20	399.40	627.10	459.30	721.20
2500	256.30	418.30	362.70	624.60	457.90	720.09	526.60	828.00

Non-dangerous POL :- Include HSDO, LDO and other Petroleum and Hydro-carbons Oil (Except Kerosene Oil).

Dangerous POL :- Include Motor Spirit Benzene and other dangerous mineral oils.

SOURCE: Railway Board Memorandum Explaining the proposals for adjustment in freight rates to be effective from 1-4-1982 & 1-4-1983.

XV. INTERNATIONAL PETROLEUM STATISTICS.

ESTIMATED WORLD CRUDE OIL AND GAS RESERVES (AS ON 1.1.1984).

COUNTRY	Crude Oil(Billion Tonnes 10^9)	% of Total	Natural Gas(Trillion cubic feat)10^{12}	% of Total
1.	2.	3.	4.	5.
1. TOTAL WESTERN HEMISPHERE	15.8	17.2	474.9	14.9
of which: U.S.A.	3.7	4.0	198.0	6.2
Venezuela	3.4	3.7	54.5	1.7
Ecuador	0.2	0.2	3.5	0.1
Canada	0.9	1.0	90.5	2.8
Mexico	6.6	7.2	75.4	2.4
Argentina	0.3	0.3	24.4	0.8
2. TOTAL AFRICA	7.8	8.5	189.7	5.9
of which: Libya	2.9	3.2	21.4	0.7
Algeria	1.3	1.4	110.2	3.4
Nigeria	2.3	2.5	34.8	1.1
Egypt	0.5	0.5	7.1	0.2
Gabon	0.07	0.1	0.5	Neg.
Tunisia	0.3	0.3	4.2	0.1
3. TOTAL MIDDLE EAST	50.7	55.3	775.1	24.2
of which: Saudi Arbia	22.7	24.8	121.0	3.8
Kuwait	8.8	9.6	31.0	1.0
Iran	7.0	7.6	480.0	15.0
Iraq	5.9	6.4	29.0	0.9
Divided Zone(N)	0.8	0.9	8.3	0.3
Abu Dhabi	4.2	4.6	20.5	0.6
4. TOTAL WESTERN EURCPE	3.2	3.5	157.3	4.9
of which: West Germany	0.04	0.04	6.8	0.2
United Kingdom	1.8	2.0	25.1	0.8
Netherlands	0.04	0.04	50.1	1.6
Itlay & Sicily	0.1	0.1	4.3	0.1
Norway	1.05	1.15	58.8	1.8
5. TOTAL ASIA & PACIFIC	2.6	2.8	156.2	4.9
of which: Indonesia	1.25	1.36	30.2	0.9
Australia	0.22	0.24	17.1	0.6
India	0.51	0.52	14.8	0.5
Pakistan	0.01	Neg.	16.9	0.5
Brunei	0.19	0.21	7.1	0.2
Malaysia	0.41	0.45	48.0	1.5
6. TOTAL FREE WORLD	80.1	87.3	1753.2	54.8
7. TOTAL COMMUNIST WORLD	11.6	12.7	1446.8	45.2
of which: Russia	8.6	9.4	1400.0	43.8
China	2.6	2.9	30.3	0.9
Others@	0.4	0.4	16.5	0.5
TOTAL WORLD	91.7	100.0	3200.0	100.0
of which: OPEC	59.4	64.8	898.7	28.1

1 Tonne = 7.3 barrels Neg = Negligible

@=Includes Albania, Bulgeria, Cuba, Czechoslovakia, East Germany, Hungry, Mongolia, North Korea, Poland, Rumania, Viet Nam and Yugoslavia

Source: Oil & Gas Journal Dec., 26, 1983.

WORLD ESTIMATED CRUDE OIL PRODUCTION@-1980-83

(Million Tonnes)

Country	1980	1981	1982 (Revised)	1983 (Est.)	% change 1983/82	% share 1983
1	2	3	4	5	6	7
North America	565.8	555.7	554.5	557.5	+0.5	20.2
USA - Crude oil	428.1	425.7	429.5	429.8	+0.1	15.6
USA - NGLs	56.0	57.1	55.0	55.5	+0.9	2.0
Canada	81.7	72.9	70.0	72.2	+3.0	2.6
Latin America	298.6	317.5	330.5	323.6	-2.1	11.7
Venezuela	116.0	112.5	101.3	95.6	-5.7	3.5
Mexico	107.3	128.3	149.4	146.6	-1.8	5.3
Argentina	25.7	25.5	25.6	25.6	*	0.9
Brazil	9.4	10.7	13.4	16.2	+21.1	0.6
Ecuador	10.0	10.3	10.4	11.6	+12.1	0.4
Trinidad	10.6	10.1	8.9	8.0	-9.9	0.3
Columbia	6.3	6.8	7.4	7.8	+6.0	0.3
Others	13.3	13.3	14.1	12.2	-13.5	0.4
Middle East	928.1	788.7	651.9	590.1	-9.4	21.4
Saudi Arabia	493.0	491.3	327.9	260.0	-20.7	9.4
Iran	73.7	65.7	119.8	125.7	+5.0	4.6
Iraq	130.2	44.0	49.6	49.2	-0.8	1.8
Kuwait	171.5	48.2	34.9	35.4	+1.6	1.3
Abu Dhabi	64.8	54.5	42.4	38.0	-10.4	1.4
Qatar	23.0	19.8	16.2	14.7	- 9.0	0.5
Dubai	17.4	17.8	17.7	16.7	-5.6	0.6
Oman	14.4	16.4	16.2	19.0	+17.5	0.7
Neutral Zone	28.4	19.4	16.4	20.3	+23.8	0.7
Others	11.7	11.6	10.8	11.1	+2.8	0.4
Africa	301.7	239.7	230.1	228.4	-0.7	8.4
Nigeria	102.3	71.0	63.5	61.3	-3.4	2.2
Libya	88.4	58.7	55.1	51.6	-6.5	1.9
Algeria	52.2	46.3	45.8	43.0	-6.0	1.6
Gabon	8.8	7.6	7.7	8.0	+3.3	0.3
Egypt	29.8	34.1	34.9	38.3	+9.8	1.4
Others	20.2	22.0	23.1	26.2	+13.4	1.0

WORLD ESTIMATED CRUDE OIL PRODUCTION @ -1980-83

(Million Tonnes)

Country	1980	1981	1982 (Revised)	1983 (Estd)	% change 1983/1982	% share 1983
1	2	3	4	5	6	7
West Europe	125.6	133.9	150.7	171.3	+13.8	6.2
U.K.	80.5	89.4	103.4	114.9	+11.1	4.2
Norway	25.8	24.9	24.6	30.6	+24.7	1.1
West Germany	4.6	4.5	4.3	4.1	- 3.2	0.1
Austria	1.5	1.4	1.3	1.3	- 2.4	x
Yugoslavia	4.2	4.3	4.3	4.2	- 3.4	0.1
Italy	1.8	1.5	1.8	2.2	+27.5	0.1
France	1.4	1.7	2.4	2.3	- 0.9	0.1
Turkey	2.3	2.4	2.3	2.3	- 2.9	0.1
Denmark	0.3	0.8	1.7	2.2	+28.4	0.1
Others	3.2	3.0	4.6	7.2	+57.8	0.3
Asia&Australasia	136.1	135.5	132.8	142.7	+ 7.5	5.2
Japan	0.4	0.4	0.4	0.4	+ 0.8	x
Brunei	11.5	8.6	8.8	8.6	- 1.3	0.3
Indonesia	78.6	78.1	65.6	63.8	- 2.7	2.3
Other South-E.Asia	15.0	12.5	16.7	21.2	+26.9	0.8
South Asia :	11.4	16.9	21.8	27.2	+24.8	1.0
of which India	9.4	14.9	19.7	25.1	+27.4	0.9
Australasia	19.2	19.0	19.5	21.5	+10.0	0.8
Non-Communist area	2355.9	2171.0	2050.5	2013.6	- 1.8	73.1
Western Hemisphere	864.4	873.2	885.0	881.1	- 0.4	32.0
Easter Hemisphere	1491.5	1297.8	1165.5	1132.5	- 2.8	41.1
Of which : OPEC countries	1358.8	1145.7	974.6	895.4	- 8.1	32.5
Centrally-Planned Economies(CPEs)	727.6	727.6	734.2	741.9	+ 1.0	26.9
China	105.8	101.0	101.7	106.0	+ 4.2	3.8
U.S.S.R.	603.0	609.0	612.2	616.3	+ 0.7	22.4
Others	18.8	17.6	20.3	19.6	- 3.4	0.7
Total World	3083.5	2898.6	2784.7	2755.5	-1.0	100.0

@ = Includes Crude oil, shale oil, oil sands and NGLs. Excludes liquid fuels from other sources such as coal derivatives.

x = Less than 0.05

SOURCE: BP Statistical review of World energy- June, 1984.

WORLD NATURAL GAS PRODUCTION 1980 TO 1983.

(Million Tonnes) of Oil Equivalent.

COUNTRY/AREA.	1980	1981	1982	1983	% change 1983 Over 1982	% age share 1983.
1	2	3	4	5	6	7
U.S.A.	495.0	489.3	453.0	405.6	-10.5	30.1
Canada	69.1	67.4	66.5	63.7	- 4.2	4.7
Total North America	564.1	556.7	519.5	469.3	- 9.7	34.8
Latin America.						
Argentina	7.1	7.5	8.7	9.3	+ 7.7	0.7
Bolivia	2.1	2.5	2.6	2.5	- 2.2	0.2
Chile	2.5	2.1	2.8	2.7	- 5.8	0.2
Maxico	27.2	31.3	32.7	31.4	- 4.2	2.3
Trinidad	2.2	2.2	2.2	2.7	+22.0	0.2
Venezuela	15.0	15.0	14.7	15.6	+ 6.1	1.2
Others	4.3	4.7	4.8	6.0	+26.2	0.4
Total Latin America	60.4	65.3	68.5	70.2	+ 2.5	5.2
Total Western Hemispher	624.5	622.0	588.0	539.5	- 8.2	40.0
Western Europe.						
France	7.0	6.6	6.2	6.1	- 2.4	0.5
Italy	10.3	11.6	12.7	11.1	-13.1	0.8
Nethorlands	68.9	67.6	58.3	61.5	+ 5.5	4.6
Norway	23.5	22.7	19.5	19.5	+ 0.1	1.4
United Kingdom	32.0	31.9	30.5	30.6	+ 0.5	2.3
West Germany	14.1	14.4	12.6	13.2	+ 5.3	1.0
Others	3.5	3.0	3.0	2.8	- 4.0	0.2
Total Western Europe	159.3	157.8	142.8	144.8	+ 1.5	10.8
Middle East.						
Abu Dhabi	5.2	5.4	5.5	5.6	+ 1.8	0.4
Iran	7.5	6.5	6.5	8.5	+31.1	0.6
Kuwait	6.2	4.8	4.2	4.6	+11.5	0.3
Saudi Arabia	13.2	13.2	13.1	11.5	-12.4	0.9
Others	9.9	8.4	8.5	8.3	- 2.3	0.6
Total Middle East.	42.0	38.3	37.8	38.5	+ 2.0	2.8
Africa						
Algeria	19.3	22.1	23.0	20.6	-10.3	1.5
Libya	4.7	3.6	3.6	3.0	-16.2	0.2
Nigeria	1.0	1.6	1.1	1.3	+19.1	0.1
Others	1.8	1.8	2.8	3.2	+16.2	0.2
Total Africa	26.8	29.1	30.5	28.1	- 7.5	2.0
Asia and Australasia						
Japan	2.0	2.2	1.6	1.4	- 8.7	0.1
Indonesia	16.7	17.3	17.5	14.8	-15.3	1.1
Other South E.Asia	10.7	10.9	10.9	10.5	- 4.2	0.8
Pakistan	6.2	6.1	7.9	8.6	+ 8.2	0.6
Other South Asia	5.6	6.6	9.1	10.3	+12.3	0.8
of which India	2.1	3.5	4.7	5.8	+23.4	0.4
Australasia	10.9	11.9	12.6	13.6	+ 7.8	1.0
Total Asia & Australasia	52.1	55.0	59.6	59.2	- 0.9	4.4
Total Non-Communist World	904.7	902.2	858.7	810.1	- 5.6	60.0
Centrally Planned Economies.						
Economies	12.2	11.6	10.0	10.8	+ 7.5	0.8
U.S.S.R.	380.2	411.8	451.3	482.4	+ 6.9	35.8
Others	45.2	46.3	46.5	45.2	- 2.8	3.4
TOTAL CPEs	437.6	469.7	507.8	538.4	+ 6.0	40.0
TOTAL WORLD	1342.3	1371.9	1366.5	1348.5	- 1.3	100.0

CRUDE OIL PRODUCTION IN OPEC MEMBER COUNTRIES(REVISED)

(Million Tonnes)

OPEC Countries	1973	1975	1978	1979	1980	1981	1982	1983
1	2	3	4	5	6	7	8	9
Algeria	51	48	57	59	52	46	46	43
Ecuador	10	8	10	11	10	10	10	12
Gabon	8	11	11	10	9	8	8	8
Indonesia	66	65	81	79	79	78	66	64
Iran	293	268	262	158	74	66	120	126
Iraq	99	11	126	171	130	44	50	49
Kuwait	140	94	97	113	72	48	35	35
Libya	105	71	96	101	88	59	55	52
Nigeria	100	89	94	114	102	71	64	61
Qatar	27	21	24	25	23	20	16	15
Saudi Arabia	368	344	410	470	493	491	328	260
U.A.E.	102	107	112	117	111	92	76	74
Venezuela	179	125	115	125	116	113	101	96
Total	1548	1362	1495	1553	1359	1146	975	895

Source: B.P. Statistical Review of World Energy-June, 1984.

CRUDE OIL EXPORTS* FROM OPEC MEMBER COUNTRIES

(Million Tonnes)

OPEC Countries	1973	1975	1978	1979	1980	1981	1982
1	2	3	4	5	6	7	8
Algeria	49.7	43.9	50.2	48.0	35.8	26.1	11.4
Ecuador	9.8	7.3	6.1	6.1	5.5	5.3	4.5
Gabon	6.0	10.3	8.7	8.2	7.6	6.2	6.0
Indonesia	50.6	49.7	63.4	56.2	51.7	52.5	43.6
Iran	263.8	233.5	222.4	120.3	39.8	35.7r	81.2
Iraq	96.3	102.9	119.2	163.8	123.0	37.3r	40.6
Kuwait	132.1	90.2	88.1	104.2	64.8	40.7	18.4
Libya	108.7	71.6	92.7	98.3	84.5	53.1r	49.9
Nigeria	98.9	85.7	91.4	110.5	98.0	61.4	49.1
Qatar	28.5	21.4	24.0	24.7	23.3	19.6	16.1
Saudi Arabia	350.7	330.0	385.3	440.9	461.2	450.9	282.0
U.A.E.	76.1	83.1	90.8	90.3	84.9	72.0	58.3
Venezuela	106.2	73.6	62.2	70.4	64.4	63.3	53.0
TOTAL	1377.4	1203.2	1304.5	1341.9	1144.5	924.1	714.1

Source: OPEC Annual Statistical Bulletin-1982
* Conversion: = I Mn. Tonnes/Year = 20,000 bbl/day
r = Revised.

PRODUCTIVITY OF PRODUCING WELLS IN SELECTED FIELDS IN THE WORLD-1983.

Country/ Field.	Discovery date.	Depth (Metres)	Wells		Daily Average first six month 1982 ('000' bbls).	APIO Gravity.	t/w/d
			Flowing	Pumping			
1	2	3	4	5	6	7	8
Algeria							
All fields Sinc	1956	458-3834	n.a.	n.a.	671	43.3[a]	n.a.
Libya							
Gialo	1961	671-1922	-	204	83	35.7	55
Waha	1960	2013	-	37	34	36.0	123
BU Attifel	1968	4362	20	-	64	41.0	416
Intiser D	1967	2867	16	5	58	39.0	364
Defa	1969	1647-1800	-	105	108	35.6	138
Nasser	1959	1678-2318	n.a.	n.a	n.a.	38. 0	n.a.
Iran							
On-shore	1923	488-2721	n.a.	n.a.	2435	32.2[a]	n.a.
Off-shore	1960	854-3355					
Iraq.							
All Fields since	1909	854-3813	n.a.	n.a.	800	33.6[a]	n.a.
Kuwait.							
All Fields	1938	1464-3050	530	-	750	32.2[a]	194
Saudi Arabia							
All Fields since.	1938	1464-2849	n.a.	n.a.	4137	31.3	n.a.
Burma.							
All Fields since.	1902	30-2135	170	275	30	37.2	9
India							
On-shore since	1890	92-3902	n.a.	n.a.	385	24.44	n.a.
off-shore since	1974	1382-1412					
Indonesia.							
On-shore since	1893	61-4423	501	3846	872	35.0[a]	27
Off-shore since	1970	702-3401	169	324	438	31.5[a]	122

t/w/d.= Tonne/Wells/Day. n.a. Not Available.
* = Flowing, pumping and shut in wells including wells used for injection purposes.

Source :- Oil & Gas Journal, December, 26,1983.

WORLD OIL REFINING CAPACITIES AT END 1983 AND 1982.

(Million Tonnes Per Annum)

COUNTRY/AREA.	Refining Capacities 1983	1982 Revised	% Change 1983 over 1982	1983 share of Total
North America				
U.S.A.	790	840	- 6.0	20.8
Canada	101	112	- 9.8	2.7
Total North America	891	952	- 6.4	23.5
Latin America				
Argentina	34	34	-	0.9
Brazil	69	76	- 9.2	1.9
Mexico	76	76	-	2.0
Nether lands Antilles	39	39	-	1.0
Trinidad	19	19	-	0.5
Venezuela	61	68	-10.3	1.6
Others	110	118	- 6.8	2.9
Total Latin America	408	430	- 5.1	10.8
TOTAL WESTERN HEMISPHERE	1299	1382	- 6.0	34.3
Western Europe				
Belguim	33	33	-	0.9
France	118	137	-13.9	3.1
Italy	154	174	- 11.5	4.1
Netherlands	78	79	- 1.3	2.0
Spain	72	77	- 6.5	1.9
U.K.	105	106	- 0.9	2.8
West Germany	113	126	- 10.3	3.0
Others	159	166	- 4.2	4.2
Total Western Europe	832	898	- 7.3	22.0
Middle East				
Bahrain	13	13	--	0.3
Iran	30	31	- 3.2	0.8
Iraq	10	13	-23.1	0.3
Kuwait	29	27	+ 7.4	0.8
Saudi Arabia	43	43	--	1.1
Other Middle East	52	51	+ 2.0	1.4
TOTAL Middle East	177	178	- 0.6	4.7
Africa	117	117	--	3.1
South Asia	51	50	+ 2.0	1.3
of which: India	39	37	+ 5.4	1.0
South East Asia				
Indonesia	37	26	+42.3	1.0
Singapore	51	51	--	1.3
Other South East Asia	97	97	--	2.6
Total South East Asia	185	174	+ 6.3	4.9
Japan	248	274	- 9.5	6.5
Australasia	41	41	--	1.1
Total Communist World	838	822	+ 1.9	22.1
TOTAL EASTERN HEMISPHERE	2489	2554	- 2.5	65.7
TOTAL WORLD (Excl. New)	2950	3113	- 5.2	77.9
TOTAL WORLD(incl. New)	3788	3936	- 3.7	100.0

Source: BP Statistical Review of World Energy-1983.

WORLD NATURAL GAS CONSUMPTION

(Million Tonnes Oil Equivalent)

Country/Area	1980	1981	1982	1983 (Estd.)	% change 1983 over 1982	% age share 1983
1.	2.	3.	4.	5.	6.	7.
USA	49.3	47.8	48.9	46.7	- 4.3	3.5
Canada	556.4	542.9	508.1	479.0	- 5.7	36.0
Total North America	507.1	495.1	459.2	432.3	- 5.9	32.5
Latin America	53.0	54.4	60.0	60.7	+ 1.2	4.6
Total Western Hemisphere	560.1	549.5	519.2	493.0	- 5.0	37.1
Western Europe						
Austria	4.2	3.9	3.8	3.9	+ 3.7	0.3
Belgium & Luxembourg	10.3	9.5	7.8	8.2	+ 4.4	0.6
Denmark	-	-	-	-	-	-
Finland	0.8	0.6	0.6	0.6	- 6.5	*
France	23.6	24.5	24.0	24.8	+ 3.3	1.9
Greece	-	-	-	-	-	-
Iceland	-	-	-	-	-	-
Republic of Ireland	0.5	0.9	1.4	1.9	+32.2	0.1
Italy	22.9	22.8	22.0	22.6	+ 2.5	1.7
Netherlands	30.3	30.0	30.4	32.3	+ 6.2	2.4
Norway	-	-	-	-	-	-
Portugal	-	-	-	-	-	-
Spain	1.8	2.1	2.3	2.3	+ 3.0	0.2
Sweden	-	-	-	-	-	-
Switzerland	0.8	0.8	0.8	0.9	+21.3	0.1
Turkey	-	-	-	-	-	-
United Kingdom	41.4	42.4	42.2	43.3	+ 2.6	3.3
West Germany	44.4	41.4	38.0	38.8	2.2	2.9
Yugoslavia	3.4	3.7	3.8	3.9	+ 2.0	0.3
Cyprus/Gibraltar	-	-	-	-	-	-
Total Western Europe	184.4	182.6	177.1	183.5	+ 3.6	13.8
Middle East	34.1	35.3	37.8	38.5	1.9	2.9
Africa	17.5	19.9	18.0	17.6	- 1.9	1.3
South Asia: Of	7.3	8.9	11.8	13.0	+10.2	1.0
which India	1.5	2.0	2.6	3.0	+15.4	0.2
South East Asia	7.2	7.4	7.6	7.8	+ 2.4	0.6
Japan	23.4	24.2	24.7	25.2	+ 2.0	1.9
Australasia	9.8	11.6	12.2	13.4	+ 9.5	1.0
Total Non-Communist World	893.1	887.2	857.3	838.7	- 2.2	63.1
Centrally Planned Economics (VCPES)						
China	11.7	10.4	9.5	10.7	+12.6	0.8
U.S.S.R.	328.0	353.7	380.0	405.0	+ 6.6	30.5
Others	64.0	69.4	70.1	74.5	+ 6.3	5.6
Total CPES	403.7	433.5	459.6	490.2	+ 6.7	36.9
Total World	1296.8	1320.7	1316.9	1328.9	+ 0.9	100.0

Source:- B.P. Statistical Review of World Energy - June, 1984.

* - Less than 0.05.

WORLD OIL CONSUMPTION @

(MILLION TONNES)

COUNTRY/AREA	1980	1981	1982	1983	Percentage change 83 over 82	% Share of Total 1983
1.	2.	3.	4.	5.	6.	7.
U. S. A.	794.1	746.0	705.5	700.3	- 0.7	25.1
Canada	87.6	81.7	72.9	66.5	- 8.8	2.4
Total North America	881.7	827.7	778.4	766.8	- 1.5	27.5
Latin America	211.8	212.9	223.5	217.9	- 2.5	7.8
TOTAL WESTERN HEMISPHERE	1093.5	1040.6	1001.9	984.7	- 1.7	35.3
Western Europe						
Austria	12.2	11.0	10.5	10.0	- 4.8	0.3
Belgium & Luxembourg	26.6	24.5	23.3	21.2	- 9.2	0.8
Denmark	13.6	12.8	11.0	10.4	- 5.5	0.4
Finland	12.8	12.3	11.3	10.4	- 8.3	0.4
France	109.9	99.0	91.5	89.3	- 2.4	3.2
Greece	12.4	11.9	11.9	11.5	- 3.6	0.4
Iceland	0.6	0.5	0.5	0.5	- 2.1	- *
Republic Ireland	5.9	5.2	4.6	4.2	- 9.2	0.1
Italy	97.9	95.7	90.7	88.7	- 2.2	3.2
Netherlands	38.5	35.7	31.0	29.1	- 5.9	1.0
Norway	7.9	7.5	7.7	7.6	- 1.4	0.3
Portugal	8.5	8.8	9.5	9.4	- 1.1	0.3
Spain	52.2	50.4	47.8	47.6	- 0.4	1.7
Sweden	25.0	21.8	21.8	20.0	- 8.4	0.7
Switzerland	12.8	11.9	11.2	12.3	+ 9.4	0.4
Turkey	14.8	15.4	16.5	16.7	+ 1.5	0.6
United Kingdom	80.8	74.7	75.6	72.4	- 4.1	2.6
West Germany	131.1	117.6	112.2	109.8	- 2.2	3.9
Yugoslavia	15.1	14.4	14.1	13.0	- 7.3	0.5
Cyprus/Gibraltar Malta.	1.5	1.5	1.6	1.6	+ 0.6	0.1
TOTAL WESTERN EUROPE	680.1	632.6	604.3	585.7	- 3.1	20.9
Middle East	82.0	84.7	87.9	90.4	+ 2.8	3.2
Africa	71.9	75.9	79.5	80.3	+ 1.1	2.9
Japan	237.7	223.9	207.8	205.8	- 1.0	7.4
South East Asia	114.2	115.6	113.5	114.5	+ 0.8	4.1
South Asia of	40.4	43.4	45.6	46.4	+ 1.8	1.7
which India	31.6	34.0	35.4	37.2	+ 5.1	1.3
Australasia	36.4	35.8	34.4	33.2	- 3.5	1.2
TOTAL NON COMMUNIST WORLD	2356.2	2252.5	2174.9	2141.0	- 1.6	76.7
China	88.0	84.8	82.4	84.7	+ 2.7	3.0
USSR	436.0	444.1	448.5	450.5	+ 0.4	16.1
Others	120.3	120.3	119.1	117.8	- 1.1	4.2
Total CPES	644.3	649.2	650.0	653.0	+ 0.4	23.3
Total World	3000.5	2901.7	2824.9	2794.0	- 1.1	100.0

Source:- BP Statistical Review of World Energy- June, 1984.

* - Less than 0.05. CPES = Centrally Planned Economies.

@ - Include inland demand plus international aviation and Marine bunkers and refinery full & loss.

MAIN PRODUCT CONSUMPTION (INCLUDING BUNKERS)

(Million Tonnes)

COUNTRY/AREA	1980	1981	1982	1983	Percentage Change 1983 Over 1982	% Share of total 1983
1.	2.	3.	4.	5.	6.	7.
U.S.A.						
Gasolines	305.7	297.9	294.4	297.8	+ 1.2	42.5
Middle Distillates	207.9	199.2	186.6	188.5	+ 1.0	26.9
Fuel Oil	133.0	110.6	90.8	75.0	-17.4	10.7
Others	147.5	138.3	133.7	139.0	+ 3.9	19.9
TOTAL	794.1	746.0	705.5	700.3	- 0.7	100.0
CANADA						
Gasolines	32.2	31.3	28.4	27.3	- 3.7	41.1
Middle Distillates	27.5	25.0	23.1	21.5	- 7.2	32.3
Fuel Oils	14.2	11.2	9.8	7.4	-24.4	11.1
Others	13.7	14.2	11.6	10.3	-11.1	15.5
T O T A L	87.6	81.7	72.9	66.5	- 8.8	100.0
WESTERN EUROPE						
Gasolines	142.4	131.0	134.2	137.0	+ 2.0	23.4
Middle Distillates	234.0	223.7	215.6	218.0	+ 1.0	37.2
Fuel Oil	211.7	187.0	165.4	142.6	-13.7	24.4
Others	92.0	90.9	89.1	88.1	- 1.0	15.0
T O T A L	680.1	632.6	604.3	585.7	- 3.1	100.0
JAPAN						
Gasolines	42.1	39.8	38.6	39.5	+ 2.2	19.2
Middle Distillates	59.9	60.6	58.0	59.2	+ 2.1	28.8
Fuel Oil	103.5	91.2	78.8	75.6	- 4.0	36.7
Others	32.2	32.3	32.4	31.5	- 2.8	15.3
T O T A L	237.7	223.9	207.8	205.8	- 1.0	100.0
AUSTRALASIA						
Gasolines	13.4	13.6	13.5	13.4	- 1.0	40.3
Middle Distillates	10.4	10.0	10.3	9.8	- 4.9	29.4
Fuel Oil	7.9	7.5	6.3	5.7	-10.1	17.2
Others	4.7	4.7	4.3	4.3	+ 1.5	13.1
T O T A L	36.4	35.8	34.4	33.2	- 3.5	100.0
REST OF NCW						
Gasolines	92.6	95.2	100.7	101.3	+ 0.8	18.4
Middle Distillates	170.4	177.0	185.0	184.8	- 1.0	33.6
Fuel Oils	185.9	186.2	189.2	188.2	- 0.5	34.3
Other	71.4	74.1	75.1	75.2	+ 0.1	13.7
TOTAL	520.3	532.5	550.0	549.5	- 0.1	100.0
TOTAL NCW						
Gasolines	628.4	608.8	609.8	616.3	+ 1.1	28.8
Middle Distillates	710.1	695.5	678.6	681.8	+ 0.4	31.8
Fuel Oil	656.2	593.7	540.3	494.5	- 8.4	23.1
Others	361.5	354.5	346.2	348.4	+ 0.6	16.3
TOTAL NCW	2356.2	2252.5	2174.9	2141.0	- 1.6	100.0

Note: 'Others' represents refinery gas LPGs, Solvents, Petroleum Coke, lubricants, bitumen, wax, refinery fuel and loss.

NCW:- Non- Communist World.

WORLD OIL PRODUCTION, CONSUMPTION AND RELATIVE DEFICIT/SURPLUS IN EACH REGION/COUNTRY DURING 1983 & 1973.

(Million Tonnes)

Country/Region	1983 Production	1983 Consumption	Deficit-Surplus	% extent of dependence	1973 Production	1973 Consumption	Deficit-Surplus	% extent of dependence
1.	2.	3.	4.	5.	6.	7.	8.	9.
North America (including Canada)	557.5	766.8	-209.3	- 27.3	621.3	901.7	- 280.4	-31.1
Latin America	323.6	217.9	+105.7	+ 48.5	272.0	160.3	+ 111.7	69.7
West Europe	171.3	585.7	-414.4	- 70.8	22.5	748.9	- 726.4	-97.0
Middle East	590.1	90.4	+499.7	+ 552.8	1052.5	62.2	+ 990.3	1592.1
Africa	228.4	80.3	+148.1	+184.4	290.0	49.5	+ 240.5	485.9
South & South East Asia (excluding India)	95.7	123.9	- 28.2	- 22.8	84.3	79.9	+ 4.4	+ 5.5
India	25.1	37.0	- 11.9	- 32.2	7.2	23.7	- 16.5	-69.6
Japan	0.4	205.8	-205.4	- 99.8	0.7	269.1	- 268.4	-99.7
Australia	21.5	33.2	- 11.7	- 35.2	18.5	34.8	- 16.3	46.8
U.S.S.R.	616.3	450.5	+ 165.8	+ 36.8	429.0	325.7	+103.3	31.7
Eastern Europe	19.6	117.8	- 98.2	- 83.4	18.8	88.4	- 69.6	-78.7
China	106.0	84.7	+ 21.3	+ 25.1	54.8	53.8	+ 1.0	1.9
T O T A L	2755.5	2794.0	- 38.5	- 1.4	2871.6	2798.0	+ 73.6	2.6

Source :- B.P. Statistical Review of World Energy- June, 1984.

Country-wise Imports & Exports of Crude Oil & POL Products - 1983.

(Million Tonnes)

Country/Area	IMPORTS		EXPORTS	
	Crude	Products	Crude	Products
1.	2.	3.	4.	5.
U.S.A.	164.3	81.4	8.1	31.6
Canada	12.9	3.2	13.5	13.3
Latin America	82.3	15.1	131.5	68.8
Western Europe	342.2	87.8	22.7	18.9
Middle East	4.1	5.7	473.3	39.6
North Africa	2.4	4.6	92.1	16.1
West Africa	-	3.6	68.1	2.5
East and South Africa	20.6	2.8	-	0.1
South Asia	19.1	5.6	1.4	1.3
Of which India	15.5	4.1	4.3	1.1
South East Asia	79.8	19.3	54.1	16.2
Japan	177.7	28.0	-	0.3
Australasia	6.5	5.0	0.1	2.0
U.S.S.R., E. Europe & China	14.3	6.2	71.0	59.5
Destination not known *	9.7	1.9	-	-
T O T A L :-	935.9	270.2	935.9	270.2

Source :- B.P. Statistical Review of World Energy - June, 1984.

N. B. :- Figures for India insered.

* - Includes changes in the quantity of oil in transit losses, minor movements not otherwise shown, unidentified military use, etc.

CRUDE OIL IMPORTS FROM OPEC MEMBER COUNTRIES BY REGIONS 1960-1982

(Million Tonnes)

Import Region	1960	1965	1970	1973	1974	1975	1977	1978	1979	1980	1981	1982
North America	61.0	65.9	68.5	149.1	160.4	171.0	274.9	279.8	279.5	213.6	153.7	82.5
Of which: USA	43.9	49.6	46.7	120.3	128.9	136.3	253.5	255.6	255.9	190.7	137.2	73.1
Latin America	55.9	71.5	96.8	149.4	156.0	145.2	171.5	128.7	136.9	115.3	90.6	70.7
Western Europe	157.5	315.1	564.6	683.9	651.9	519.2	531.0	517.8	521.3	454.5	354.5	278.0
Of which :												
France	31.8	63.2	107.3	135.9	138.0	104.6	108.5	109.0	114.5	100.2	71.9	57.2
Germany	21.2	45.5	69.0	64.1	69.0	62.6	75.0	64.6	74.7	66.1	47.5	40.7
Italy	24.8	59.9	109.5	122.4	106.1	87.0	90.4	92.9	94.7	67.8	64.7	60.9
Netherlands	14.7	27.7	72.4	105.5	69.6	76.2	74.3	78.5	64.9	53.7	38.1	22.5
Spain	7.2	13.1	28.7	37.8	42.1	39.6	47.2	45.4	44.0	40.8	29.2	30.3
U.K.	43.1	74.7	107.4	146.4	150.0	80.0	63.4	56.0	33.9	34.6	24.3	18.9
Eastern Europe	-	-	2.4	21.5	13.0	15.2	20.1	19.7	23.9	17.2	8.5	8.6
Middle East	17.0	16.7	20.3	17.8	19.3	15.6	25.2	18.9	21.2	21.9	21.8	23.5
Africa	1.5	13.0	23.8	32.8	31.9	31.4	28.3	22.7	18.7	16.2	14.8	10.6
Asia and Far East	34.4	88.6	215.5	312.2	307.2	280.0	314.0	306.5	310.7	288.6	269.3	229.4
Of which:												
Japan	24.4	66.4	162.6	229.3	226.2	199.9	205.6	196.7	196.4	179.0	157.2	142.1
Oceania	10.1	15.4	15.2	10.7	9.4	8.9	11.3	10.3	10.8	10.8	11.0	9.7
Unspecified	-	2.2	4.1	-	13.8	16.7	5.8	Neg.	18.9	6.3	0.1	1.1
TOTAL WORLD	337.4	588.4	1011.2	1377.4	1362.9	1203.2	1382.1	1304.4	1341.9	1144.4	924.1	714.0

Source:- OPEC Annual Statistical Bulletin - 1982.

Figures converted to million tonnes using the conversion factor: 20,000 barrel/day = 1 million tonnes/year.

Country-wise Export of Crude Oil by Main OPEC Producers-1982

(Million Tonnes)

Country	Algeria	Indonesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Venezuela
NORTH AMERICA	1.5	9.7	3.0	0.1	-	1.6	18.1	0.2	23.4	1.7	14.5
of which											
Canada	0.2	-	-	-	-	0.1	0.3	-	2.8	-	5.6
U.S.A.	1.3	9.7	-	0.1	-	1.5	17.8	0.2	20.6	1.7	8.9
LATIN AMERICA	0.8	3.7	3.9	8.0	0.9	1.1	5.5	1.5	12.9	3.0	26.9
of which:											
Brazil	0.8				0.9			1.3			3.6
Chile											1.0
Netherlands								0.1			17.5
Jamaica											0.8
Puerto Rico											0.1
Panama											0.7
Trinidad & Tobago		2.6									
WESTERN EUROPE	8.7	0.3	41.8	21.2	3.1	43.0	24.1	5.7	99.7	8.7	9.9
of which:											
Austria						1.1					
Belgium						3.0	0.7				0.6
France	3.4	0.1	3.7	1.5		2.4	8.1	2.1	27.3	2.9	1.1
Germany(FR)	1.5		2.3	0.8		10.9	3.8	0.1	17.2	0.8	1.5
Italy	1.0	0.1	13.0	5.8	1.2	10.7	4.4	1.4	19.4	1.8	2.1
Netherlands	0.6	neg.	7.2	0.3	1.3	1.5	3.6	0.4	5.5	0.5	0.8
Spain	0.8	-	6.3	2.9	0.6	4.1	-	-	9.6	-	2.0
U.K.	0.2	-	2.6	1.0		2.0	0.8	0.1	9.7	1.2	0.9
Switzerland						1.0					
Norway							0.2				
Sweden							1.3				0.6
EASTERN EUROPE	0.1	-	3.8	2.4	-	2.1	0.1	-	-	-	0.1
MIDDLE EAST	-	-	9.0	1.8	-	1.5	-	neg	10.5	0.3	-
Yemen										0.3	
AFRICA	0.4	-	0.3	0.8	0.5	0.4	1.3	0.4	5.2	1.0	0.2
ASIA & FAREAST	-	27.0	19.0	6.3	12.9	0.3	-	8.2	125.1	24.6	1.3
of which:											
Japan		23.4	11.5	3.4	4.2	0.1		6.6	65.5	20.9	1.1
Malaysia/ Singapore		0.4			0.2						
Phillippines		1.1									
Taiwan					0.9						
Thailand					5.1			0.7			
Korea					2.5						
OCEANIA	-	2.9	0.4	-	neg.	-	-	0.1	5.2	1.1	-
of which:											
Australia		2.1	0.4	-	neg.			0.1		1.1	
Unspecified	-	-	-	-	1.0	-	-	-	-	-	-
GRAND TOTAL	11.5	43.6	81.2	40.6	18.4	50.0	49.1	16.1	282.0	40.4	52.9

Source : OPEC Annual Statistical Bulletin, 1982.
Conversion factor : 1 million tonne/yr. = 20,000 barrels/day.

OIL REVENUES OF OPEC MEMBER COUNTERIES: 1974-82.

(Billion US $)

OPEC MEMBER COUNTERIES	1974	1977	1978	1979	1980*	1981*	1982
1	2	3	4	5	6	7	8
Algeria	3.30	4.25	4.59	7.51	12.50	10.70	8.50
Ecuador	0.41	0.50	0.50	0.80	1.39	1.56	1.18
Gabon	0.17	0.60	0.60	0.90	1.80	1.60	1.50
Indonesia	1.37	4.69	5.20	8.10	12.86	14.39	12.70
Iran	17.82	21.21	19.30	20.50	13.50	9.30	16.40
Iraq	5.70	9.63	10.20	21.29	26.10	10.40	9.50
Kuwait	6.54	7.62	7.95	16.86	17.90	14.90	9.48
Libya	6.00	8.85	8.40	15.22	22.60	15.60	14.00
Nigeria	6.66	9.60	7.90	15.90	23.41	16.70	13.09
Qatar	1.85	1.99	2.20	3.08	4.80	4.72	3.15
Saudi Arabia	22.57	36.54	32.23	57.52	102.21	113.20	76.00
UAE	5.54	9.03	8.20	12.86	19.50	18.70	16.00
Venezuela	9.27	8.11	7.32	11.96	16.34	17.40	13.54
TOTAL OPEC	87.20	122.62	114.59	192.50	274.91	249.17	134.95

REVENUES PER BARREL OF EXPORTS

($/bbl)

OPEC MEMBER COUNTRIES	1974	1977	1978	1980*	1979	1981*	1982
1	2	3	4	5	6	7	8
Algeria	10.10	11.27	12.54	47.86	21.43	56.18	99.43
Ecuador	6.91	9.90	11.16	34.86	17.88	40.51	35.88
Gabon	2.62	9.12	9.47	32.62	14.96	35.16	34.53
Indonesia	3.61	9.70	11.23	34.05	19.76	37.53	39.92
Iran	9.09	11.94	11.89	46.42	23.33	35.65	27.68
Iraq	8.45	12.17	11.72	29.08	17.81	38.19	32.08
Kuwait	8.14	12.85	12.37	37.83	22.18	50.16	70.42
Libya	11.03	12.48	12.41	36.57	21.21	40,23	38.40
Nigeria	8.37	12.96	11.85	32.72	19.71	37.29	36.53
Qatar	9.91	13.31	12.56	28.24	20.16	33.07	26.74
Saudi Arabia	7.81	11.63	11.46	30.36	17.87	34.39	36.92
UAE	8.98	12.43	12.37	31.48	19.52	35.60	37.56
Venezuela	14.36	16.81	16.11	34.78	22.66	37.66	35.07
T O T A L	8.76	12.14	12.01	32.90	19.68	36.94	25.89

* = Revised.

Source : OPEC Annual Statistical Bulletin -1982.

OFFICIAL DEVELOPMENT ASSISTANCE FROM OECD AND OPEC MEMBERS - 1979 - 1982.

Countries	Amount (Million of U.S. $.)				As percentage of G.N.P.			
	1979	1980	1981	1982*	1979	1980	1981	1982
1.	2.	3.	4.	5.	6.	7.	8.	9.
OECD								
Itlay	273	683	666	820	.08	.17	.19	.24
New Zealand	68	72	68	65	.33	.33	.29	.28
United Kingdom	2157	1852	2194	1794	.52	.35	.44	.38
Japan	2635	3353	3171	3023	.27	.32	.28	.29
Austria	131	178	313	361	.19	.23	.48	.54
Finland	90	110	135	144	.22	.22	.28	.30
Australia	629	667	649	882	.53	.48	.41	.57
Canada	1056	1075	1109	1185	.48	.43	.43	.42
Netherlands	1472	1630	1510	1473	.98	1.03	1.08	1.08
Belgium	643	595	575	497	.57	.50	.59	.59
France	3449	4162	4177	3991	.60	.64	.73	.74
United States	4684	7138	5782	8302	.20	.27	.20	.27
Denmark	461	481	403	415	.77	.74	.73	.77
Germany (FR)	3393	3567	3181	3163	.45	.44	.47	.48
Norway	429	486	467	566	.93	.85	.82	1.01
Sweden	988	962	919	987	.97	.79	.83	1.02
Switzerland	213	253	237	251	.21	.24	.24	.25
Total	22821	27264	25636	27919				
OPEC								
Nigeria	30	42	149		.04	.05	.17	
Iran	25	7	150		.03	.01	-	
Iraq	847	829	143		2.53	2.13	.37	
Algeria	272	65	65		.89	.17	.16	
Venezuela	109	125	67		.22	.21	.10	
Libya	105	282	105		.45	.92	.37	
Saudi Arabia	4674	5944	5798		6.12	5.09	4.77	
Kuwait	477	645	685		1.79	2.04	1.98	
U.A.E.	967	906	799		5.09	3.38	2.88	
Qatar	280	204	175		6.03	4.25	2.64	
Total OAPEC	7622	8955	7770		3.56	3.08	2.99	
Total OPEC	7786	9129	7936		1.88	1.74	1.46	

* - Estimated P - Provisional.

Source:- World Development Report - 1983.

LOAN ASSISTANCE FROM OPEC AND OTHER OIL SUPPLYING NATIONS- 1975-76 TO 1982-83.

(Rs. Crores)

1.	1975-76 2.	1976-77 3.	1977-78 4.	1978-79 5.	1979-80 6.	1980-81 7.	1981-82 8.	1982-83 9.
I. U.S.S.R.								
Authorisation	-	-	208.3	-	-	485.7	-	-
Utilisation	26.9	26.3	25.7	21.6	34.0	32.9	22.6	40.0
II. OPEC								
1. Abu Dhabi Fund								
Authorisation	-	-	-	-	-	-	-	-
Utilisation	-	-	-	-	6.5	2.0	-	-
2. OPEC Fund								
Authorisation	1020.5	125.6	12.1		16.3	39.8	-	29.3
Utilisation	401.9	245.6	208.1	11.5	-	3.4	-	37.4
3. Saudi Arab Fund for Development								
Authorisation	-	-	86.4	-	-	-	29.2	-
Utilisation	-	-	-	3.2	41.1	13.1	6.0	12.4
4. Kuwait Fund for Arab Economic Development								
Authorisation	46.3	-	-	29.0	-	-	77.5	-
Utilisation	-	-	-	12.3	-	8.6	10.1	25.5
5. International Fund for Agricultural Development								
Authorisation	-	-	-	-	80.6	13.9	-	24.5
Utilisation	-	-	-	-	1-	-	-	-
6. Iraq								
Authorisation	33.0	32.1	-	-	-	82.9	-	-
Utilisation	-	-	-	3.8	1.4	0.7	-	-
7. Iran								
Authorisation	923.7	73.8	-	-	-	-	-	-
Utilisation	-	-	-	70.1	12.6	17.3	-	-
GRAND TOTAL								
Authorisation	1990.50	231.5	306.8	29.0	96.9	622.3	106.7	53.8
Utilisation	428.8	271.9	233.8	122.5	95.6	78.0	38.7	115.3

Source:- Economic Survey 1983-84.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES

($ /Barrel)

CRUDE	Grav-ity.	EFFECTIVE DATES 1974 Nov.1	1975 Jan.1	1975 Oct.1	1976 Feb.14	1976 June 1	1976 July 1	1976 Oct.1	1977 Jan.1	1977 July 1	1978 Jan. 1	1978 April 1
1	2	3	4	5	6	7	8	9	10	11	12	13
Arab. Light	34	10.463		10.510					12.090	12.704		
Arab. Berri	39	11.114		11.874					12.480	13.225		
Arab. Medium	31	10.380		11.331		11.280			11.690	12.323		
Arab. Heavy	27	10.268		11.140		11.040			11.370	12.016		
Iran Light	34	10.67		11.62					12.81			
Iran. Heavy	31	10.45		11.49	11.40	11.33b)			12.49			
Kuwait	31	10.365		11.300		11.230			12.370		12.270	
Abu Dhabi :-												
Umm Shaif	37	10.868	10.645	11.695					12.280	13.040		
Murban	39	11.379	10.868	11.918					12.500	13.260		
Zakum	40	11.313	10.775	11.825					12.410	13.170		
Iraq Basrah	35	10.48		11.53			11.43		12.58			
Qatar Marine	36	10.80		11.66					13.00			
Qatar Dukhan	40	11.17		11.85					13.19			
				MEDITERRANEAN & AFRICAN CRUDES.								
Iraq Kirkuk	36			1...			11.65		12.77			
Libyan Light	40			12.32			12.62		13.92	14.20	13.97	13.85
Nigerian Light	37			12.70			13.10	13.25	14.31	14.61c)	14.31	14.10
Nigerian Medium	26						12.55	12.52	13.71		13.66	13.55
				INDONESIAN CRUDE								
Sumatra Light	34	12.60		12.80					13.55			
				VENEZ-UELAN CRUDES.								
Tia Zuana	26					11.12a)11.22c)	11.32	11.65	12.72	12.82c)		12.70
Tia Zuana	31					12.30a)		12.35	13.54			
Officina	35					12.80a)			13.99			

a) = Effective Jan.,1. b)= Effective June, 9. c)= Effective April 1.
c) = Effective Oct.1.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES

($/Barrel)

CRUDE	Gravity	(EFFECTIVE DATES) 1979. Jan.1.	Feb.15=	April 1.	May 17	June 1	July 1	Oct. 20	Nov. 1	Dec.17
1	2	3	4	6	7	8	9	10	11	12
Arab. Light	34	13.339		14.546		18.000			24.000	
Arab. Berri	39	14.060		16.470	17.870d)	21.324			24.721	
Arab. Medium	31	12.886		14.052		17.547			23.547	
Arab. Heavy	17	12.511		13.643		17.172			23.172	
Iran Light	34	13.45		16.57	17.17d)	18.47	22.00	23.50i)		28.50m)
Iran Heavy	31	13.06		16.04	16.64d)	17.74	19.90	22.77i)		27.77m)
Kuwait	31	12.830	14.030a)	15.800	16.40d)		19.490	21.431)	25.500	
Abu Dhabi-										
Umm Shaif	37	13.780	14.620	16.880	17.68		21.360		27.360	
Murban	39	14.100	15.120	17.100	17.90		21.560		27.560	
Zakum	40	14.010	15.030	17.010	17.81		21.460		27.460	
Iraq Basrah	35	13.21		15.60	16.20c)	16.94	19.96	21.96	23.96	25.96m)
Qatar Marine	36	13.77	14.71	16.85	17.65		21.23		27.23	
Qatar Dukhan	40	14.03	15.05	17.04	17.84		21.42		27.42	
Oman	34	13.94								
MEDITERRANEAN & AFRICAN CRUDES.										
Iraq Kirkuk	36	13.41		15.82	16.42c)	17.16	21.25	22.18	24.18	26.18m)
Libyan Light	40	14.69	15.37b) 16.07m)	18.25	18.95e)	21.26f)	23.45	26.22j)		29.95n)
Nigerian Light	37	14.80		18.50	20.96e)		23.47		26.24k)	29.97
Nigerian Medium	26	14.23		17.50	20.00e)		22.00		24.77k)	28.70
INDONESIAN CRUDE										
Sumatra Light	34	13.90		15.65	16.15e)	18.25g)	21.12		23.50l)	25.50
VENEZUELAN CRUDES.										
Tia Zuana	26	13.36		15.76	16.36e)		19.31	19.48i)		23.48p)
Tia Zuana	31	14.22		16.70	17.30e)		20.90			24.90p)
Oficina	34	14.69		17.21	17.81		22.45			26.75p)

a) Effective Feb., 20.
b) Effective Feb.21.
c) Effective May, 1.
d) Effective May, 15.
e) Effective May, 16.
f) Effective May, 27
g) Effective June, 15.
h) Effective July, 15.
i) Effective Oct., 1.
j) Effective Oct.,15.
k) Effective Nov.,6.
l) Effective Nov.,17.
m) Effective Dec.,1.
n) Effective Dec.,13.
p) Effective Dec.,14.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES.

($ /Barrel)

CRUDE	Gravity	(EFFECTIVE DATES) 1980 Jan.1	Feb.1.	April 1	May 1	July 1	Aug. 1	Sept. 1	Nov. 1.
Arab. Light	34	26.000		28.00			30.00		32.00
Arab. Berri	39	27.520		29.52			31.52		33.52
Arab. Medium	31	25.454		27.454			29.454		21.454
Arab. Heavy	27	25.000		27.00			29.00		31.00
Iran. Light	34	30.00	31.00	35.37					
Iran. Heavy	31	29.27	30.27	34.37					
Kuwait	31	27.500			29.50	31.50			
Abu Dhabi:-									
Umm Shaif	37	29.360			31.36			33.36	
Murban	39	29.560			31.56			33.56	
Zakum	40	29.460			31.46			33.46	
Iraq Basrah	35	27.96			29.96	31.96			
Qatar Marine	36	29.23			31.23	33.23			
Qatar Dukhan	40	29.42			31.42	33.42			
Oman	34					33.20 c)	33.40		
MEDITERRANEAN & AFRICAN CRUDES.									
Iraq Kirkuk	36	28.18			30.18	32.18			
Libyan Light	40	34.67			36.67	37.00			
Nigerian Light	37		34.18e)	34.69	36.69b)	37.00			
Nigerian Medium	26		32.91 e)	33.42	35.42b)	35.73			
INDONESIAN CRUDE.									
Sumatra Light	34	27.50			31.50 d)				
VENEZUELAN CRUDES.									
Tia Zuana	26	25.20	26.70 a)		29.28d)	29.88			
Tia Zuana	31	26.90	28.90 a)		32.40d)	33.00			
Oficina	35	28.75	30.75 a)		34.25d)	34.85			

a) Effective Feb. 6. b) Effective May, 22. c) Effective June,30.
d) Effective May, 26. e) Effective Feb.,4.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES. ($ /Berrel)

(E F F E C T I V E D A T E S).

CRUDE	Type	1981 Jan.1	July 1	Oct. 1	Nov.1	1982 Jan.1	Feb.12	Feb 23	March20	April 1	July 1	Aug.
1	2	3	4	5	6	7	8	9	10	11	12	13
Arab. Light	34			34.00		34.00			34.00			
Arab. Berri	39			35.60		35.40			34.52			
Arab. Medium	31			33.00		32.40			32.40			
Arab. Heavy	27			31.50		31.00			31.00			
Iran Light	34	37.00			34.60	34.20	32.20	30.20			31.20	
Iran Heavy	31	36.00			34.40	32.30	30.30	28.30			29.30	
Kuwait	31	35.50			33.00	32.30						
Abu Dhabi-												
Um Shaif	37	36.36			35.50	35.30			34.36			
Murban	39	36.56			35.70	35.50			34.56			
Zakum	40	36.46			35.60	35.40			34.46			
Iraq Basrah	35	35.96		33.96	34.71	33.46			34.21			
Qatar Marrine	36	37.23			35.50	35.30			34.30			
Qatar Dukhan	40	37.42			35.65	35.45			34.49			
Oman	34	39.50	35.50-36.00*	34.00-34.50*		35.00		32.00e)	34.30			34.00
MEDITERRANEAN & AFRICAN CRUDES.												
Iraq Kirkuk	36	36.18		34.18		34.18			34.18			
Libyan Light	40	41.00	40.00		37.50	37.00				35.50		
Nigerian Light	37	40.00		36.00a)	36.50b)	36.50			35.50			
Nigerian Medium	26	38.70		34.70a)	35.20b)	33.75			33.50			
INDONESIANC CRUDE.												
Sumatra Light	34	35.00										
VENEZUELAN CRUDES.												
Tia Zuana	26	32.88			32.88							
Tia Zuana	31	36.00			35.00							
Offdina	35	38.06			37.06							

* = Lower price is for buy-back crude, higher is GSP for equity crude.

a) = Effective Aug. 26. b)= Effective Oct.,1. e)= Effective March, 1.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES.

($ / Barrel)

CRUDE	TYPE	(EFFECTIVE DATES) 1 9 8 3			
		Feb.1.	March.1.	March 15	Aug. 10
1	2	3	4	5	6
Arab. Light	34		29.00		
Arab. Berri	39		29.52		
Arab. Medium	31		27.40		
Arab. Heavy	27		26.00		
Iran. Light	34			28.00	
Iran. Heavy	31			26.90	27.10
Kuwait	31		27.30		
Abu Dhabi:-					
Umm Shaif	37		29.36		
Murban	39		29.56		
Zakum	40		29.46		
Iraq Basrah	35			29.21	
Qatar Marine	36		29.30		
Dukhan	40		29.49		
Oman	34			29.00	
MEDITERRANEAN & AFRICAN CRUDES.					
Iraq Kirkuk	36			29.93	
Libyan Light	40	30.40 a)			
Nigerian Light	37	30.00 b)			
Nigerian Medium	26	28.00 b)			
INDONESIAN CRUDES					
Sumatra Light	34	29.53 a)			
VENEZUELAN CRUDES					
Tia Zuana	26			27.88	
Tia Zuana	31			29.84	
Ofician	35			31.09	

a) w.e.f. Feb. 23.

b) Harbor fee of 2cts/bbl not included.

* No Changes upto August 1984.

Short-term trend in weighted average Official Prices of OPEC Crude Vs. their Spot Assesment since June, 1980

WEEK ENDING	OPEC's WEIGHTED AVERAGE Official Price	Spot Assessment	DIFFERENCE (+) Premium (-) Discount
19.6.80	30.83	34.80	+ 3.97
3.7.80	31.30	34.34	+ 3.04
2.10.80	31.97	31.32	+ 1.15
7.11.80	31.76	38.78	+ 7.02
9.1.81	34.26	38.93	+ 4.67
6.2.81	34.83	37.02	+ 2.19
6.3.81	34.83	36.72	+ 1.89
3.4.81	34.83	35.90	+ 1.07
1.5.81	34.82	33.90	- 0.92
5.6.81	34.75	31.84	- 2.91
2.7.81	34.77	31.04	- 3.73
4.9.81	34.66 (34.32)	31.43	- 3.16
2.10.81	34.64 (34.32)	31.58	- 3.06
6.11.81	33.95	32.88	+ 1.11
4.12.81	33.96	33.12	- 0.84
8.1.82	33.74	33.28	- 0.46
5.2.82	33.68	30.74	- 2.94
5.3.82	33.36	28.69	- 4.67
2.4.82	33.24	27.92	- 5.32
7.5.82	33.16	31.69	- 1.47
4.6.82	33.14	32.10	- 1.04
2.7.82	33.23	31.33	- 1.90
6.8.82	33.18	30.87	- 2.31
3.9.82	33.18	31.60	- 1.58
1.10.82	33.18	32.41	- 0.77
5.11.82	33.18	32.10	- 1.08
3.12.82	33.17	29.73	- 3.43
7.1.83	33.17	29.90	- 3.27
14.1.83	33.17	29.90	- 3.27
21.1.83	33.17	30.48	- 2.69
28.1.83	33.17	29.44	- 3.73
4.2.83	33.17	28.78	- 4.39
11.2.83	33.17	28.78	- 4.39
18.2.83	33.17	28.74	- 4.43
25.2.83	32.87	27.87	- 5.00
4.3.83	32.83	27.56	- 5.27
11.3.83	32.83	27.46	- 5.37
18.3.83	32.83	27.41	- 5.42
25.3.83	28.87	27.35	- 1.52
1.4.83	28.87	27.37	- 1.50
8.4.83	28.51	27.78	- 0.73
15.4.83	28.49	28.07	- 0.42
22.4.83	28.49	28.19	- 0.30
29.4.83	28.49	28.23	- 0.26
6.5.83	28.49	28.13	- 0.36
13.5.83	28.44	27.92	- 0.52
20.5.83	28.44	27.84	- 0.60
27.5.83	28.44	27.99	- 0.45

* = The weightings given are based on each nation's production relative to OPEC total.

Short-term trend in weighted average Official Prices of OPEC Crude Vs. their Spot Assesment since June, 1980

WEEK ENDING	OPEC'S WEIGHTED AVERAGE		DIFFERENCE
	Official Price	Spot Assessment	(+) Premium (-) Discount
3.6.83	28.44	28.05	- 0.39
10.6.83	28.44	28.04	- 0.40
17.6.83	28.44	28.14	- 0.30
24.6.83	28.44	28.22	- 0.22
1.7.83	28.44	28.20	- 0.24
8.7.83	28.44	28.20	- 0.24
15.7.83	28.44	28.40	- 0.04
22.7.83	28.44	28.42	- 0.02
29.7.83	28.46	28.46	-
5.8.83	28.46	28.54	+ 0.08
12.8.83	28.47	28.53	+ 0.06
19.8.83	28.48	28.49	+ 0.01
26.8.83	28.48	28.42	- 0.06
2.9.83	28.48	28.40	- 0.08
9.9.83	28.48	28.37	- 0.11
16.9.83	28.48	28.27	- 0.21
23.9.83	28.48	28.33	- 0.15
30.9.83	28.48	28.22	- 0.26
7.10.83	28.48	28.03	- 0.45
14.10.83	28.48	28.28	- 0.20
21.10.83	28.48	28.26	- 0.22
28.10.83	28.48	28.19	- 0.29
4.11.83	28.48	28.08	- 0.40
11.11 .83	28.48	28.00	- 0.48
18.11.83	28.48	27.90	- 0.58
23.11.83	28.48	27.79	- 0.69
2.12.83	28.48	27.93	- 0.55
9.12.83	28.48	27.87	- 0.61
16.12.83	28.48	27.78	- 0.70
23.12.83	28.48	27.74	- 0.74
30.12.83	28.48	27.83	- 0.65
6.1.84	28.48	27.91	- 0.57
13.1.84	28.48	27.95	- 0.53
20.1.84	28.48	27.97	- 0.51
27.1.84	28.48	28.06	- 0.42
3.2.84	28.48	28.08	- 0.40
10.2.84	28.48	28.03	- 0.45
17.2.84	28.48	28.02	- 0.46
24.2.84	28.48	28.03	- 0.45
2.3.84	28.48	28.06	- 0.42
9.3.84	28.48	28.12	- 0.36
16.3.84	28.48	28.04	- 0.44
23.3.84	28.48	28.02	- 0.46
30.3.84	28.48	28.04	- 0.44

DEVELOPMENTS IN LOWEST POSTED PRICES OF POL PRODUCTS AT LANDAF MAHSHI

PRICE AS ON	Light Distillates (US ¢/US Gallon)			
	Naphtha Whole (A-316)	Octane 93	Octane 87	Octane 83
1.1.70	--	9.0	7.9	7.1
1.1.71	--	9.0	7.9	7.1
1.1.72	--	9.9	8.7	8.0
1.1.73	--	10.2	8.9	8.3
1.1.74	--	17.3	N.I.	15.4
1.1.75	--	35.9	N.I.	34.0
1.1.76	--	38.3	N.I.	36.4
1.1.77	--	38.3	N.I.	36.4
1.1.78	--	41.2	N.I.	39.0
1.1.79	--	44.0	41.5	40.5
1.1.80	91.5	79.3	77.0	76.0
1.1.81	94.5	106.3	104.0	102.5
1.1.82	86.0	109.8	105.5	104.0
1.1.83	83.0	100.8	98.5	97.0
1.1.84	71.5	91.0	86.0	85.0

Middle Distillates (US ¢/US Others)

Price as on	Turbine Fuel 58	Kero-sene	Diesel Index	Indl. Diesel (¢/bbl)	Light Fuel ($/bbl)
1.1.70	9.5	8.9	6.6	2.62	1.42
1.1.71	9.5	8.9	6.6	2.70	1.50
1.1.72	10.4	9.8	7.5	3.20	1.95
1.1.73	10.7	10.1	7.8	3.32	2.07
1.1.74	18.6	18.3	15.7	6.16	3.75
1.1.75	33.7	33.4	30.8	12.11	10.05
1.1.76	36.7	36.4	33.6	12.86	10.80
1.1.77	36.7	36.4	33.6	12.86	10.50
1.1.78	39.8	39.2	36.5	14.35	11.85
1.1.79	43.5	42.5	40.5	--	11.15
1.1.80	77.5	76.5	72.0	--	22.35
1.1.81	110.0	107.5	102.0	--	31.00
1.1.82	112.5	110.0	104.5	--	32.95
1.1.83	109.5	107.0	100.0	--	31.25
1.1.84	88.0	86.0	83.0	--	28.35

Source : Platt's oil gram.
N.I. = Not reported

Quarterly Development of Spot Prices of Major Petroleum Products during 1983 & 1984 in Key Trading Centres/ Countries.

Product/Type	1983				1984		
	Jan.	April	July	Oct.	Jan.	April	July
1	2	3	4	5	6	7	8
I. Naphtha (US Ø/US Gallon)							
1. N.W. Europe	79.1	N.A.	77.2	73.7	68.1	71.6	71.1
2. Mediterranean	77.6	N.A.	76.0	73.0	66.7	69.1	68.4
3. Caribbean	77.0	79.0	80.0	74.0	70.2	78.1	73.4
4. Arabian/P.Gulf	77.0	71.0	73.5	71.5	67.0	70.0	67.5
5. Singapore	78.5	71.5	75.5	73.0	69.0	71.0	68.0
II. Regular Gasoline (US Ø/US Gallon)							
1. N.W. Europe	80.0	N.A.	83.5	76.8	70.8	75.8	75.4
2. Mediterranean	76.4	N.A.	80.5	73.3	70.3	73.9	72.5
3. Caribbean	78.0	85.0	82.0	75.5	72.0	77.1	73.2
4. Arabian/P.Gulf	91.0	85.0	86.0	82.0	77.0	76.0	74.0
5. Singapore	92.0	86.0	90.0	83.0	79.0	79.0	76.0
III. Jet Kerosene (US Ø/US Gallon)							
1. N.W. Europe	91.2	N.A.	81.9	83.3	81.9	80.0	79.6
2. Mediterranean	88.3	N.A.	80.2	83.5	82.1	79.4	79.6
3. Caribbean	-	-	-	-	-	-	-
4. Arabian/P.Gulf	91.0	83.0	80.0	80.0	85.5	85.0	80.0
5. Singapore	96.5	85.0	81.0	83.5	84.5	83.0	80.0
IV. Gas Oil (US Ø/US Gallon)							
1. N.W. Europe	86.7	N.A.	77.3	77.6	80.0	78.8	76.2
2. Mediterranean	86.3	N.A.	75.3	77.2	78.7	78.3	74.7
3. Caribbean	85.0	78.0	78.0	78.0	80.6	76.6	77.0
4. Arabian/P.Gulf	80.0	76.0	77.0	75.5	77.5	77.0	78.5
5. Singapore	92.0	77.5	77.0	82.0	75.0	77.0	79.0
V. Fuel Oil ($/Barrel)							
1. N.W. Europe	25.82	N.A.	26.61	26.31	27.14	28.26	27.59
2. Mediterranean	25.89	N.A.	26.37	26.89	26.81	28.23	27.63
3. Caribbean	24.25	25.0	27.60	27.50	28.22	27.83	28.55
4. Arabian/P.Gulf	25.15	25.75	25.00	27.11	25.15	26.80	27.71
5. Singapore	25.60	26.05	25.90	27.86	25.75	27.70	28.92

Source : Various Issues of Petroleum Intelligence Weekly.

RETAIL PRICES INDCLUDING DUTY AND TAXES OF-SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1 - 1 - 1983

(US $ / USG)

COUNTRY	REGULAR GASOLINES			HOUSE HOLD KEROSENE		
	Consumer Price	Tax (1)	Custom Duty(2)	Consumer Price	Tax (1)	Custom Duty(2)
1	2	3	4	5	6	7
NORTH AMERICA						
Canada	1.34	.36	-	1.28	0	-
Mexico	.51	.30	-	.17	.02	-
United State	1.15	X	-	1.04	X	-
CENTRAL SOUTH AMERICA AND CARIBEEA-N.						
Argentina	0.90	0.55	23%	0.55	.21	23%
Venuzuela	0.26	0.04	-	0.09	X	-
EUROPE						
Austria	2.40	8% +18% Vat	0.25	3.76	67 +13% Vat	0.03
Belgium	2.53	1.37	-	1.35	0.20	-
Denmark	2.83	1.56	-	1.68	.30	-
France	2.51	1.28	-	X	X	-
West Germany	2.14	.82 + 13% Vat	6.0%	X	X	X
Italy	3.16	2.02	6.0%	1.79	.41	6.0%
Netherlands	2.36	1.22	-	1.42	.30	-
U. Kingdon(London)						
Yugoslavia	2.32	0.57	-	1.86	.18	X
MIDDIE EAST						
S. Arebia	0.18	0	X	0.15	0	X
Israel	2.18	.71 +15% Vat	X	1.76	34 + 15%Vat	X
Turkey	X	X	X	X	X	X
AFRICA						
Ethiopia	2.18	.28	-	1.20	X	X
South Africa	2.14	.48	.37	1.43	.20	0
ASIA						
India	2.55	1.10	-	0.76	.16	0
Indonesia	1.76	X	X	0.55	X	X
Japan	2.70	.85 +3.5%	0.03	1.53	3.5%	.02
Pakistan	1.61	.26	.26	.81	0	0
Phillipines	2.03	1.03	-	1.28	.13	0
Singapore	1.83	.73	.73	1.38	0.02	0.02
Sri Lanka	X	X	X	.69	2%	0
Thailand	1.88	.64	.48	1.01	0.06	0.01
AUSTRALASIA						
Australia	1.81	.23	X	1.48	0	0

X = Not reported.

1. Tax includes value added tax whenever applicable.
2. Custom duty value is nil unless amount is given.

Source: International Energy Annual, 1982.

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1.1.83

(U.S. $/Barrel)

Country	Distillate Fuel Oil			Medium Fuel Oil		
	Consumer Price	Tax (1)	Custom duty (2)	Consumer Price	Tax (1)	Custom duty (2)
1	2	3	4	5	6	7
NORTH AMERICA						
Canada	X	X		X	X	
Mexico	10.71	6.16		1.75	.26	
United States	42.42	X		X	X	
CENTRAL SOUTH AMERICA AND CARIBBEAN:						
Argentina	17.05	6.32	23%	10.87	2.88	23%
Brazil	36.39	X		33.32	X	
El Salvador	X	X		X	X	
Venezuela	2.40	X		X	X	
EEROPE						
Austria	X	X	X	45.89	13% Vat	0.040
Belgium	54.77	7.96		43.05	6.25	
Denmark	70.29	20.30		47.12	15.93	
France	60.73	13.04		X	X	
West Germany	46.84	29.78 +13%Vat	6.0%	X	X	X
Italy	64.21	15.08	3.5%	X	X	3.5%
Netherlands	X	X		X	X	
U. Kingdom(London)	X	X		X	X	
Yogoslavia	48.70	3.08		46.65	1.41	
MIDDLE EAST						
Saudi Arabia	1.62	0		X	X	
Israel	67.89	13.45 +15%Vat		34.62	1.33 +15%Vat	
AFRICA						
Etheopia	46.58	6.53		41.48	0	
Ghana	58.03	0	0	X	X	X
South Africa	68.67	16.72	2.05	68.53	16.72	2.05
ASIA						
Burma	X	X		X	X	
India	46.39	3.81		43.66	1.67	
Indonesia	28.98	X		28.98	X	
Japan	70.88	16.10 +3.5%Vat	1.25	51.67	3.5%	3.44
Pakistan	X	X	X	X	X	X
Phillipines	X	X		35.83	3.45	
Singapore	49.68	0	0	35.07	0	0
Sri Lanka	49.49	2%	5%	33.32	2%	X
Thailand	49.22	6.57	3.66	30.90	.01	.01
AUSTRALASIA						
Australia	60.69	9.69		39.59	0	

X= Not reported or unknown.
1.+= Tax includes value added tax whenever applicable.
2. = Custon duty value is nil unless amount is given.
Source : International Petroleum Annual, 1982.

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1.1.1983.

(U.S. $/U.S.G.)

Country	Auto Diesel Fuel			L.P.G.		
	Consumer prices	Tax (1)	Custom duty (2)	Consumer prices	Tax (1)	Custom duty (2)
1	2	3	4	5	6	7
NORTH AMERICA						
Canada	1.35	.38		X	X	
Mexico	.25	.15		.10	.01	
United States	.99	X		.73	X	
CENTRAL SOUTH AMERICAN AND CARIBBEAN.						
Argentina	.41	.15	23%	.35	.06	10%
Brazil	1.52	X		X	X	
El-Salvador	X	X	X	X	X	X
Venezuela	.27	ngl.		.63	X	
EUROPE						
Austria	2.33	8% +18% Vat	.03	.95	13% Vat	.4%
Belgium	1.98	.76		1.60	.23	
Denmark	1.82	.48		1.36	.39	
France	2.07	.82		1.30	.21	
West Germany	2.12	.71 +13% Vat	6.0%	.84	13% Vat	0
Italy	1.64	.37	3.5%	1.50	.14	1.5%
Netherlands	1.73	.56		X	X	
United Kingdom	X	X	X	X	X	X
Yugoslavia	2.00	.46		.84	.15	
MIDDLE EAST.						
Saudi Arabia	.08	0		.30	0	
Israel	1.72	.32 +15% Vat		1.40	.14 +15% Vat	
Turkey	X	X	X	X	X	X
AFRICA						
Ethepia	1.44	.16		1.29	.12	
Ghana	2.57	.06	.83	1.32	0	.13
South Africa	2.20	.43	.37	1.61	.20	0
ASIA						
Burma	X	X	X	X	X	X
India	1.27	.22		.77	.09	
Indonesia	.80	X		X	X	
Japan	1.92	.38 +3.5% Vat	.03	2.14	.15	ngl.
Pakistan	1.02	.07	.07	.49	0	0
Phillipines	1.28	.19		1.26	.08	
Singapore	1.23	.11	.11	1.42	.07	.07
Sri Lanka	1.06	2%	5%	.53	2%	X
Thailand	1.22	.16	.09	.84	ngl.	ngl.
AUSTRALASIA						
Australia	1.88	.23		.51	0	

X = Not reported or unknown. Ngl. = Negligible, less than .05 us¢
1.= Tax includes value added tax whenever applicable.
2.= Custom Duty value is nil unless amount is given.
Source : International Petroleum Annual, 1982.

CONSUMER /RETAIL PRICES OF BULK PETROLEUM PRODUCTS IN DIFFERENT COUNTRIES OF THE WORLD (OCT. 1983-JAN. 1984).

Countries	M.S. (Regular)	Kero-sone	HSDO	LDO	F.O.	ATF	LPG	Exchange rate used
	(..... Rs. Per Litre .....)						(Rs./KGM)	
North America								
Canada	2.40	--	2.29	2.26	--	2.45	2.32	1 Canadian $ =7.93
Europe								
Switzerland	5.58	--	5.88	2.64	--	--	--	1 S.F.=4.78
Yugoslavia	6.85	5.38	5.23	5.20	2.26	4.13	4.13	9.27 ND=Rs. 1
U.K.	6.08	3.12	5.72	2.63	1.92	2.19	8.07	1 £=Rs. 15.45
South America								
Argentina	5.63	3.45	3.40	2.63	2.18	3.30	4.53	1.29 Pesa=Rs.1
Brazil	5.27	3.52	3.46	2.18	1.76	--	4.73	Cr $ 67 =Rs.1
Africa								
Egypt	1.57	0.36	--	0.31	--	--	0.63	1 E £=Rs.12.05
Tanzania	8.71	4.41	4.50	4.22	2.73	4.55	5.45	1.21 TS=Rs.1
South Asia								
Bangla Desh	6.28	3.07	3.08	2.89	2.25	3.95	3.67	2.4 Taka=Rs. 1
Srilanka	5.69	2.78	3.43	3.91	2.04	3.67	3.89	2.37 SL Rupiah=Rs.1
Burma	0.93	0.67	0.69	--	--	3.08	--	0.831Kyats=Rs.1
India (Delhi)	6.07	1.89	3.19	3.00	2.80	*3.54	3.18	
					1.55 (Furts)	@4.53		
Afganistan	1.40	2.32	1.32	1.32	--	-	6.63	6.03 AF=Rs.1
Far East Asia								
Phillippines	4.87	3.18	3.17	--	2.27	4.53	3.06	1 Pesa=Rs. 1.08
Japan	6.53	3.41	4.55	--	2.74	--	--	23.75 Yen=Rs.1
Thailand	4.51	2.49	2.84	2.73	1.70	--	4.07	2.46 Baht=Rs.1
Korea	8.58	3.78	3.65	--	2.49	--	4.66	77 Won = Rs.1
China	3.40	2.73	2.14	--	--	--	--	
Malaysia	4.15	2.61	2.43	--	1.78	3.32	5.60	0.241 Mal. $=Rs.1
Australasia								
Australia	4.52	4.08	4.79	4.13	2.75	4.60	3.10	1 Aus.$=Rs.9.50
Newzealand	4.42	4.19	3.80	--	2.46	3.76	3.25	1 Newzealand $ = Rs. 6.49
Soviet Union								
USSR	5.90	0.87	4.42	--	0.40	--	--	1 Rouble=Rs.13.40

*International liftings. @Domestic liftings.

POSTED AIRFIELD PRICES OF JET A.I. FUEL AT MAJOR INTERNATIONAL AIRPORTS AS ON 1ST APRIL OF EACH YEAR

(U.S. $/U.S. Gallon)

Countries/Post.	Prices of Jet A.I. Fuel as on 1st April					
	1979	1980	1981	1982	1983	1984
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Australia						
Perth	63.00	114.88	142.61	140.82	127.53	140.50
Sydney	63.00	114.88	142.61	140.82	127.53	140.50
Bahrain	76.50	153.40	167.68	165.03	148.42	148.46
Belgium						
Brussels	76.00	159.00	174.00	174.00	164.00	135.00
Egypt						
Cairo	120.00	155.20	162.77	162.77	121.13	121.13
Ethopia						
Addisababa	80.00	156.06	182.24	183.41	176.38	151.45
France						
Paris	72.03	147.90	150.00	145.00	145.00	128.00
Germany						
Frankfurt	120.00	147.32	142.31	136.78	146.50	135.00
Holland						
Amsterdam	84.47	142.60	159.80	138.00	126.00	124.13
Italy						
Rome	110.00	165.00	155.00	145.00	153.00	135.00
Kenya						
Nairobi	78.00	144.00	175.00	180.00	168.10	168.10
Lebanon						
Beirut	80.00	185.00	185.00	185.00	185.00	165.00
Malaysia						
Kualalumpur	67.00	137.00	155.00	145.00	145.00	135.00
Mauritius						
Plaisance	72.00	140.00	150.00	150.00	145.00	145.00
Singapore						
Paya Lebar	65.00	137.00	152.50	151.00	141.00	128.50
Switzerland						
Geneva	98.60	155.73	155.51	144.20	132.40	129.76
U.A.E.						
Abu Dhabi	79.98	154.88	172.09	169.40	110.00	106.61
Sharjah/Dubai	76.50	154.88	172.09	169.40	147.64	147.60
UNITED KINGDOM						
London (H)	140.00	154.76	177.92	173.17	151.66	150.14
Kerachi	79.24	123.28	173.76	175.50	175.80	175.50
Kuwait	56.29	113.96	135.11	132.60	112.76	106.07
New York	65.00	112.00	108.19	96.90	87.25	83.50
Tehran (1)	62.00	100.96	137.89	132.13	122.13	122.13
Tokyo	72.00	118.96	128.00	128.05	114.45	97.00
Narita						
Bombay	74.78	145.22	159.80	140.51	131.87	121.92
Delhi						
Palam	79.85	150.22	166.83	149.43	134.09	124.71

* = Less rebate 2.00 $ USG. (1) Monopoly Price
(2) Air India Contract Price.

Wholesale price of OPEC's representative crudes in current and constant(1980) dollars

Period	Wholesale price of OPEC's representative crudes in current ($/bbl.)			Index of consumers prices indl.countries (1980=100)	Price of crude oil 1980 $ ($/barrel)		
	S.Arabia (Ras Tanura)	Libya (Es Sider)	Venezuela (Tia Juana)		S.Arabia (Ras Tanura)	Libya (Es Sider)	Venezuela (Tia Juana)
1.	2.	3.	4.	5.	6.	7.	8.
1970	1.30	2.58	1.73	43.6	2.98	5.92	3.97
1971	1.65	3.17	2.21	45.9	3.59	6.91	4.81
1972	1.90	3.37	2.37	48.0	3.96	7.02	4.94
1973	2.70	4.80	3.56	57.7	5.22	9.28	6.89
1974	9.76	13.84	10.24	58.6	16.66	23.62	17.47
1975	10.72	11.59	10.89	65.1	14.99	17.80	16.73
1976	11.51	12.31	11.28	70.5	16.33	17.46	16.00
1977	12.40	13.87	12.42	76.4	16.23	18.15	16.26
1978	12.70	13.71	12.42	81.9	15.51	16.74	15.16
1979	17.26	21.06	16.77	89.4	19.31	23.56	18.76
1980	18.67	35.87	27.60	100.0	28.67	35.87	27.60
1981	32.50	39.83	32.03	109.9	29.57	36.24	29.14
1982	33.47	35.49	32.03	118.1	28.34	30.05	27.12
1983	29.31	30.89	28.05	124.1	23.62	24.89	22.60
1983 : Ist Qr.	31.57	33.13	31.12	121.5	25.98	27.27	25.61
IInd Qr.	28.54	30.15	27.03	123.4	23.13	24.43	21.90
IIIrd Qr.	28.56	30.15	27.03	124.9	22.87	24.14	21.64
IVth Qr.	28.58	30.15	27.03	126.4	22.61	23.85	21.38
1984: Ist Qr.	28.50	30.15	27.03	128.0	22.27	23.55	21.11

Source : International Financial Statistics.

Wholesale price of OPEC in terms of SDRs

Period	Wholesale price of OPEC's representative crudes in current $ ($/barrel)			SDR/US $ exchange rate	Price in SDRs/barrel		
	S.Arabia (Ras Tanura)	Libya (Es Sider)	Venezuela (Tia Juana)		S.Arabia (Ras Tanura)	Libya (Es Sider)	Venezuela (Tia Juana)
1.	2.	3.	4.	5.	6.	7.	8.
1970	1.30	2.58	1.73	1.00	1.30	2.58	1.73
1971	1.65	3.17	2.21	0.997	1.64	3.16	2.20
1972	1.90	3.37	2.37	0.921	1.75	3.10	2.18
1973	2.70	4.80	3.56	0.839	2.27	4.03	2.99
1974	9.76	13.84	10.24	0.832	8.12	11.51	8.52
1975	10.72	11.59	10.89	0.824	8.83	9.55	8.97
1976	11.51	12.31	11.28	0.866	9.97	10.66	9.77
1977	12.40	13.87	12.42	0.857	10.63	11.89	10.64
1978	12.70	13.71	12.42	0.799	10.15	10.95	9.92
1979	17.26	21.06	16.77	0.774	13.36	16.30	12.98
1980	28.67	35.87	27.60	0.768	22.02	27.55	21.20
1981	32.50	39.83	32.03	0.848	27.56	33.78	27.16
1982	33.47	35.49	32.03	0.906	30.32	32.15	29.02
1983	29.31	30.89	28.05	0.935	27.40	28.88	26.23
1983 : Ist Qr.	31.57	33.13	31.12	0.916	28.92	30.35	28.51
IInd Qr.	28.54	30.15	27.03	0.928	26.49	27.98	25.08
IIIrd Qr.	28.56	"	"	0.948	27.07	28.58	25.62
IVth Qr.	28.58	"	"	0.950	27.15	28.64	25.68
1984 : Ist Qr.	28.50	"	"	0.954	27.19	28.76	25.79

Source : International Financial Statistics.

WORLD TANKER FLEET BY FLAG 1971 TO 1983

(Million dwt.)

FLAG	1971	1976	1979	1980	1981	1982	1983
1	2	3	4	5	6	7	8
U.S.A.	9.5	11.6	15.7	16.2	16.4	16.8	16.5
United Kingdom	25.0	30.8	24.8	24.8	21.3	17.6	15.3
Norway	18.9	29.6	24.4	24.0	24.4	21.2	18.9
Other Western Europe	38.9	71.2	76.8	74.9	76.8	70.7	66.4
Convenience	46.6	109.8	114.2	112.5	106.0	100.3	91.4
Japan	18.0	32.4	30.0	30.0	29.7	28.5	26.3
Rest of World	12.0	35.3	42.0	42.4	45.6	48.6	48.4
TOTAL :	170.9	320.7	327.9	324.8	320.2	303.7	283.2

SOURCE: B.P. Statistical Review of the World Energy.

WORLD TANKER FLEET BY SIZE 1971 TO 1983

(Million dwt.)

SIZE OF TANKER	1971	1976	1979	1980	1981	1982	1983
1	2	3	4	5	6	7	8
10-25 000 dwt	24.1	17.5	14.2	14.1	13.8	13.5	13.0
25-45 000 dwt	28.0	27.3	24.2	24.6	26.0	27.2	27.4
45-65 000 dwt	22.6	19.9	15.3	16.1	16.6	16.1	15.3
65-125 000 dwt	39.4	54.4	51.2	52.5	55.4	51.8	48.4
125-205 000 dwt	12.0	28.7	33.4	33.0	31.2	30.2	28.8
205-285 000 dwt	42.5	138.8	142.2	139.1	131.2	118.3	104.4
285 000 dwt & over	2.3	34.1	47.4	45.4	46.0	46.6	45.9
TOTAL :	170.9	320.7	327.9	324.8	320.2	303.7	283.2

SOURCE : B.P. Statistical Review of the World Energy.

INTER-AREA TOTAL OIL MOVEMENTS - 1983

(Million Tonnes)

FROM TO	U.S.A.	Canada	Latin America	Western Europe	Africa	South East Asia
1	2	3	4	5	6	7
U.S.A.	--	4.1	13.1	10.6	0.8	4.4
Canada	26.5	--	--	--	--	--
Latin America	106.2	6.2	21.1	40.5	3.3	0.3
Western Europe	27.0	0.7	1.1	--	7.0	0.3
Middle East	28.4	3.0	42.4	169.2	20.1	80.2
North Africa	13.8	1.3	3.0	83.0	0.3	--
West Africa	23.5	0.8	5.8	37.5	1.1	--
E. & South Africa	--	--	--	--	--	0.1
South Asia	--	--	--	0.2	0.4	1.2
South East Asia	17.2	--	--	1.2	1.0	--
Japan	--	--	--	--	--	0.3
Australasia	0.2	--	--	--	--	0.5
USSR, E. Europe & China	2.9	--	10.9	87.8	--	11.8
TOTAL IMPORTS :	245.7	16.1	97.4	430.0	34.0	99.1

FROM TO	Japan	Australasia	Rest of world	Destination unknown	Total Export
8	9	10	11	12	13
U.S.A.	5.7	0.7	0.3	--	39.7
Canada	0.3	--	--	--	26.8
Latin America	8.9	0.1	7.7	6.0	200.3
Western Europe	--	0.1	4.9	0.5	41.6
Middle East	135.5	5.9	27.1	1.1	512.9
North Africa	2.1	--	4.7	--	108.2
West Africa	0.1	--	1.8	--	70.6
East & South Africa	--	--	--	--	0.1
South Asia	0.7	0.2	--	--	2.7
South East Asia	39.6	4.3	3.0	4.0	70.3
Japan	--	--	--	--	0.3
Australasia	1.3	--	0.1	--	2.1
USSR, E.Europe & China	11.5	0.2	5.4	--	130.5
TOTAL IMPORTS	205.7	11.5	55.0	11.6	1206.1

SOURCE: B.P. Statistical Review of the World Energy-June, 1984.

ESTIMATED WORLD PRIMARY ENERGY CONSUMPTION BY FUEL- 1983.

(Mn. Tonnes Oil Equivalent)

COUNTRY/AREA.	Oil	Natural Gas	Coal	Water Power	Nuclsar Energy	TOTAL
1.	2.	3.	4.	5.	6.	7.
U.S.A.	700.3	432.3	400.3	95.4	80.0	1708.3
Canada	66.5	46.7	28.3	55.7	11.5	208.7
Total North America	766.8	479.0	428.6	151.1	91.5	1917.0
Total Western Hemisphere	984.7	539.7	445.8	203.7	92.1	2266.0
Western Europe						
Austria	10.0	3.9	2.8	7.1	-	23.8
Belgium & Luxembourg	21.2	8.2	9.1	0.1	5.3	43.9
Denmark	10.4	-	5.4	-	-	15.8
Finland	10.4	0.6	2.2	3.3	4.2	20.7
France	89.3	24.8	24.3	15.2	27.4	181.0
Greece	11.5	-	4.8	1.1	-	17.4
Iceland	0.5	-	-	1.0	-	1.5
Republic of Ireland	4.2	1.9	2.2	0.2	-	8.5
Italy	88.7	22.6	13.0	11.1	2.1	137.5
Netherlands	29.1	32.3	5.4	-	0.9	67.7
Norway	7.6	-	0.6	25.3	-	33.5
Portugal	9.4	-	0.4	2.3	-	12.1
Spain	47.6	2.3	18.9	6.8	2.4	78.0
Sweden	20.0	-	1.6	10.9	7.0	39.5
Switzerland	12.3	0.9	0.3	9.3	3.8	26.6
Turkey	16.7	-	8.6	3.4	-	28.7
United Kingdom	72.4	43.3	65.6	1.4	10.7	193.4
West Germany	109.8	38.8	80.5	6.2	14.8	250.1
Yugoslavia	13.0	3.9	16.7	6.0	0.9	40.5
Cyprus/Gibraltar/Malta	1.6	-	*	-	-	1.6
Total Western Europe	585.7	183.5	262.4	110.7	79.5	1221.9
Middle East	90.4	38.5	*	1.6	-	130.5
Africa	80.3	17.6	74.4	17.2	-	189.5
South Asia	46.4	13.0	97.0	16.0	0.7	173.1
Of which India	37.8	3.1	89.0	3.6	-	153.6
Japan	205.8	25.2	63.0	19.5	27.5	341.0
South East Asia	114.5	7.8	24.1	4.1	7.2	157.7
Australasia	33.2	13.4	32.3	9.2	-	88.1
Total Non-Communist World	2141.0	838.7	999.0	382.0	207.0	4567.7
Centrally-Planned Economis (CPES)						
China	84.7	10.7	436.0	21.9	-	553.3
U.S.S.R.	450.5	405.0	358.0	51.0	22.0	1286.5
Others	117.8	74.5	304.1	14.3	7.3	518.0
Total CPES	653.0	490.2	1098.1	87.2	29.3	2357.8
Total WORLD	2794.0	1328.9	2097.1	469.2	236.3	6925.5

*- Less than 0.05 million tonnes oil equivalent.

Source:- BP Statistical Review- June, 1984.

ESTIMATED PER CAPITA PRIMARY ENERGY CONSUMPTION SOME INTERNATIONAL COMPERISONS (1983)

(Kgm. Oil equivalent)

COUNTRY/AREA	OIL	NATURAL GAS	COAL	WATER POWER	NUCLEAR ENERGY	TOTAL
1.	2.	3.	4.	5.	6.	7.
1. WESTERN HEMISPHERE OF WHICH	1531	840	693	317	143	3524
NORTH AMERICA	5656	3717	2843	2641	802	15660
U.S.A.	2988	1844	1708	407	341	7289
Canada	2668	1873	1135	2234	461	8371
2. EASTERN HEMISHERE:						
a) Western Europe of which	1836	435	621	262	188	2892
Austria	1311	511	367	930	-	3119
Belgium & Luxembourg	2074	802	890	10	519	4295
Italy	1643	418	241	205	39	2546
Netherlands	2022	2245	375	-	63	4705
Norway	1845	-	146	6141	-	8132
Portugal	931	-	40	228	-	1199
Spain	1246	60	495	178	63	2042
Sweden	2398	-	192	1307	839	4736
Switzerland	1884	138	46	1424	582	4074
Turkey	353	-	182	72	-	607
U.K.	1298	777	1177	25	192	3469
Germany West	1697	600	1244	96	229	3866
Yugoslavia	570	171	732	263	40	1766
b) Middle East	884	377	neg.	16	-	1277
c) Africa	162	36	150	35	-	383
d) South Asia of	48	13	100	16	1	178
which India	33	4	123	- 5	-	187
e) South East Asia	272	19	57	10	17	375
f) Japan	1724	211	528	163	230	2856
g) Australasia	1506	608	1465	417	6	3998
3. Centrally Planned Economics (CPES)	2771	2153	4409	334	145	9812
h) U.S.S.R.	1654	1488	1315	187	81	4725
i) China Europe	82	10	422	21	-	535
j) Other	1035	655	2672	126	64	4552
4. WORLD(excl. CPES)	666	261	311	119	64	1421
5. WORLD (incl. CPES)	603	287	452	101	51	1494

SOURCE:- i) BP Statistical Review of the World June, 1984.

ii) World Development Report, 1982 and International Financial Statistics, May 1983 for population.

ESTIMATED PER CAPITA CONSUMPTION OF MAIN PETROLEUM PRODUCTS - SOME INTERNATIONAL COMPARISONS(1983)

Kg./Per Capita

Country/Area	Gasoline	Middle Distillates	Fuel	Others*	Total
1	2	3	4	5	6
U.S.A.	1271	804	320	593	2988
Canada	1095	862	297	413	2667
W.Europe	324	516	338	209	1387
Japan	331	496	634	264	1725
Australia	607	444	258	195	1504
Rest of the World (Excl. USSR, E.Europe & China	32	57	59	23	171
World (Excl.USSR, Europe (China)	133	147	107	75	462

* Includes refinery gas, LPG solvents, petroleum Coke bitumen and refinery fuel and loss.

PATTERN OF REFINERY PRODUCTION IN MAIN CONSUMING COUNTRIES OF THE WORLD 1983

Products	Percentage by Weight			Percentage by volume		
	North America	Western Europe	Japan	North America	Western Europe	Japan
1	2	3	4	5	6	7
Gasoline	50.0	30.0	29.5	50.0	29.5	20.0
Middle Distillates	30.0	30.0	30.5	20.0	30.5	40.0
Fuel Oil	10.0	20.0	30.0	10.0	20.0	30.0
Other products (incl.Refinery fuel and loss)	10.0	20.0	10.0	20.0	20.0	10.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: BP Statistical Review of the World oil industry,1983.

Trends in World Primary Energy/Consumption

Million Tonnes of oil equivalant = 10,000 K.Cal/kg

Year	Oil	Natural Gas	Solid Fuels	Hydro-Electricity	Nuclear Energy	Total
1.	2.	3.	4.	5.	6.	7.
1970	2281.7	928.7	1635.4	305.4	19.8	5171.0
1971	2413.0	996.7	1631.6	317.6	28.0	5386.9
1972	2592.4	1045.0	1629.4	323.3	38.4	5628.5
1973	2798.0	1068.1	1668.4	331.5	49.4	5913.4
1974	2760.3	1088.1	1691.2	348.6	62.6	5950.8
1975	2724.8	1079.4	1709.1	358.2	87.1	5958.6
1976	2894.6	1139.8	1786.7	362.7	106.4	6290.2
1977	2985.9	1161.9	1830.1	376.4	132.0	6486.3
1978	3081.5	1206.2	1863.3	403.1	149.5	6703.6
1979	3124.3	1273.4	1975.8	413.4	153.0	6939.9
1980	3000.5	1296.8	2006.5	421.6	169.4	6894.8
1981	2901.7	1320.7	2003.0	430.1	198.1	6853.6
1982	2824.9	1316.9	2047.2	451.1	217.5	6857.6
1983(Prov)	2794.0	1328.9	2097.1	469.2	236.3	6925.5

Primary Energy Consumption in selected countries/ areas of the World - 1970, 1975, and 1980 to 1983.

(Million tonnes of Oil equivalent)

Country/ Area	1970	1975	1980	1981	1982	1983(Prov.)
1	2	3	4	5	6	7
U.S.	1659.8	1711.8	1842.0	1791.6	1727.1	1708.3
Canada	162.7	195.0	226.1	219.8	214.9	208.7
Latin America	189.9	254.8	330.0	333.6	353.1	349.0
Western Europe	1089.8	1174.9	1279.4	1246.4	1223.9	1221.8
of which:						
Belgium & Luxemburg	48.8	46.7	50.4	48.0	46.3	43.9
France	157.7	171.1	189.3	186.5	181.8	181.0
Italy	121.9	132.9	145.8	144.1	140.5	137.5
U.K.	215.3	204.3	203.8	196.1	193.9	193.4
West Germany	236.7	242.6	270.5	258.5	249.6	250.1
Middle East	69.2	94.6	117.1	121.0	127.0	130.5
Africa	91.5	106.2	164.7	176.7	183.5	189.5
Asia & Australia	504.5	604.7	735.7	745.5	744.2	759.9
of which:						
Japan	285.1	330.5	359.6	353.5	341.3	341.0
South Asia	91.9	105.7	142.9	152.4	163.5	172.1
of which:						
India*	64.2	89.4	109.0	119.3	127.0	134.0
Australasia	58.7	71.5	85.9	88.5	88.7	88.1
Total NCW	3767.4	4142.0	4695.1	4642.6	4573.7	4567.7
Centrally Planned Economies (CPES)	1403.6	1816.6	2199.8	2211.0	2283.9	2357.8
of which:						
China	283.7	410.4	518.0	506.3	523.1	553.3
USSR	748.9	969.8	1169.0	1210.6	1243.5	1286.5
Total World	5171.0	5958.6	6894.8	6853.6	6857.6	6925.5

Source : BP Statistical Review of World Energy, June 1984.

* = Estimated on the basis of Financial year data (despatches for coal and Oil products) using conversion factors as given *BP Statistical Review of World Energy- June, 1984.

COMMERCIAL PRIMARY ENERGY PRODUCTION AND CONSUMPTION BY COUNTRY GROUPS- 1970-1995

(Million b/d of oil equivalent)

COUNTRY	1970		1980		1995	
	Production	Consumption	Production	Consumption	Production	Consumption
1	2	3	4	5	6	7
I. Industrial Market Economics	43.2	63.1	49.9	74.2	69.1	92.0
Petroleum	12.6	32.1	14.1	36.8	13.5	34.1
Natural Gas	13.1	13.0	13.6	14.6	14.0	17.5
Solid Fuels	12.8	13.3	14.0	14.6	24.9	23.7
Primary Electricity	4.7	4.7	8.2	8.2	16.7	16.7
II. Non-Market Industrial Economics	28.0	27.2	45.0	43.2	63.2	62.5
Petroleum	8.1	7.8	14.8	13.9	15.7	16.3
Natural Gas	3.9	3.9	8.4	8.0	15.9	14.8
Solid Fuels	15.0	14.5	19.7	19.2	25.9	25.7
Primary Electricity	1.0	1.0	2.1	2.1	5.7	5.7
III. Capital Surplus Oil Exporters.	11.8	0.7	17.4	1.6	15.7	3.0
Petroleum	11.7	0.6	16.5	0.9	14.2	1.8
Natural Gas	0.1	0.1	0.9	0.7	1.5	1.2
Solid Fuels	---	---	---	---	---	---
Primary Electricity	---	---	---	---	---	---
IV. Developing Countries	18.0	9.0	22.5	15.9	42.5	33.1
i) Oil Exporters	14.6	2.9	16.9	5.1	29.0	11.1
Petroleum	13.6	2.0	15.0	3.6	21.9	5.9
Natural Gas	0.7	0.6	1.5	1.1	5.7	3.6
Solid Fuels	0.1	0.1	0.1	0.1	0.4	0.6
Primary Electricity	0.2	0.2	0.3	0.3	1.0	1.0
ii) Oil Importers	3.4	6.1	5.6	10.8	13.5	22.0
Petroleum	1.1	3.7	1.0	6.2	1.8	9.0
Natural Gas	0.2	0.2	0.4	0.4	1.5	1.6
Solid Fuels	1.5	1.6	2.6	2.6	5.2	6.4
Primary Electricity	0.6	0.6	1.6	1.6	5.0	5.0
TOTAL WORLD	101.0	100.0	134.8	134.9	190.5	190.6
Petroleum	47.1	46.2	61.4	61.4	67.1	67.1
Natural Gas	18.0	17.8	24.8	24.8	38.6	38.7
Solid Fuels	29.4	29.5	36.4	36.5	56.4	56.4
Primary Electricity	6.5	6.5	12.2	12.2	28.4	28.4
Bunkers & Others						

Average. Annual Growth Rate of World Supplies (%)

	1970-80	1980-95
Total World	2.9	2.3
Petroleum	2.7	0.6
Natural Gas	3.3	3.0
Solid Fuels	2.2	3.0
Primary Electricity	6.5	5.8

SOURCE : World Bank Development Report-1983.

PART - II.

PETRO-CHEMICALS STATISTICS

CHRONOLOGY OF SOME IMPORTANT EVENTS IN THE PETRO-CHEMICALS INDUSTRY IN INDIA

(A) ORGANIC INTERMEDIATES

(i) Durgapur Project Limited

1955: A State-sponsored Enterprise entitled 'THE DURGAPUR INDUSTRIES BOARD' was constituted with a view to develop an industrial complex at Durgapur under the State Control.

1959: In February, the Second Battery of the Coke Oven Plant was commissioned.

1960: In March, the first Battery of the Coke Oven Plant was commissioned. In June, the first two power generating units were commissioned.

1961: On 6th September, the Durgapur Project Ltd. was incorporated as a Private Limited Company. From 15th September, the Company took over the complex managed previously under departmental control of the Durgapur Industries Board.

1962: The Tar Distillation Plant with the capacity of 100 M.T. Cr. Coal Tar Distillation per day was commissioned in May.

1963: In July, a Gas-Grid along with a gas Compression & Gas Purification Plant was commissioned with a view to minimising the smoke nuisance at Calcutta.

1964: In order to meet the increasing demand of power, the Power Station was expanded, two more unit each with the capacity of 75 M.W. were commissioned.

1966: The fifth Power generating unit was commissioned.

1967: The third battery was commissioned on 17th April. To make economic use of high grade coking coal which is scarce in the country, a cyclone type Washery was built and commissioned.

1972: On 26th April, the fourth battery of the Coke Oven Plant was commissioned.

1975: T-he construction of an additional power generating unit with the capacity of 110 M.W. was planned and necessary clearance from the Government was obtained for inclusion of the same in the Fifth Five Year Plan Period.

1976: On 13th January, Alum plant was commissioned.

1977: In October, an all time record generation of about 105,000 M.W.HRS was achieved.

1978: In September, many equipments had severe demage due to flood.

1979: In July, construction of the 6th power generating unit of 110 M.W. capacity was started.

1980: Attempts were made for replacement of coke-oven Battery No.5 under DPL.

1982: Letter of intent was issued by the company to M/s Atto India (P) Ltd. for installation of coke-oven Battery No.5 consisting of 40 ovens.

1983: IDBI sanctioned loan amounting to Rs.11 crores for construction of fifth coke-oven Battery.

(ii) Durgapur Chemicals Limited

1963: On 31st July, Company was incorporated and Certificate of Commencement of Business was made.

In September, the assets and liabilities of this project were taken over by the Company.

A technical Consultancy Agreement was entered into with Krebs & Cie, Paris, Consulting engineers for providing technical know-how. Another contract was entered into with them for supply of foreign equipments and machinery under the Indo-French Credit terms. An agreement with M/s. Krebs & Cie India (P) Ltd., a Company sponsored by M/s. Krebs & Cie Paris was also entered into for procurement of equipment in India and engineering of utility services.

The construction work of the factory buildings at Durgapur was started.

1966: The construction work of the factory buildings was completed.

1968: In January, Phthalic Anhydride Plant was commissioned.

1970: In May, Phenol Plant was finally commissioned after repeated failures of guarantee test.

1983-1984: Phthalic Andydride plant had two major breakdowns of reactor first in June 1983 and second in January 1984 resulting in loss in production.

(iii) Herdillia Chemicals Limited

1963: On 1st July, the Company was incorporated.

1964: Agreement to lease about 300 acres of land at T-hana-Balapur Road, Thana (Maharashtra) from Maharashtra Industrial Development Corporation was finalised.

1965: An industrial licence for manufacture of various organic chemicals was received.

Agreements were signed with the Distillers Co. Ltd. (now BP Chemicals International Ltd., U.K.) for provision of technical know-how, patent licence fee and engineering services including services as engineering consultants in respect of construction.

Contracts for engineering, technical services and construction of the factory were placed with the Lummus Co., London and the Lummus Co., India.

In October, grading and levelling of the grounds at site was commenced.

1966: Agreements were entered into with Universal Oil Products Company, USA for obtaining exclusive non-transferable licence to use a U.O.P. catalytic condensation process for the manufacture of Cumene. The same was guaranted by U.O.P.

1968: On 18th February, the plant was inaugurated, Commercial production of phenol, acetone, diacotone, alcomol, phthalic anhydride and phthalates was also commenced.

1972: In November, the licenced capacity of Phthalates was increased to 5000 M.T. per annum.

1973: In January, there was a major fire in the reactor of Phthalic Anhydride plant causing extensive damage.

In December, a new reactor was fabricated indigenously in place of the earlier reactor which was imported and the plant was re-started.

Commenced recovery of crude acetophenone from Phenol Plant for sale.

1974: Through progressive debottlenecking the installed capacity of the phenol plant was increased to 14000 tonnes per annum.

The installed capacity of the Phthalates plants was fully established at 5000 tonnes per annum by installing minor balancing equipment.

1975: Phenolic tar was previously burnt in open pit. The operation was hazardous and pollutive. After prolonged research and development work, phenolic tar in a blend with other by-product streams, was used as a boiler fuel resulting in saving of approximately 1200 tonnes of fuel oil per year.

The Effluent treatment system was modified for effective removal of free oil and reduction in phenol content. Propane gas which was partly flared was wholly utilised for the burner of hot oil furnace.

The installed capacity of phenol plant was again increased from 14000 MT year to 14300 MT year by installation of balancing equipment.

1976: As a result of successful laboratory scale trials, Phenel content in the effluent was further reduced by dephenolation of waste streams.

A 750 KVA diesel generating set was installed to augment power supply.

1977: A second 730 KVA diesel generating set was installed to augment power supply.

R&D Laboratory was recognised by Department of Science & Technology.

1978: A stand-by 250 pisg package type boiler, 5000 KVA, 22/11 KV stand-by transformer and 75 tonne refrigeration stand-by units were installed.

1979: A third oxidiser in the Phenol plant was commissioned.

In September, a letter of intent was received for the manufacture of Alpha Methyl Styrene (900 M.T.) Acetephenene (500 M.T.) and Cumyl Phenels (900 M.T.). A pilot scale plant for manufacture of Alpha Methyl Styrene was also successfully commissioned.

1980: Based on Company's R&D process, a pilot plant for the production of 30 TPA of Diallyl phathalate was commissioned.

1981: The original industrial licence of the Company was endorsed for the manufacture of 900 TPA Alpha Methyl Styrene. 500 TPA Acetophenene, 900 TPA Cumyl Phenols and 360 TPA Fumaric Acid.

A letter of intent for the manufacture of 2000 TPA capacitor fluids and 6250 TPA Phthalates was received.

1980-81: Phenol Plant was modernised & renovated to increase the installed capacity to match with the licensed capacity of 15240 MTPA.

1981-82: Fourth oxidiser in Phenol Plant was commissioned.

1982-83: Industrial licence for recovery of Alpha Methyl Styrene was implemented and production started.

1983-84: Vacuum technology for Phthalates manufacture was introduced, energy conservation schemes were completed and manufacture of Di-iso-Octyl Phthalate was commenced.

(iv) Hindustan Polymers Limited

1961: The Company obtained industrial licence for the manufacture of alcohol and styrene, polystyrene and its co-polymers.

Technical collaboration agreements was finalised for the styrene monomer plant with M/s. Universal Oil Products, USA.

1962: Incorporated as Hindustan Polymers Limited.

1964: Collaboration agreements between the Company and BS Plastics Ltd., London for the supply of technical information for the manufacture of polystrene and its co-polymers were executed.

1965: Detailed contracts with Power Gas Corporation Ltd., U.K. and France for fabrication, procurement and supply of plant and equipment (imported) for distillary, styrene monomer and polystyrene plants and supervision of erection and commissioning of styrene monomer and polystyrene plants were executed.

Construction of buildings at factory site was commenced.

1967: Alcohol distillary commenced production.

1969: Polystyrene plant commenced production.

1972: The management of the Company was taken over by Delhi Cloth & General Mills.

1973: Styrene Plant was commissioned. But the capacity utilisation was low due to technical problems on account of bad and unproven technology for alcohol to ethylene manufacture.

1975: Improved alcohol to ethylene technology partially with own resources.

1978: Technical problems debottlenecking were accomplished by own staff without any foreign help and plant production capacity improved.

The management of the Company was taken over by McDowell & Company.

1981: The company commissioned a heat recovery scheme by installing imported convection box.

A collaboration agreement was signed with a French Company for process technology modernisation to reduce production cost.

Company received letter of intent for expandable polystyrene plant.

Technical collaboration Agreement for process technology for expandable polystyrene plant was signed.

Collaboration Agreement for process technology modernisation of another section of Styrene plant was signed with the existing American Collaborator.

1982: Company was formally amalgamated with M/s. McDowall & Co.Ltd.

1983: Licenced capacity was got endorsed for 13936 MTPA of styrene and 10156 MTPA of Polystyrene.

1984: Fluidised bed boiler with installed capacity of 45V/hr was commissioned.

(v) Indian Organic Chemicals Limited

1960: Company was incorporated.

1962: Commercial production of Acetic Acid was started.

1964: Ester Solvent Plant with own know-how started commercial production.

1969: Started indigenously fabricated plant for manufacture of Plasticizers.

Commenced production of Benzyl Chloride and Benzyl Acetate.

1970: Plasticizers Plant was expanded to its full licensed capacity of 10,000 M.T. per annum.

1971: Commenced production of Monochloro Acetic Acid.

1974: Exported Chemicals worth Rs. 43 lakhs.

1975: Expanded Benzyl Chloride capacity to 1,000 M.T. per annum.

1976: Acetic Anhydride Plant was constructed. Exported Ethyl Acetate worth Rs. 28 lakhs.

1977: Acetic Anhydride Plant was commissioned.

1979: Letter of intent for Microbial Auxillaries was received.

1981: Received Industrial Licence for manufacture of Microbial Auxiliaries.

1982: Commercial production of Dalapon, carboxy Methyl Cellulose and cinnamaldhyde was commenced.

1983: Company received letter intent for the manufacture of Glyoxal.

(vi) Indian Petrochemicals Corporation Ltd.

1950: Towards late 1950s Government evinced keen interest in the development of the Petro-chemicals Industry.

1960: A Committee headed by Prof. G.P. Kane submitted its report to Government setting out the main targets for chemical products for the Third and Fourth Plan Periods.

1963: Mr. V.E. Henny submitted his Report to the Government. A Planning Group on Petrochemicals Industries to recommend specific steps for implementation of petro-chemical project was appointed by the Government.

The Petrochemicals Division was created as a part of the Oil & Natural Gas Commission to take follow-up action on the recommendations of the Planning Group.

1967: In March, the Petrochemicals Division of ONGC submitted a detailed project report regarding the Gujarat Aromatics Project (GAP) to Government. Based on this Report, investment approval for the Project was obtained.

1968: Collaboration agreements for Aromatics Projects were concluded between Govt. of India and Fried Krupp GNBH Chemieanlagenbau of West Germany.

1969: In March, IPCL was incorporated and the Government assigned the agreements in respect of GAP to IPCL.

1970: On 24th January, foundation stone for Gujarat Aromatics Project was laid.

In May, detailed project Report for Gujarat Olefins Project was submitted to the Government.

F-oreign collaboration agreement for Naphtha Cracker Unit was signed with M/s. Lummus Company Ltd., U.K.

In June, detailed Project Report in respect of Acrylonitrile Project was submitted to the Government.

In September, collaboration agreement with M/s. Universal Oil Products Co., U.S.A. in respect of Benzene Extraction Unit was signed.

1971: In May, letter of intent were received for Gujarat Olefins, Acrylonitrile, Acrylic Fibre, Detergent, Alkylate, Ethylene Glycol, Polybutadiene Synthetic Rubber Polypropylene and Low Density Polyethylene Projects.

1972: On J-anuary 29, foundation stone for Gujarat Olefins Project was laid.

Foreign collaboration agreement for Butadiene Extraction Unit of GOP was signed in June.

Between June and November, foreign collaboration agreements in respect of polypropylene, Ethylene, Glycol Acrylonitrile Acrylic Fibre, Polybutadiene Rubber Low Density Polyethylene and Detergent Alkylate Projects were signed.

1973: In April, commercial production of DMT commended in Aromatics plant.

In August, commercial production of mixedxylene commended.

In September, commercial production of orthoxylene commenced.

1974: In March, regular production of para-sylene commenced.

Civil construction work in Low Density Polyethylene Project commenced in April.

In May, civil construction work on Ethylene Glycol and Detergent Alkylate Projects commenced.

In July, civil construction work on Polypropylene project commenced.

In September, a cooperative society Petrofils Co-operative Ltd. was formed to take over from IPCL further Implementation of Polyester Filament Yarn Project.

In October, civil construction work on Polybutadience Synthetic Rubber Project commenced.

In October, work on BBH Unit of GOP commenced.

1975: In March, Training Centre was inaugurated.

Civil construction work on Acrylonitrile Project commenced.

In April, civil construction work on Acrylic Fibre Project commenced.

In September, production of C9 Aromatics (a by-product of the Aromatics Plant) commenced.

The work on electrical installation for Naphtha Cracker and its offsites commenced.

1976: In January, mechanical erection of equipment and piping for Low Density Polyethlene Plant commenced.

In February, mechanical erection in the Detergent Alkylate Plant commenced.

Bridge loading to the radial well constructed in the Mahi river bed at Khandi launched.

The first phase of railway siding for handling the incoming machinery and equipment for various project was declared open.

In March, mechanical erection work of BBH Units of Olefins project commenced.

Civil works for R&D Centre completed.

Mechnical erection of the Polybutadiene Rubber Plant commenced in April.

Mechanical erection of equipment and piping work for the Polypropylene Project was also commenced.

Production of DMT in the Aromatics Plant reached its pro-rata installed/licensed capacity in April.

Mechanical erection work for Polybutadiene Rubber and Ethylene Glycol Plants commenced.

1976: (contd) 33 KV and 6.6 KV Power distribution system for the Olefins and seven downstream projects was commissioned in June.

Construction of radial well No.1 at Mahi river completed with its connecting bridge and commissioned in June.

In September, mechanical erection of Acrylonitrile Plant commenced.

Instrumentation erection for Low Density Pelyethylene Plant was inaugurated.

Erection of cold box for Air Separation Plant of the Integrated Offsites Project completed.

The textile equipment erection work started in Acrylic Fibre Project in November.

All the three chains of DM Water treatment plant in the Integrated Offsites Project commission in November.

Mechanical erection work for Acrylic Fibre Plant commenced.

In December, work on neutralisation facility for Pelypropylene Project commenced by M/s. Paramount.

Boiler No.1 for PBR Project completed and commissioned.

Construction of raw water reservoir and pump in UB-II completed service water system of UB-II commissioned for Polybutadiene Rubber Project.

Instrumentation erection for the Polypropylene Project commenced.

In December, mechanical erection of Refrigeration Plant for the Polybutadiene Rubber and Acrylic Fibre Plants commenced.

1977: In January, the vertical turbine aerator of the Central Water Treatment Plant and Rs.20 crores Water Systems Project for various plants of IPCL were commissioned.

Flushing and testing of charge gas system, regeneration gas system, cooling water systems of Naphtha Cracker Plant and civil works, for low Density Polyethylene Project was also completed during the month.

In February, letter of intent for DMT Expansion Project was received. Utility Block No.2 of IOP (all the three recirculating cooling water pumps and cooling tower) was commissioned. Trial runs of main DEMAG Air compressor of 02/N2 plant and the DRESSER Air compresser High purity Nitrogen Plant in IOP were also successfully completed.

In March, propylene compresser of polypropylene Project was erected and instrument erection work for Acrylonitrile and for Acrylic Fibre Project were awarded. N2/O2 Plant of Integrated Offsites Project was commissioned and trial run completed.

In April, the Gujarat State Safety Award was awarded to IPCL, Civil foundation for all the pumps in BPR Project and construction of cooling tower for Acrylonitrile Project was completed. Insulation work for LAB Project was also started and tender for LAB Plant laboratory building was issued. Air-conditioning of LAB control room building Pre-commissioning activities, checking out systems, indentification and hydrotesting of piping loops for LAB Project were taken up.

In May, Technical auditing of the Polybutadiene Rubber Plant was started in association with M/s Polysar's representative, erection of polymer dryer for Acrylic Fibre Project was completed and Caustic line unleading distribution system and DM Water distribution system was commissioned in IOP.

In June, pre-commissioning activities on all system relating to the solvent recovery and storage sections in Polypropylene project and on utility system except stream condensate and the D.M. water system in Polypropylene Project were completed.

Air-conditioning plant for control room building in Polypropylene Project and High Purity Nitrogen Plant for Integrated Offsites Project were commissioned. Technical audit of the Process area in Polybutadiene Rubber Project was also completed. Acid Prooflining work in Acrylic Fibre Project started.

Trial run of DM Water Treatment Plant to test its full head capacity was started in IBP and Process Water Treatment Plant in Integrated Offsite Project were mechanically completed.

In July, work on cooling tower in Ethylene Glycol Project. Tray erection work in all the three Towers of Polybutadiene Rubber Plant, Control room building air-conditioning system in PBR Project,

1977: (contd) cooling water re-circulation line and instrument air line from IOP to Linear Alkyl Benzene Plant and Jalampura redial well for water supply started.

GHH air compressor erection work for Acrylic Fibre Project, Erection and alignment of instrumentation control panel for AF Project and process water treatment plant under IOP integrated offsite Project commissioned.

In August, letter of intent for manufacture of 5500 TPA of Polyvinyl chloride was received. Engineering work for EG main plant as well as for ethylene oxide storage area and for Linear Alkyl B-enzene were generally completed.

In September, the Rs. 1 crore refrigeration plant for Polybutadiene Rubber Plant was inaugurated. Engineering work and BBH units and Polypropylene Project was completed. Ground floor air-conditioning plant in Acrylonitrile Project completed and was commissioned. Besides this phosphate testing pump for LAB/EG cooling water treatment plant under Integrated Offsite Project and fire Water Pump in IOP were commissioned.

In October, in-take of low Sulphur Heavy Stock LSHS) for the IPCL boilers from Gujarat Refinery commenced. Detailed engineering performance guarantee run of DM plant and LAB/EG hydraulic testing of chemicals design system in IOP, cooling tower for PE/PP was also mechanically completed and the fire fighting system in IOP was commissioned.

In November, the Rs.3 crores refrigeration system of Integrated Offsites Project was inaugurated. All civil and structural works including additional work for Ethylene Glycol Project completed. Detailed engineering work for Polybutadiene Rubber Project, Acrylic Fibre Project, Linear Alkyl Benzene (LAB) Project, all structural steel work in LAB Project and cooling tower for PP/LDPE were completed.

In December, all process systems except one of PGH, Benzene and Butadiene units flushed and tested. Low Pressure Steam, Cooling Water, instrument air, plant air and N2 flushed and commissioned. Contracts for chemicals cleaning for BHH units awarded and preparation for chemical cleaning in Benzene unit was started. Works like underground piping, equipment erection, aluminium piping and chemical cleaning for LDPE,

1977 (contd): Project were completed. Trial run for extruder with imported polythylene and for hyper compressor with Nitrogen in LDPE Project was also successfully completed. Investment approval for Polyvinyl Chloride, Acrylate and DMT Expansion Project was received from Government of India.

1978: In February, the call room of the hydrogen plant in propylene Plant battery was commissioned and power sub-station for the Acrylic Fibre Plant was inaugurated.

In March, Olefins plant was commissioned and critical power supply scheme for IPCL from Gujarat Refinery was started.

Pyrolysis Gasoline & Hydrogenation Unit was commissioned in April and the Butadiene Extraction unit of Olefins complex was commissioned in May.

In June, the first consignment of carbon black feed-stock was despatched to Gujarat Carbon Ltd., by road tankers.

In July, Ethylene Glycol, Polybutadiene Rubber, Low Density Polyethylene and Polypropylene Plants were commissioned.

In August, Benzene Extraction unit of Olefins complex was started.

In October, two major products, viz. 'Indethene' (Low Density Polyethylene) and 'Koylene' (Polypropylene) were released for sale. The first consignment of Benzene was also despatched to M/s. Polychem Ltd; Bombay.

In December, construction work in respect of Acrylonitrile and Acrylic Fibre projects was completed and commissioning activities were started in the Acrylonitrile plant. Foreign collaboration for setting up a Methyl Acrylate Plant was also approved by the Government during the same month.

1979: In January, Nitrogen plant was started and the Acrylonitrile plant was commissioned on 16th January.

On 30th March, the IPCL complex was formally inaugurated by the Prime Minister. Acrylic Plant was also commissioned during the same month due to which the entire Olefins complex went in production.

In May, IPCL won for the second successive year Gujarat State Safety Award. Site grading work for 2 x 12.5 MW Captive Power Plant for IPCL complex was commenced.

1979: (contd) In June, civil construction Work for Acrylate 10,000 TPA Project was commenced.

In September, Government of India approved the implementation of Petroleum Resins Project by IPCL and two days Exhibition was also held on the Acrylic Fibre products at IPCL Complex.

In December, production of Ethylene Oxide was commenced in Mono Ethylene Glycol Plant and approval of the Foreign Collaboration agreement in respect of VC/PVC Project was received from the Govt. of India. The Expert Committee on R&D appointed by the Government of India visited IPCL to review the work of IPCL R&D Centre.

1980: In January, extension of validity of letter of intent upto 27-2-81 in respect of DMT Expansion to manufacture 30,000 MTA was received from the Ministry. Design Conference in respect of VC/PVC Project was held with process Licensors in USA.

In February, foreign collaboration agreements in respect of VC/PVC Project was taken on record by the Govt. of India.

In March, civil construction work in respect of Time office, were housed and operational building of VC/PVC project was commenced.

In June, industrial licence for manufacture of 6000 MTA DMT, 60 MTA Methyl Benzeate and 40 MTA Dimethyl Isophthalate was received for DMT Expansion Project.

In August, letter of intent for manufacture of 5000 MTA Petroleum Resins was received.

In November, letter of intent for manufacture of 2500 MTA of Diethyl Glycol and 250 MTA Triethylene Glycol was received. A feasibility report in respect of FCCO Gas Utilisation Project, Baroda was submitted to the Government.

In December, preliminary feasibility reports in respect of T olune Extraction, Linear Alkyl Benzene Expansion, Kerosene Prefractionation, Naphtha Prefractionation, DMT expansion Phase II, Acrylic Fibre Expansion Projects were submitted to the Government.

1981: In March, industrial licence in respect of manufacture of solvents was received. Industrial Licence for manufacture of 55,000 MTA of Polyvinyl Chloride, 57,300 MTA of Vinyl Chloride & 100000 MTA of Ethylene Dichloride was received. Bhoomi puja of VC/PVC project was performed during the same month.

1981 (contd): In September, feasibility Reports in respect of DMT. Expansion Phase-II, Acrylic Fibre Expansion, Naphtha prefractionation/Xylenes Production, Kerosene Prefractionation/LAB Expansion were submitted to Government of India.

In November, extension of validity of letter of Intent upto 10-5-82 for the manufacture of Diethylene glycol (2500 MTA) and Triethylene glycol (250 MTA) was received.

1982: In March, a new product viz. Ammonium Sulphate with the annual capacity of 12,000 tonnes per year was included in the industrial licence issued earlier for manufacture of Acrylates.

In October, proposal of investment for expansion of DMT production capacity from 30,000 MTA to 40,000 MTA was approved by the Government.

In November, first phase of expansion of the DMT plant capacity from 24,000 MTA to 30,000 MTA was completed and commissioned.

In December, investment proposals for setting up facilities for production of additional xylenes at 56,000 MTA, Acrylic Fibres 42,000 MTA, polpropylene (25,000 MTA) and Disobutyl was approved by the Government.

1983: In April, industrial licences for manufacture of 2500 tonnes p.a. of Di-ethylene Glycol, 250 tonnes p.a. of Tri-ethylene Glycol and 5000 tonnes p.a. of Petroleum Resins were received.

In July, letters of intent for increasing the production capacity of DMT from 30,000 tonnes to 40,000 tonnes per annum and for the manufacture of 2500 tonnes p.a. of Polypropylene Co-polymer were received. Approval for investment of Rs. 18.38 crore for Linear Alkyl Benzene Expansion project was also received.

In August, Industrial Licence for the manufacture of Linear Alkyl Benzene from 30,000 to 43,500 tonnes p.a. was received. Foreign collaboration Agreement with M/s. Du Pont, USA for the manufacture of 12,000 tonnes of Acrylie F-ibre bicomponent under the expansion programme of Acrylic Fibre Plant was received.

1984: In January, production of four major Acrylates viz. Methyl Acrylates, Ethyl Acrylates, 2-Hexyl Acrylates and Butyl Acrylates was commended on a regular basis.

1984 (contd): In March, Construction of India's largest VC/PVC Plant at the cost of Rs. 75 crores was completed and production of Ethylene Dichloride (EDC) and Vinyl Chloride Monomer (VCM) was commenced.

(vii) Mysore Petrochemicals Limited

1969: On 9th June, the Corporation was incorporated in the name of Premier Petrochemicals Ltd.

1970: On 3rd September, the name was changed to Mysore Petrochemicals Ltd.

The project was promoted by the Karnataka State Industrial Investment & Development Corporation Ltd; Bangalore and Shekhavati Investment Corporation Ltd; Calcutta.

1972: On 4th August, the Industrial licence for the manufacture of 6000 tonnes Phthalic Anhydride per annum and 3000 tonnes Plasticisers per annum was issued to the Company.

1976: On 16th May, commercial production of Phthalic Arhydride was commenced.

1980: To meet with large shortfall in power, one 1100 KVA/11 KV 'SKL' DG set together with two other DG sets of 250 and 166 KVA respectively were installed. Implementation of Phthalate Plasticiser Projects was in progress.

1982: On 1st March, letter of intent for increasing manufacturing capacity of Phthalic Anhydride upto 12,000 tonnes per annum was received. Implementation of Phthalic Anhydride expansion project was in progress.

1983: First stage of expansion of production capacity to 9500 MTPA was implemented successfully.

(viii) National Organic Chemicals Industries Ltd

1961: On 11th May, the Company was incorporated.

1964: In July, various technical collaboration and Engineering Agreement with Companies of Royal Dutch Shell Group of Companies were signed.

In August, industrial licence was granted.

1965: In January, ground was broken for the construction of the complex.

In December, foreign currency loan agreement was signed with Shell Petroleum.

1966: Rupee loan agreement was signed with Indian Financial Institutions and SBI.

1968: In January, NOCIL Petrochemicals complex was inaugurated.

Installation of naphtha pipe line along the Eastern Express Highway was completed.

In March, first delivery of Ethylene to Polylefins Industries Ltd. was made.

Various plants of the complex such as Glycols Plant, PVC Plant and Solvents Plant were commissioned.

1969: In September, Alcohols Plant and PVC Compounding Unit were commissioned.

1970: In September, Technical Service Laboratory was inaugurated.

In October, a Jetty for bulk exports was completed.

1974: Naphtha Pipe Line from Burmah-Shell Refineries to the factory was installed.

1978: NOCIL launched a programme for integrated rural development to raise the poverty line in Yavatmal district of Maharashtra with 2500 families living in backward and draught prone villages.

1980: New site in backward area of Ratnagiri, Maharashtra was selected for Agrochemicals operations.

1981: R&D Centre was constructed, Effluent Treatment Plants Phase I & II were completed and work on Monocrotophos Project was started.

Government's approval for revamping of certain plants and industrial licence for Monocrotophos was obtained.

1982: In November, Phase II of effluent T-reatment plant was completed.

1983: Computer Centre was opened and PVC compounding plant was modernised.

(ix) Polychem Limited

1955: Company was incorporated.

1957: On 26th May, the Polystrene plant was brought on stream.

On 16th June, the plant was formally inaugurated.

1958: Facilities for production of High Impact Polystyrene Sheet were commissioned.

1959: Production capacity of the plant was doubled to 12 million lbs (5500 tonnes) per years.

1960: In February, an industrial licence was obtained for establishing a Styrene Monomer plant of 6,800 tonnes/year in Bombay in technical collaboration with the Dow Chemicals Company, USA.

In August, another industrial licence for establishing a 5,450 KL/year Alcohol Distillery in Maharashtra was also received.

1962: The authorised capital was increased from Rs.150 lakhs to Rs.5 crores and subscribed equity capital from Rs.40 lakhs to Rs.56 lakhs.

1963: In August, Styrene Monmor and Alcohol Plants were brought on stream.

1964: The capacity of Styrene and Polystrene plants were increased to 10,000 tonnes per year and that of Alcohol Distillery to 9,090 KL per year.

1967: Started export of substantial quantities of Polystyrene directly.

1968: With the availability of petro-based ethylene and B-enzene, the capacity of styrene plant was further increased to 14,000 tonnes per annum, without any foreign technical help of collaboration.

1972: A pilot plant for the manufacture of 150 tonnes/year Divinyl benzene Monomer was brought on stream based on the know-how developed by Research & Development work carried on since 1968.

Production of natural spirit and Indian made foreign liquors as well as Country Liquors was started utilising surplus alcohol subsequent to the availability of Petroethylene.

1973: During the period 1964 to 1973 the Company increased its equity capital from Rs.56 lakhs to Rs.160 lakhs by issue of 'Bonus Shares'.

1974: Production capacity of the Polystyrene plant was increased to 16,000 tonnes per year.

Polystyrene Plant received second prize for the reduction in frequency rate of accidents for the period 1972-74 from the Council of Industrial Safety.

1974: (contd) Company received a letter of intent for the manufacture of 2,000 tonnes per year of acrylonitrile Butadiene Styrene (ABS) resins at Koyali in Gujarat State. A pilot plant with a capacity to produce one ton/per day of ABS resins was commissioned in November for developing.

Indigenous commercial technology based on bunch scale work done by Sri Ram Institute for Industrial Research on the manufacture of ABS resins, for which know-how was purchased through National Research Development Corporation of India.

1975: Divinyl benzene plant of 150 tonnes/year capacity was built based on self developed technology.

T-o improve gloss and abrasian resistence and sales appeal of Polystyrene, technology for production of suitable overcoat lacquer (Butylated melamine For-maldehyde lacquer) was developed and sold to N.G. Industries, Bombay for production on commercial basis.

Bunch scale technology for making styrene based on exchange resins was developed.

1976: Received a letter of intent for manufacture of Vinyl Acetate Monomer by Ethylene route in Maharashtra State.

Foreign collaboration proposals and import of technology for this project were approved by the Government.

1977: Industrial licence for the manufacture of 2000 MTPA of ABS resins at Baroda, Gujarat was received.

Contract for detailed engineering for ABS plant was awarded.

Technical collaboration agreement with Bayer A.G., West Germany for Vinyl Acetate Monomer Project was signed.

1978: Equity capital was increased from Rs.160 lakhs to Rs.200 lakhs by issue of bonus shares.

1979: Successfully commissioned the 2000 MTPA ABS plant at Baroda.

Capital goods Licensing Committee cleared the import of capital goods for the Vinyl Acetate Monomer Project.

Received an Industrial licence for the manufacture of 5000 tonnes per annum Vinyl Acetate Monomer.

1979: (contd) Sanction letters of financial assistance for VAM project was received from financial institution. 50,000 10% redeemable Mortgage Debentures of Rs.100 each for cash at par were subscribed by members, depositers and associate companies, etc.

1981: Letter of intent for the expansion of the Vinyl Acetate Monomer (VAM) Plant from 5,000 MTPA to 10,000 MTPA was received.

Production of Styrene, Polystyrene, industrial Alcohol and other products was seriously hampered during the year due to fire at the Polystyrene Plant followed by the strike of the workmen from 23-3-81 to end of F-ebruary, 82.

1982: Construction of VAM plant of 5,000 MTA was almost complete for commissioning in June, 82.

1983: Vinyl Acetate Monomer Plant of 5,000 MTPA capacity was commissioned.

(x) Sirsilk Limited

1946: The Company was incorporated.

Collaboration agreement was entered into with M/s. Lansils Ltd., of Lancaster, England.

1954: Bleached cotton linter pulp, Cellulose Acetate Plant, Acetic Acid Plant, Acetic Anhydride Plant, Acetone Plant, Acetate Rayon Filament Yarn, and Ethyl Acetate plants were commissioned during the year.

Collaboration agreement with M/s. Lansils Ltd. of Lancaster, England was terminated.

1955: Weaving Unit was commissioned with 480 Looms having yearly production capacity of 95 lakhs metres of Artsilk Fabrics.

1956: Licence for substantial expansion was granted.

1960: Licence was granted for substantial expansion for Weaving Plant Unit.

1964: Annual installed capacity of the Plant was increased.

1965: Installed capacity of the plant was increased.

1966: Production of Acetate Staple Fibre was commenced.

1968: Part of Looms were diverted for manufacture of Synthetic fabrics.

1974: Research and Development Division and Technical Consultancy Service Unit for rendering Technical know-how and other Engineering services for manufacture of chemicals etc. were established.

1975: Process know-how was offered to manufacture chemicals such as acetone, acetic acid, acetic anhydride etc.

1979: In order to diversify production on Synthetic line, latest type of processing machineries like Hot Air Stenter, Beam Dyeing machine and Thermo Pack Unit were installed.

1981: Scheme for modernisation of Cellulose Acetate, spinning and Weaving plants was forwarded by Ministry of Commerce to Industrial Development Bank of India, Bombay for consideration under the Soft Loan Scheme.

1982: Plant for Acetic Anhydride at Nandesari was commissioned.

(xi) Somaiya Organics (India) Limited

1964: On 1st June, the Company was incorporated under the Companies Act, 1956.

1967: The Company acquired a Distillery at Captainganj, Dist. Deoria, U.P. from M/s. Godavari Sugar Mills Ltd., who are the promoters of the Company.

1969: Civil construction work of the factory was commenced.

1970: Erection of Butanol and Butyl Acetate plants was completed and trial production was undertaken on 11th November.

1971: Erection of Acetic Acid plant was pompleted and it was commissioned.

1972: A Research & Development Wing was started. After Laboratory trials production of Paraldehyde, a chemical which was till then being imported in the country was commenced.

1973: A pilot plant for production of Plasticizers was erected and manufacture of a 'Solvent' by name 'Solvent-72' which could be made available to the Paint Industries at much cheaper rates compared to other solvents of same effectiveness, out of a waste which was till then being drained out, was started.

1974: A third Furnace was added in the Main Plant. Trial Production of Ethyl Acetate was also commenced. Organic chemicals were exported to Japan and Far East countries.

1975: Commercial production of Ethyl was started on a regular basis. Further, installed capacity of Acetic Acid Plant was increased to 5700 tonnes per annum.

1976: Erection work of an independent Mini Plant for production of Paraldehyde and Plasticizers was started.

1978: Installed capacity of Acetic Acid Plant was increased to 7600 tonnes per annum.

1980: Letter of intent for production of 300 lakh litres per annum of Alcohol was received and application of industrial licence was made.

1981: Industrial licence for production of 300 lakhs litres per annum of Alcohol was issued by the Government.

1983: Energy Saving equipment by utilisation of Hydrogen coming out of the Acetaldehyde Plant was installed and commissioned.

1984: Additional Acetaldehyde plant by oxidation plant was installed.

(xii) Union Carbide India Limited

1926: Eveready Company (India) Limited started manufacturing flashlight batteries in Calcutta.

1934: The Eveready Company (India) Limited was incorporated in India as a Private Company.

1941: National Carbon Company (India) Ltd. was formed to assume both manufacturing and selling functions. This was a fundamental beginning of the Company in India.

1961: Chemicals and Plastics plant was commissioned in Bombay.

1966: The Company expanded its Chemicals and Plastics operations and set up India's first Petro-chemicals Complex at Bombay.

1977: The Company received letter of intent to increase the Low Density Polyethlene production capacity to 20,000 tonnes per annum. The letter of intent was converted into an Industrial Licence.

1978: The Company received letter of intent to manufacture 1000 tonnes of 2 Ethyl Hexoic Acid and 500 tonnes of 2 Ethyl Hexyl Acetate for implementation in the existing facilities at Trombay.

1979: Implementation of industrial licence for substantial expansion of the Bombay Plant of 20,000 tonnes per annum of Polyethylene was completed.

1982: Industrial licence for the manufacture of 35 tonnes of catalysts for captive use was received.

1983: Capacity for LDPE was re-endorsed at 26,549 TPA.

(xiii) Bongaigaon Refinery & Petrochemicals Ltd.

1974: On 20th February, the Company was incorporated in Assam under Companies Act, 1956, with an authorised capital of Rs.50 crores.

1977: The share capital of the Company was increased to Rs.100 crores and work on xylene and DMT Units was started.

1978: Work on petrochemicals offsites was started.

1979-80: The implementation of Xylene and DMT Projects and selection of foreign technology for polyester Fibre Plant was under way.

1980-81: Work on the Xylene, DMT plant and the offsites Phase-II was progressed further.

The technology selected for the Polyester Staple Fibre Plant was approved by the Government.

1981-82: Work on Polyester Staple Fibre Plant was started.

1982-83: In July, basic engineering package of Polyester Filament Plant was finalised.

In October, Nitrogen Plant offsite was mechanically completed.

(B) PLASTIC RAW MATERIALS

(i) The Alkali & Chemicals Corporation of India Limited

1937: The Company was incorporated with a share capital of Rs. 35.34 lakhs of which preference capital was of the order of Rs. 31.00 lakhs and equity Rs. 4.34 lakhs. Out of the equity shares, 1 % was held by the Indian public and balance 99 % was held by ICI (India) Private Ltd., a wholly owned subsidiary of ICI(U.K.)

1940: Production of caustic soda/chlorine plant was started at Rishra in West Bengal.

1949: A hydrochloric acid plant with a capacity to produce 2,400 m.t.p.a. was put up at Rishra.

1952: A plant to produce 2,800 KL of nitrocellulose and synthetic paints per annum was installed at Rishra.

T-he capacity of the caustic soda/chlorine plant was expanded to 5,690 m.t.p.a. of caustic lye on 100% basis and 5200 m.t.p.a. of Liquid Colorine.

A benzene hexachloride plant with a capacity of 500 tonnes was set up at Rishra.

1958: Equity share capital of the company was expanded to Rs.310 lakhs by a fresh issue, with this issue the shares held by the Indian public went up to 24.1% and the remainder 75.9% held by ICI(India). Later 56.5% of the equity held by ICI (India) was transferred to ICI(U.K).

1959: Polyethylene plant was set up at Rishra.

1963: The Company set up India's first rubber chemicals plant.

1965: The capacity of the polythene plant was expanded to 10,000 m.t.p.a. and that of the paints plant to 4,700 kl. per annum.

1966: The capacity of the rubber chemicals plant was expanded from 2250 to 2700 tonnes per annum.

Equity share capital was increased to Rs.434 lakhs by the issue of bonus shares.

1967: The capacity of the BHC Technical plant was expanded to reach a figure of 5,200 m.t.p.a.

1971: A new paints plant with a capacity of 2350 kl. p.a. was set up at Hyderabad.

1974: An industrial licence for expansion in the capacity of the rubber chemicals plant to 6,000 t.p.a. and 2500 t.p.a. of diphenylamine was received.

Received an industrial licence to put up a pharmaceuticals plant in Madras.

1976: Industrial licence for manufacture of 2500 KL per annum of Gramexane Bipyridilium Herbicide was received and work commenced. Agro-chemicals screening station at Bangalore was also inaugurated.

1976: (contd) Expansion work for rubber chemicals was commenced.

Equity holding in the company was diluted resulting in reduction of ICI(U.K.) interest to 51% and ICI (India) to 9%.

1977: Production at the formulation unit of the pharmaceuticals plant was commenced.

1978: Production at the Gramoxone and Bulk Drung Plants was commenced.

1982: In July, the company ceased manufacture of caustic/chlorine/Hydrochloric Acid.

(ii) Ahmedabad Manufacturing & Calico Printing Company Limited.

1880: Calico (T-extiles) was established at Ahmedabad. The Company is now Public Company with limited liability. Today it was three Main Division - Textiles, Chemicals Plastics and Fibres and Marketing Division and four wholly owned subsidiaries as under:

(a) Ilac Limited
(b) Rajindra Dyeing & Printing Mills Ltd.,
(c) Gujarat Nets Ltd.,
(d) Verma Industries Ltd. (Subsidiary of Rajindra Dyeing & Printing Mills Ltd.)

1958: A common industrial licence for the manufacture of Calcium Carbide and Polyvinyl Chloride was obtained. Permission to manufacture PVC Fabricated products was also obtained on the same licence.

1959: Industrial licences for manufacture of Polyvinyl Alcohol, Plastic Moulded and Extruded Articles was obtained.

1960: Industrial licence for manufacture of PVC coated wires & cables was obtained.

1961: The Industrial licences for manufacture of calcium Carbide, Polyvinyl Chloride, PVC Fabricated products, Plastic Moulded & Extruded Articles and PVC coated wiring and cables Articles were implemented.

1965: Polyvinyl Alcohol Plant was commissioned.

1967: Industrial licence for effecting substancial expansion of Polyvinyl Chloride & its Copolymers was obtained.

1973: P.V.C. (Bulk Polymerisation) plant was commissioned.

1976: On 28th February, the Company obtained industrial licence for manufactures Polyvinyl Pyrrolideone.

1978: Polyvinyl Pyrrolidone plant was commissioned.

(iii) Bakelite Hylam Limited

1947: On June 18, Hyderabad Laminated Products Limited was incorporated in the Nizam's Dominion of Hyderabad.

1949: Plant from U.K. arrived and erection was started.

1950: Erection of plant and machinery was completed.

1951: Started trial production with imported varnishes of Laminates for panelling.

Managing Agency changed from the promoters, Khan Bahadur Ahmed Alladin & Co. to Best & Company (Company) Limited.

1953: V-arnishes developed indigenously.

Manufacture of Laminated Wood commenced under the trade Mark HYPLY.

1955: Manufacture of high electrical grade laminate commenced.

1958: Manufacture commenced of laminates of very high electrical properties as also Asbestos-based Laminates and Decorative Veneers.

1959: Laminate Expansion sanctioned.

Licence received for manufacture and sale of Polyester Resins Phenolic Resins, and Moulding Materials.

1962: Trial production commenced of Laminates on the new Press.

Trial production of Polyester Resins, Phenolic Resins and M-oulding Materials commenced.

1963: Progress in the development of new grades of Polyester Resins, phenolic Resins and Moulding Materials.

1965: Name of Company changed from Hyderabad Laminated Products Limited to Hylam Limited.

1967: First export of Industrial Laminates to Holland.

1968: Industrial Laminates exported tomHolland, West Germany, Sweden, U.A.E.

1969: Hylam Limited and Balkelite (India) Private Limited merged to form Bakelite Hylam Limited on 4th December.

1970: Expansion taken in hand.

1971: Expansion work on schedule. Press No.30 installed and production started.

1972: Sophisticated 4-Colour Printing Machine installed for Decorative Papers.

1973: Buildings for Thixotropic Plant and storage of Polyester Resins completed.

New Polyester still installed and production started.

Glass-Epoxy and Cold-punching Laminate Grades Developed.

1974: Expansion completed. Two Boilers converted to Coal-firing Diesel Goneration installed.

1975: Introduced a range of High-quality Insulating Phenolic Varnishes for the Electrical Industry.

1977: Rigid PF foam was developed in R&D Laboratory of the Company.

1978: Application for an industrial licence for the manufacture of Rigid PF foam developed in company's R&D Laboratory, was made to the Government.

1979: Effluent treatment plant was established at the factory for pollution control.

A new material, Phonolic Foam Based Marine Board, was developed at company's R&D Laboratory, to replace imported asbestors-filled Marine Board used in ship building.

1980: Letter of intent for the manufacture of Rigid PF foam and Phenolic Foam based Marine Board were received.

1981: Letter of intent for the manufacture of Marine Board and expansion of Industrial Laminate capacity was received.

1982: Non-resident's interest in the company was reduced to 40% of the paid up capital.

1983: Annual licenced capacity for Phenolic Moulding Powders was increased from 1200 MT to 1893 MT.

Expansion project was completed.

Agreement for upgrading technical know-how on Fired Retardant grades of Copperclad Laminates was signed with Bakelite U.K. Ltd.

(iv) Chemicals and Plastics India L-td.

1961: In May, Licence was granted to the India Cements Ltd. to manufacture 6,000 tonnes per annum of PVC resins/compounds-

1962: Company was incorporated.

In November, original licence was changed to the name and style of Chemicals and Plastics India Ltd.

1963: Certificate for commencement of business was issued.

Licence was granted to manufacture 1,500 tonnes per annum of PVC pipes and fittings, other extrusions and mouldings (rigid & flexible) in January.

1967: In May, PVC plant was inaugurated.

In July, commercial production of PVC resins was commenced.

1969: Production of PVC pipes was commenced.

1970: Industrial Licence was issued for expanding PVC capacity to 20,000 tonnes per annum.

1971: Successful commercial production of gramophone record was compounded.

1972-73: Intermediate stage of expansion of PVC capacity to 13,500 tonnes per annum was completed.

1975: Permission was granted by the State Government to set up a cap-tive distillery for production of industrial alcohol.

In December, Industrial Licence was granted for production of 3,500 tonnes of PVC pipes per annum.

1976: Entered export market for PVC conduit pipes and fittings.

1978: Debottlenecking programme to achieve an initial rated capacity of 16,500 tonnes of PVC resin was commenced.

1978: (contd) In October, production of Inndustrial Alcohol in the captive distillery unit at Krishnagiri was commenced.

Government approval was received for effecting substantial expansion for manufacture of Rigid PVC pipes and fittings, other extrusions and mouldings to an annual capacity of 6,000 tonnes.

1979: Debottlenecking programme to achieve 20,000 tonnes of PVC resins was in progress.

The company entered into an agreement with the BP Goodrich Co. for the introduction of VCM Technology.

1980: Debottlenecking programme to achieve 20,000 tonnes of PVC resins per annum was completed.

Production had to be suspended due to workers strike from February 12 to April 16.

1982: Project for VCM containment technology was completed and the plant was commissioned. Production of PVC resin was shifted from alcohol and chlorine to Ethylene dichloride an imported intermediary raw material. The plant also shifted from FO to LSHS as fuel. The licenced capacity for PVC pipes and fittings was also increased to 10,250 MT p.a. during the year.

1983: Project for enhancing the paste resin capacity from 640 tons to 900 tons per month was completed and the plant was commissioned. New PVC resin for application in high speed coating of fabric and battery seperator was successfully developed.

(v) Chemi-Pharma Laboratories Limited

1970: Diversification and expansion programme was undertaken to maintain sufficient diversity of products and product lines. The necessary land was acquired at MIDC Industrial Area, Kalyan Hiwandi Road.

1971: First stage of gradual diversification costing about Rs.20 lakhs was completed with commissioning of plant to manufacture Urea F-ormaldehyde & Melamine formaldehyde moulding powders.

1972: Commercial production of Urea- Formaldehyde & Melamine formaldehyde powder was started.

1975: An improved pullveriser was installed which could pullverise the sheets into fine granules without any increase of temperature.

1976: Manufacturing technology of Indigo Vat Blue was developed in the R&D Department of the Company.

1977: New /improved process of manufacture of Niacinomide IP and Isomizal IP was developed. Development of Solid Resins of Urea and Melamine for Industrial application was also done.

1978: Manufacture of Indigo, Urea Formaldehyde and Melamine Formaldehyde was suspended due to market conditions.

1979: Manufacturing technology of Analgin and Melronidozoli was developed in the R&D Department of the Company. Process was also tried on pilot scale with satisfactory results.

1980: Manufacguring technology of Trimethoprim was developed in R&D Department of the Company.

(vi) East Anglia Plastics (India) Limited

1956: The Company was incorporated in West Bengal with an authorised capital of Rs.5 crores.

Government approval to manufacture Cellulose Acetate Moulding Compound and PVC Compound in technical collaboration with East Anglia Plastics Ltd, U.K. was accorded.

1961: Government modified terms of collaboration with East Anglia Plastics Ltd., U.K. and collaboration agreement was made.

Trial production was commended.

1962: Production of Cellulose Acetate Moulding Compound was commenced.

1963: Further share capital of Rs.85 lakhs was raised. Industrial Licence for manufacture of 1000 tonnes Phthalate Plasticisers was received and foreign collaboration was approved by Govt.

1964: Capital Goods Import Licence for Phthalate Plasticisers was received.

1965: Manufacture of PVC Compound was commenced.

1966: Production of Lighter Phthalates was commenced.

1967: Production of Heavier Phthalates was commenced and Industrial Licence for Plastic Films, Foilsand Laminates was received.

1968: Industrial Licence for expansion of capacity of Phthalate Plasticisers to 2000 tonnes was received.

1970: Industrial Licence for expansion of capacity of Phthalate Plasticisers to 5,000 tonnes was received.

1971: Letter of intent for manufacture of Phthalic Andydride one of the major raw materials for Phthalate Plasticisers was received.

1972: Industrial Licence for Phthalate Plasticisers was endorsed by Government for production upto the installed capacity of 8,500 tonnes.

1973: Production of Plastic Films and Foils was commenced.

1974: Industrial Licence for 6,000 tonnes of Phthalic Anhydride was received.

1975: Letter of intent for production of Malathion was received.

1976: A process for manufacture of Titanium Dioxide from an industrial waste was developed by R&D Laboratory and provisionally patented.

1977: Successful Pilot scale trial of the process for manufacture of Titanium Dioxide including a catalyst for Fertilizer Industry as a by-product was made.

1979: Trial production of ABS Plastic Sheets, a new kind of Plastics introduced in India, was commenced.

1980: Production of Polythene Master Batches in compounding was taken up and successful trials for different t types of plastics were made in the Film & Foil Division.

1981: Letter of intent for production of 350 MT p.a. Plastic Moulded Goods was received.

1982: Trial production of Polyester Cast films was successfully completed.

(vii) Indian Plastics Limited

1946: M/s. Bestolite Moulding Company of India, a British firm having its factory at Jogeshwari taken over in 1944 by BIRLA BROTHERS was named as INDIAN PLASTICS LTD.

1947: The manufacturing work of Phenol Formaldehyde Moulding Power was started for using the same in its compression moulding section, where mainly Electrical Accessories were being produced. On Injection side, house-hold products in plastics were produced and sold for home consumption.

1948: The manufacture of thermosetting Synthetic Resins for commercial sale was undertaken.

1950: The factory was shifted from Jogeshwari to a more spacious site at Poisar Bridge Kandivli, Bombay.

Started manufacturing of Valve set Radios with the technical know-how from LEYLAND'S INSTRUMENTS LIMITED, LONDON.

1956: Started manufacture of Urea Formaldehyde Moulding Powder.

1962: Entered into collaboration agreement for 10 years with BAKELITE GESELISCHAFT MBH, West Germany for the technical know-how for the manufacture of thermosetting moulding powder-Phenol Formaldehyde, Urea Formaldehyde and Synthetic Resins for various Industrial applications.

1964: Started the manufacture of Melamine Formaldehyde Moulding Power.

1967: Research & Development Department was set up and started accepting custom mouldings to meet the specific requirements of the industries in different fields right from development of powder and moulds.

1972: Rayon Spinning Bucket was manufactured from technical know-how developed at R&D Section for the first time in India.

1976: Many new types of Phenolic Moulding Powders and resins (mainly for import substitution) were formulated by the R&D Division of the company.

1977: R&D Laboratory was recognised by the Government of India, Department of Science & Technology.

Licence under IS Specification 3389 - 1965 for U.P. Moulding Powder was received.

1978: Development and Commercialisation of special, P.F. Moulding and M.F. Moulding Powder.

1979: Special P.F. Moulding Powders based on Nylon, Mica, Glass, etc. were launched.

1980: Developed P.F. Moulding Powder and substitutes for various types of imported rubber grade/resins.

1981: Designed and installed pilot plant for the bulk trials of special types of polyester resins. Injection grade P.F .Moulding material was also developed.

1982: Special items like Fibre tube blonks, injection grade Phenolformalorehyde moulding powders were developed.

1983: More injection grades of Phenolic moulding powder were introduced and number of rubber grade resins were commercialised.

(viii) Mysore Acetate and Chemicals Co.Ltd.

1963: On 24th December, the Company was incorporated under the Indian Companies Act with its registered office at Bangalore to manufacture various derivatives of cellulose like Cellulose Triacetate, Cellulose Diacetate and Cellulose Acetate Moulding Granules. The company was formed with the main object of supplying Cellulose Triacetate to M/s. Hindustan Photo Films Mfg. Co. Ltd., Otacamund, Tamil Nadu.

1964: On 25th May, certificate was issued for commencement of business.

1965: Entered into collaboration with M/s. Vankoharn Inc. U.S.A. for supply of plant and machinery for the manufacture of Bleached Cotton Linters, Cellulose Triacetate, Cellulose Secondary Acetate and Cellulose Acetate Moulding Granules and with M/s. A.B. Chematur of Sweden for the supply of plant and machinery for the manufacture of Acetic Anhydride.

1967: The construction of factory buildings and erection of plant and machinery was started.

1968: Acetic Anhydride plant was put into operation in July after completion of trial runs. The moulding compound plant began trial production of Cellulose Acetate Moulding Granules with imported flakes.

1969: Started supplying Cellulose Triacetate to Hindustan Photo Films during the latter part of the year, thus saving considerable amount of Foreign Exchange. The other plants like, Bleached Cotton Linters, Cellulose Triacetate etc. was commissioned and production started with effect from 1st July.

1970: Cellulose Secondary Acetate Plant went into trial production viz. Triacetate route and Dil. Acetic Acid Plant also went into trial production. All the foreign technicians were withdrawn and the Company was manned entirely by Indian personnel. The Ethyl Acetate plant was also commissioned during the year.

1972: The plasticizer unit, i.e. Diethyl Phthalate was commissioned in July to manufacture Diethyl Phthalate required for captive use. The plant was designed and commissioned entirely by the Company personnel

1974: The direct solution process for the manufacture of Cellulose Secondary Acetate was commissioned in September.

1975: The Secondary Acetate solution process was established and all grades of CAMG were reformulated to adopt to the cellulose acetate flakes produced by the solution process.

1977: The Company installed and commissioned two Diesel Generators sets of 210 KV each to meet the chronic power shortage of the State.

1978: Registeration for manufacture of Cellulose Acetate Butyrate (CAB) was entered with DGTD and also applied for registration for installation of a 20 tonne per day alcohol based acetic acid plant.

1979: Applied for letter of intent for manufacture of Cellulose Triacetate based photo Films viz. X-ray, Roll and cine, in colour and in black & white, Graphic Arts and photopaper.

1980: Company developed and started manufacture of Di-Ethyl Pthalate of Agarbati Grade.

1981: Manufacture of Ethyl Acetate was started.

1982: In order to bring down fuel consumptior, contract for a Producer Gas Plant of 40 tons per day capacity was finalised.

(ix) Nuchem Plastics Limited

1951: Started as Button moulders, Rattanchand Harjasrai (Plastics) Ltd. at Amritsar with a paid up capital of 3.11 lakhs.

1952-54 Developmental work on moulding powders and collection of valuable data regarding manufacture of U.P. Moulding Powder in tropical conditions was undertaken.

1955-56: Agreement was concluded with M/s. British Industrial Plastics (Chemicals) Ltd. Birmingham for Technical Collaboration.

1957: U.F. Moulding Powder production was started.

1959: Expansion for 840 tonnes of Urea Formaldehyde and for 250 tonnes of Malamine Formaldehyde Moulding Powders was sanctioned. A licence to manufacture Urea Formaldehyde Resins 1800 tonnes per annum was also received.

1962: Expansion was completed. Production on new plant was started. The company received a Licence to Manufacture 192 Compression and Injection Moulding Tools per annum.

1965: Resin plant was commissioned.

1970: Formaldehyde plant was installed.

1971: International Division was set up to accelerate exports, Production of 5000 tonnes Moulding Powders per annum was taken up.

1972: Research & Development Centre started functioning.

1973: Hexamine Plant was commissioned.

1975: A formaldehyde Plant was sold out on turn-key basis to M /s. Southern Synthetics Ltd., Ranipet (Tamil Nadu).

Company was awarded TOP EXPORTERS AWARD in the category of raw-materials by Government of India.

1976: Process for manufacture of Phenyl Butazone was sold to M/s. Nufarm Chemicals, Faridabad.

Formaldehyde plant to M/s. Southern Synthetics Ltd., Ranipet was commissioned successfully.

1977: Process for manufacture of Paraformaldehyde was completed and taken up in hand for execution.

1978: Encapsulation Process Ferite Moulding Presses and such specialised hydraulic prosses were introduced in the market by the Engineering Division.

1979: A pilot plant for Phenolic Resins was supplied to Burma through National Research & Development Corporation.

An agreement was arrived at between Nuchem and U.P. State Industrial Development Corporation for form a Joint sector company to exploit CMC know-how, developed by the country.

1980: The Company exported its technology for Phenolic Resins to Burma through NRDC, New Delhi.

Submitted application for grant of Industrial licence for the production of 2000tonnes of specialised Phenolic Resins.

1981: Licensed capacity for U,F. Moulding Powder was increased to 3600 tonnes per annum.

1982: First ever export order for moulds/dies was executed.

1983: Formaldehyde technology was exported to Sharajab.

(x) Plastics Resins and Chemicals Limited

1962: The Company was incorporated under the Companies Act, 1956.

1971: Commenced manufacturing of PVC Compound with own technical know-how.

1972: Commenced commercial production of PVC Resins.

1973: Exported 462 tons of PVC resins.

Exporter's Award by Plastic Linoleum Export Promotion Council for the year 1973-74 was awarded.

Won the National Safety Award for Industrial Safety.

1975: Commenced commercial sale of Benzene as by-product.

1978: In February, manufacturing operation was stopped due to uneconomical working conditions.

1979-80: Plant remained under shutdown due to uneconomical working conditions.

1980: Plant continued to remain under shutdown.

1983: On 30th Oct, production of PVC suspension Resin was recommissioned.

(xi) Polyolefins Industries Limited.

1964: The Company was promoted by National Organic Chemical Industries Limited with financial and technical collaboration with Farbwerke Hoechset AG. West Germany for the manufacture of 20,000 tonnes per annum of High Density Polyethylene (HDPE), 320 tonnes per annum of Ziogler Catalysts and 5,600 tonnes per annum of processed products made out of HDPE for which the necessary industrial licence was received.

1965: Foundation stone was laid on 18th February and construction work started.

The Engineering Contract, Agreement with German Reconstruction Bank for foreign loans and all other major Agreements were finalised. It was for the first time Kreditanastaltfur Wederfbar (KfW), a German Reconstruction Bank gave direct loan to a party in India.

1966: In order to develop the market for HDPE raw material in India, Company imported 1,000 tonnes of HDPE raw material on a product loan basis. This material was distributed to various processors throughout India. This timely action by the Company resulted in rapdd growth of plastic processing industry and also gave impetus to plastic machinery manufacturing industry in India.

1968: Started production of HDPE for the first time in India, in the month of March. Company also started simultanously production of Zieglor Catalyst, viz. Ethyl Aluminium Sesoui Chloride and Ethyl Aluminum mono-Chloride essential raw materials required for manufacture of HDPE. The Company successfully developed in-digenously an essential raw material - dispersing agents required for manufacture of HDPE. To remove excess sulphur contents in locally developed dispersing agent, the Company put up a Disulphurisation Plant. In the latter part of the year, the Company developed HDPE top up containers for packing of lubricating oils. A small quantity of the product was exported.

1969: Exported 10,300 tonnes of its product to various parts of the world.

After extensive tests and trials, a loading oil company started packing their lubricating oils in one litre and half litre top up containers made of HDPE. This changed the concept of packaging in India which has resulted in considerable saving of foreign exchange and conserving of essential raw materials.

Production of barrels and jorrycane made of HDPE for storage and transportation of hazardous chemicals was undertaken.

1970: Started production of HDPE pipes which are extensively used by Chemical Industry for transportation of corresive chemicals and offluents. These pipes are also used for water supply in inaccessible hilly terrains and in Agriculture.

Obtained special permission for use of HDPE containers for packing hydrogenated vegetable oils.

Share capital was increased from Rs.3.6 crores to 5 crores by issuing right shares.

1971: Obtained Industrial Licence to manufacture N-Butene-1 required for the manufacture of HDPE.

Highest production of HDPE achieved.

1972: Export of processed products made of HDPE was started.

1972 : (contd) Undertook contract of laying HDPE Pipes for distribution of natural gas in Baroda City. 250 KM of HDPE Pipes of various sizes were laid down in Baroda city and gas connections were given to more than 26,000 consumers.

1973: Industrial Licence for expansion from 20,000 MT to 30,000 MT of HDPE was received. Also received capital goods licence for expansion.

1974: Plant for manufacture of N -Butens-1 started.

Bonus shares were issued in the ratio of one share for every three shares held by Shareholders, thus increasing the share capital from Rs.540 lakhs to Rs. 720 lakhs achieved highest production of 24,618 MT.

1975: Decided to set up a joint venture project in Malaysia for production of HDPE Pipes.

1977: The share capital was increased from Rs.7.2 crores to Rs. 9 crores.

A joint venture Agreement, Engineering Agreement, -Technical Service Agreement and Equipment Sales Agreements were entered into with the Malaysia Partners for establishment of a Pipe Project with a capacity of 600 MTA.

1978: The Company switched over to a new manufacturing process.

A joint venture project set up by the Company in Malaysia for the manufacture of High Density Polyethylene Pipes, commenced production.

1979: Collaboration Agreement with Hoechst Agreement was extended for 5 years. A decision was taken to set up a High Density Polyethylene Pipes manufacturing plant at Akola in Maharashtra.

1981: On 1st January, Mindia Chemicals Ltd., was amalgamated with Polyolefins industries Ltd.

1982: Letter of intent for manufacture of 4000 tons of R-einforced Polypropylene was received.

1983: Letter of intent for the manufacture of 6000 tonnes per annum of Ethylene vinyl Acetate (Copolymers) at Thane and 1500 tonnes per annum of processed products made out of EVA (Co-polymers) at Akola received. Production of HDPE reached at a high level of 36,640 tonnes.

(xii) Shriram Fertilizers & Chemicals Industries

1960: Application for grant of industrial licence for setting up a 20 tons/day PVC plant at Kota was submitted.

1961: Industrial licence was received and the foundation stone of the plant was laid.

Technical collaboration agreement was signed with M/s. ShinEtsu Chemicals Industry Co. Ltd. and Mitsui Bussan Kaisha Ltd., Japan and the same was approved by the Government.

1963: Commercial production of calcium carbide was started.

1964: Plant was formally inaugurated and commercial production of PVC was started.

Application for expansion of PVC capacity to 40 tons/day was submitted to the Government.

1965: Letter of intent for expansion of PVC capacity was received.

1966: Licence for expansion of PVC capacity to 40 tons/day was received.

1968: Commercial production for expanded capacity of PVC, i.e. 40 tons/day was commenced.

1972: Application for expansion for PVC capacity from 40 to 80 tons/day was submitted.

1975: Licence for increased capacity of PVC, i.e. 80 tons/day received.

1978: PVC Plant capacity increased was to 80 tons/day.

Technical collaboration agreement for modernisation of Vinyl Chloride Polymerisation plant was signed with M/s. Kanegafuchi Chemical Industry Co.Ltd. Japan.

1979: Letter of intent for expansion of PVC capacity to 60,000 tons per annum was received.

1981: In October, installed capacity of PVC plant was increased to 33,000 MTPA

Received Licence for expansion of PVC plant capacity to 60,000 MTA.

1982: In February, agreement for supply of 25 MW additional power for Vinyl Plants was signed with RSEB.

1982: (contd) In December, PVC plant modernisation project was commissioned.

(xiii) The Industrial Plastics Corporation Private Limited.

1947: Established a production of Phenolic Resins/Compounds of 72 tons per annum, became a founder member of all-India Plastic Mfg. Association.

1959: Established a production of Phenolic Resins/Compounds of 809 tons per annum.

Entered into a technical collaboration for manufacturing special purpose Phenol Formaldehyde Resins/compounds with Phillips, Holland.

1961: Central Excise was levied on P.F.Resins/Compounds. Appointed an thermosetting panel of ICI.

1964: Established as a regular suppliers of Phenolic Resins/compounds to companies like Indian Telephone Industries, BHEL, HAL, BEL, etc. who were hitherto required to import their raw material based on Phenol and formaldehyde.

1968: Established Research & Development Wing on the most modern scale. Developed several additional special filler/property Phenolic Resins/compounds as import substitution. Also modernised the factory, technology and equipments- Phillips collaboration terminated. Established production of many additional special purpose Phonolic Resins for foundries, Brakelining Industries, etc.

1970: Celebrated silver jubliee year.

1971: Joined Release Order scheme to supply P.F.Resins compounds at International Prices to domestic manufacurers of components for export production.

1972: AIPMA celebrated its silver jubilee on which occassion the Chairman, Shri B.K. Thakkar was honoured by an award for pioneering work done for Plastics Industry.

1973: Established a production Phenolic Resins/compounds of 2000 tons per annum.

Exported Phenolic Resins/compounds for the first time to Hongkong.

Introduced Phenolic Resins compounds for injection moulding for the first time in India.

1975: Added a very modern, continuous process closed system equipment for processing P.F. Resins compounds by way of modernisation of the plant.

1976: Excise duty was reduced from effective 56% to effective 40% in March.

Export obligation imposed of Rs. 3.75 lakhs per annum became effective and over two years obligation was set off during the first year itself. Business under indigenous Release Order Scheme was at an all time high, value of total supplies exceeded Rs. 7 lakhs approximately.

1978: Exported Mfg. resine to USA and realised foreign exchange worth Rs. 1,82,125.

1979: Earned foreign exchange by exporting Nigrosine worth Rs. 2,40,721/-

Industrial licence for manufacture of Engineering Plastics Polymer Resins was received.

An application was made for an industrial licence to manufacture 2200 tons of Nylon Tyre Yarn per annum.

(xiv) Rattanchand Harjasrai (Mouldings) Private Limited.

1966: Company was formed.

1979: Production of Melamine Formaldehyde Moulding Powder and resins was commenced.

1983-84: Capacity to manufacture UF & MF Moulding powders and Resins was increased.

(xv) Deccan Plasti-Chem Limited

1974-75: Company was incorporated under the company's Act, 1956.

1978: Commercial production of Urea Formaldehyde Moulding Powder was started.

1980: Commercial production of Malamine Formaldehyde Moulding Powder was commenced.

(C) SYNTHETIC FIBRES

(i) Ahmedabad Manufacturing & Calico Ptg. Company Limited.

1880: Calico (Textiles) was established at Ahmedabad.

The Company is now a Public Limited Company with three Main Division (Textilos, Chemicals & Plastics and Synthetic Fibres Division) and following four wholly owned subsidiary companies.

(a) Ilac Limited.
(b) Rajindra Dyeing & Ptg. Mills Ltd.,
(c) Gujarat Nets Limited.
(d) Verma Industries Ltd. (Subsidiary of Rajindra Dyeing & Ptg. Mills Ltd.)

1970: Industrial licence for manufacture of polyesterstaple fibre at Baroda was received.

1974: In May, the Spinning and Processing Unit of Polyester Fibre Plant was started.

In July, commercial production of polyester staple fibre was commenced.

1976: In March, the remaining polymer unit of the Polyester Staple Fibre Plant was started up.

In May, the integrated Polyester Staple Fibre Plant from DMT and MEG to Baled Fibre went into commercial production.

1977: On 31st December, a letter of intent for doubling the polyester staple fibre production was received.

1979: In December, all Govt. formalities for doubling the PSF production capacity, viz. issuance of the industries Licence, Capital goods Licence were completed.

1980: In March, the Two/Top Convertor Unit was commissioned to market worsted tops.

In September, additional high tenacity cotton type polyester staple fibre spinning and processing equipment was commissioned which increased the overall plant capacity from 6100 tonnes to 7400 tonnes per annum, with the permissible maximum limit under the IDR Act, 1951.

1981: Agreement for the transfer of know-how for the Doubling Project was taken on record and approval of technical collaboration was received.

1981: (contd) In June/November, Industrial/capital goods licences was received.

Loans for supply of equipment for doubling plant were sanctioned by ICICI and IFCI.

1982: Polycondensation Unit was damaged severely in a fire.

1983: Agreements for the doubling plant were put into effect after making payments to M/s. Zimneur of Germany.

(ii) Baroda Rayon Corporation Limited.

1958: In May, the Company was incorporated.

1959: In September, an Industrial Licence for the manufacture of Filament Rayon Yarn, was received.

1960: About 320 acres of land was acquired from Government.

1962: Viscose Section of the Rayon Plant was commissioned on 31st October.

On 23rd December, Rayon Plant was formally inaugurated.

1965: Finer counts such as 30 and 40 denier were produced for the first time in the country.

1968: In May, expansion of the Spinning Division was completed with the installation of 8 more spinning frames.

1969: Additional machinery was installed to increase the viscose capacity and the expansion programme was completed in July.

The French type Radial well was commissioned.

1971: In June, building foundation for Nylon plant was laid.

1973: On 1st January, Gujarat Polyamides was merged with the Baroda Rayon Corporation Ltd. and was named NYLON DIVISION of the Baroda Rayon Corporation Ltd.,

1974: On 18th January, the Nylon Plant was inaugurated.

1975: In September, licence for increasing the Nylon Yarn capacity from 1800 metric tonnes per annum to 2100 metric tonnes per annum was received.

Industrial licence for manufacture of Nylon cord was received.

1976: Licence to manufacture 360 tonnes of Polyester filament yarn per annum within existing licenced capacity of 2100 tonnes per annum for nylon yarn was received.

In April, production of Polyester filament yarn was started.

1977: Licence for increasing the Nylon Yarn capacity from 1740 to 2436 tonnes per annum and Polyester Yarn from 360 tonnes to 576 tonnes was received.

1978: On 7th August, Polyester Polymerisation Plant was started for manufacture of Polyester Chips.

On 11th December, civil work for Nylon Tyre-cord Project was started.

1979: Industrial approval for I-mport of Eqnipment for Caprolactum Recovery Plant was granted.

On 31st December, Industrial Licence granting increase of licenced capacity of Nylon Type Yarn fabrics from 1000 tonnes to 1700 tonnes per annum was issued by the Government.

1980: Agreements approval for selling up caprolactum Recovery Plant was received.

1981: In O-ctober, commercial production of Nylon T-yre Cord was started.

In December, letter of intent for increasing capacity of Nylon Tyre Yarn/Tyre Cord from 2000 MT to 4000 MT per annum was received.

1982: In July letter of intent was received for increasing the capacity Nylon Tyre-Cord Fabrics from 1700 tonnes to 3400 tonnes per annum was received.

In August, licence for increasing the capacity of Nylon Tyre yarn Fabric from 1000 MT to 1700 MT was received.

Endorsement for increasing capacity of Polyester Filament Yarn to 1777 tonnes per annum was received.

(iii) Century Enka Limited

1967: Public issue of shares.

1968: Construction work was commenced.

1969: Nylon Plant was commissioned.

1976: Industrial Licence for expansion of Nylon Plant was received.

1977: Industrial licence for manufacture of 360 tonnes p.a. Polyester Filament Yarn was received.

1978: Expansion of capacity of Nylon Plant to 6.5 tons per day was implemented and manufacture of Polyester Filament Yarn was commenced. Proposal for recognition of additional capacity for Nylon Yarn of 1660 tons p.a. through modernisation was approved and Industrial Licence to this effect was endorsed.

1979: Industrial licence for manufacture of Engineering Plastics Polymer Resins was received.

1980: An application was submitted for expansion of licensed capacity of Nylon Plant from 4000 to 6000 tons per annum. Another application for an Industrial Licence to manufacture Polyester Yarn upto a capacity of 6000 tons per annum was also submitted.

1981: Project for manufacture of Engineering Plastic Polymer Resins was commissioned.

The first stage of moderisation of the nylon plant was completed.

1982: An application for endorsement of increased capacity of polyester yarn was submitted. Letter of intent for manufacture of 2200 tpa of N-ylon Industrial Yarn/Tyre cord was received.

1983: Letter of intent for the expansion of Nylon Plant capacity to 6000 MTA was received.

(iv) Chemicals and Fibres India Limited

1961: Company was incorpprated and Iicence for manufacture of Polyester Staple Fibre was obtained.

1963: Possession of land was taken over from the State Government.

1965: Production of Polyester Staple Fibre was commenced.

1967: Licence was obtained for expansion of Polyester Staple Fibre.

1968: Expansion was completed.

1971: Licence was granted for expansion to 6,100 tonnes per annum of Polyester Staple Fibre.

1972: Expansion to 6,100 tonnes per annum of Polyester Staple Fibre plant was completed.

1979: Licence was obtained for expansion to 10,000 tonnes p.a. capacity of Polyester Staple Fibre Plant.

1980: In August, expansion programme was completed.

1984: The Company was amalgamated with Indian Explosives Limited.

(v) Gareware Nylons Limited

1962: F-actory at Poona with a production capacity of 500 kgs. per day was set up. It was the first Nylon Plant in the country set up without any foreign collaboration.

1965: Plant for polymerisation of Caprolactum to Nylon chips was set up.

1968: Substantial expansion was carried out, raising the capacity of Nylon Yarn to 756 tons per annum.

1969: Letter of intent to increase the capacity of Nylon Yarn to 2000 tonnes was received.

1970: The Company became a Public Limited Company.

Licenced capacity was increased to 2000 tonnes.

1972: The Industrial licence for 2000 tonnes was implemented, raising the total capacity of production of Nylon Yarn to 2394 tonnes per annum. Letter of intent was received for the manufacture of Polyester filament yarn for 360 tonnes per annum. Industrial Licence for the manufacture of Nylon Chips for Plastics Industry with an annual capacity of 330 tonnes was also received.

1973: Industrial licence for manufacture of Polyester filament yarn was received.

1974: The Company entered into Joint Venture Agreement with Malaysian State Development Corporation for setting up a plant for manufacture of Fabrics in Malysia.

1975: Commercial production of Polyester filament yarn was commenced.

1976: On 20th March, Deploymerisation plant to recover basic raw material (viz. Caprolactum) from Nylon waste was inaugurated.

1977: As a result of modernisation programme, the licence capacity of Nylon and Polyester Filament Yarn was increased by the Government by 958 and 216 tons respectively.

1978: Construction/erection work of Ethylene Glycol recovery plant was started.

1979: Some operations of the plant were shifted from Poona to Ahmednagar.

Ethylene Glycol Recovery Plant was commissioned.

1980: Modernisation programme of Nylon Filament Yarn was completed.

1981: An application for regularisation of excess capacity of Nylon Yarn from 3352 MT to 4830 MT & Polyester Filament Yarn from 576 MT to 1576 MT based on 40 Denier was submitted.

In December letter of intent for manufacture of 2000 MT of Tyre cord/industrial yarn was received.

1982: Government's approval for increasing licence capacity of Nylon Yarn from 3352 to 5216 MT per annum and Polyester Yarn from 576 to 1700 MT per annum was received.

1983: In April, a letter of intent for increasing Nylon Filament Yarn's production capacity to 6000 MTA was received.

In May, approval for Foreign Technical Collaboration and clearance of import of Capital Goods for Nylon Tyre Cord Project was received and application for industrial licence and capital goods import for 2000 MTA Nylon.

Industrial/Tyre Fabric plant to be set up at Sarole, Maharashtra was submitted.

In October, industrial licence for 200 MTA Industrial Yarn/Tyre cord plant was received.

(vi) Indian Organic Chemicals Limited (Fibre Division)

1960: The Company was incorporated.

1969: Site for the Polyester Staple Fibre Plant was selected.

1970: Industrial licence for the manufacture of 6100 metric tonnes of Polyester Staple Fibre per annum was granted.

1971: In February, foundation stone was laid.

In November, machinery erection was commenced.

1972: In August, the plant was commissioned.

1973: In January, commercial production was started.

1974: R&D Unit was recognised by the Department of Science and Technology.

Pilot plant was set up in R&D Laboratory.

First Diesel Generator set was commissioned.

1975-76: Polyester chips of filament yarn grade were produced and supplied to filament yarn manufacturers.

1976: Second Diesel Generator set was commissioned.

In December, production of high performance Polyester fibre was started.

1977: Licence for importing capital goods by way of balancing equipment was received.

In December, letter of intent for increasing the existing production capacity from 6100 MTS to 12200 MTS was received.

1978: In March, commercial production of Polyester fibre from waste was started.

In August, production of high tenacity polyester fibre was started.

1979: Capital goods licence for expansion was received.

1980: In October, foundation stone for expansion was laid.

In March, licence for expansion of Polyester Staple Fibre capacity from 6100 MTS to 12200 MTS was received.

1982: Erection of machinery for expansion project was completed.

1983: Application for grant of higher capacity of 8860 Mts of Polyester fibre against the capacity of 6100 Mts was submitted to the Government.

1984: In March, capacity expansion plant was commissioned.

(vii) J.K. Synthetics Limited

1943: Incorporated at Kanpur, U.P.

1958: R-eceived Industrial licence for manufacture of Nylon/Perlon Yarn at Kota.

1960: The name of the Company was chanted to J.K.Synthetics Ltd.

1962: Country's first Nylon Plant with a capacity of 800 Kgs. per day was inaugurated.

1963: Technology was developed for production of high tenacity industrial Nylon Yarn.

Industrial licence for first stage expansion for Nylon plant was received.

1964: Industrial licence for manufacture of 4000 tonnes per annum of acrylic staple fibre was received.

1965: First stage expansion was completed in record time raising the plant capacity to approx. 3 tonnes day.

1966: Industrial licence for the manufacture of 1000 tonnes per annum of Nylon Tyre Cord was received.

1968: The 2nd stage of expansion of nylon plant was completed raising its installed capacity of 2200 tonnes per annum.

In the research centre of the company, technologies were developed for the first time in India for production of spaced-dyed and draw-wound yarns.

Research activities were further strengthened. Research for development of technology for manufacture of polyester filament yarn from chips was also initiated.

1971: Developed technologies for manufacture of nylon tyre cord and synthetic staple fibre.

Trial production in nylon tyre cord and synthetic fibre plants was commenced.

1972: Received an industrial licence for manufacture of 360 tonnes per annum of polyester filament yarn and 450 tonnes per annum of polyester staple fibre by way of diversification.

Commercial production of nylon tyre cord, nylon staple fibre and polyester staple fibre was commenced.

1973: Licence for the manufacture of 3840 tonnes per annum of nylon yarn was implemented.

1973: (contd) Received the approval of Government of Kenya for setting up of an industrial joint venture in Kenya for the manufacture of synthetic filament yarn. The Company was also selected for supply of know-how and engineering services.

Secured a contract for supply of know-how, engineering services and plant and machineries to Indian Petrochemicals Corporation, Baroda for their proposed polyester filament plant.

The installed capacity for manufacture of nylon tyre cord and polyester filament yarn was increased to 1600 tonnes per annum and 600 tonnes per annum respectively.

Foundation stone for Sir Padampat Research Centre, Kota was laid.

Developed successfully the process of differential dyeable nylon yarn known as "N ova colour nylon" for first time in India.

1974: Approval for foreign technical collaboration with M/s. Technicent S.P.A. Milano (Italy) for setting up an acrylic fibre plant at Kota was received.

Installed capacity for manufacture of Polyester Staple Fibre was increased to 900 tonnes per annum as licensed.

Received and implemented industrial licence for manufactore of 800 tonnes per annum of nylon tyre yarn fabrics.

1975: Received Central Government's approval and import licence for the import of capital goods for Acrylic Fibre project.

1976: Received Government approval for the technical collaboration agreement with M/s. Zinser T-extilmaschinen, West Germany for the manufacture of draw twisting machines suitable for nylon and polyester filament yarn and for heavy denier yarn.

Indigenous know-how was developed for recovery of DMT from Polyester waste for the first time in India.

First ever agreement for supply of know-how and engineering services and managing a synthetic yarn plant abroad was signed with Africa Synthetic Fibres Ltd. (a company incorporated in Kenya).

Indigenous Nylon- 6 battery fabric was developed which would save substantial foreign exchange.

1977: Government's approval was received for increasing the capacity of Nylon Filament Yarn by 40% and that of Polyester filament yarn by 60% due to modernisation. As a result of this the annual licenced capacity of Nylon filament yarn increased to 5376 tonnes and that of Polyester Filament Yarn to 960 tonnes.

Letter of intents for the manufacture of 4000 MT per annum of DMT, 1000 MT per annum of Mono Ethylene Glycol (by Products) from Polyester waste and for expansion of Polyester staple fibre capacity to 6000 MT per annum were also received.

1978: Received industrial licence for manufacture of 4000 MT p.a. of DMT And 1000 MT p.a. of MEG and also for expansion of polyester staple fibre capacity from 900 tonnes p.a. to 3000 tonnes p.a. and that of nylon Tyre Cord Yarn from 1600 tonnes p.a. to 3000 tonnes p.a.

1979: Industrial licence for expansion of polyester staple fibre capacity from 3000 tonnes p.a. to 6000 tonnes p.a. was received and implementation work for this project was started.

Trial production of Acrylic Staple Fibre was commenced at the Company's Synthetic Fibre Complex at Kota.

Received letter of intent for expansion of Polyester Staple fibre capacity from 6000 tonnes p.a. to 12,000 tonnes p.a. and nylon tyre yarn fabric from 800 tonnes p.a. to 2760 tonnes p.a.

1980: Received letter of intent for expansion Polyester filament yarn capacity from 960 tonnes p.a. to 6960 tonnes p.a.

Received Government approval for foreign technical collaboration with M/s. Zimmer AG, West Germany as well as capital goods clearance for the expansion of Polyester staple fibre capacity from 6000 tonnes to 12,000 tonnes per annum.

1981: Received approval for the import of capital goods for Polyester filament yarn and Acrylic Fibre expansion projects.

Received Industrial Licence for expansion of Nylon Tyre Cord fabrics capacity from 800 to 2760 tonnes per annum.

Received letter of intent for expansion of Nylon Tyre Cord fabrics capacity from 2760 to 4460 tonnes per annum.

1981: (contd) Received industrial licence for expansion of Polyester filament yarn capacity from 960 to 6960 tonnes per annum.

Received industrial licence for expansion of Polyester staple fibre capacity from 6000 to 12000 tonnes per annum.

Import licences were granted for the import of plant and machinery for expansion projects of Polyester staple fibre from 6000 to 12000 tonnes per annum and of Polyester filament yarn from 960 to 6960 tonnes per annum.

Implemented expansion of Polyester staple fibre capacity from 3000 to 6000 tonnes per annum.

1982: Received letter of intent for expansion of Nylon Industrial Yarn/Tyre Cord capacity to 5000 tonnes per annum, and A. Fibre from 10000 to 12000 tonnes per annum.

1983: Received letter of intent for expansion of Nylon Filament Yarn capacity upto 6000 tonnes per annum.

Received approval of foreign technical collaboration for expansion of Acrylic Fibre capacity with M /s. Montedison SPA Technimont and M/s. Montefibre SPA, Itlay and also for Nylon Tyre Cord/Fabric expansion project with M/s. Tonggang Nylon Co. Ltd., Seoul, Korea Technical Collaboration agreement with M/s. Zimmer AG, West Germany for Polyester Filament Yarn expansion project was also taken on record.

Received clearance for import of capital goods for Acrylic Fibre and Nylon Tyre Yarn/Fabric expansion projects.

1984: Received clearance for import of capital goods for Nylon Tyre Cord expansion project.

(viii) Modipon Limited

1965: Company was incorporated and industrial licence was received.

1967: Corner stone was laid.

1968: In March, commercial production was started.

1970: The plant achieved its full production capacity.

Industrial licence for marginal expansion from 1800 tonnes to 2200 tonnes per annum was received.

1972: The capacity of original licence was enhanced from 1800 tonnes to 3000 tonnes per annum.

C.O.B. licence for the manufacture of 360 tonnes per annum of polyester filament yarn was received.

Expansion project of the Company was commissioned.

1973: In January, production of Polyester filament yarn was started.

1976: In January, synthetic fabrics was exported.

1977: On 25th March, approval of the Government was obtained under the modernisation programme for increasing the annual manufacturing capacity of Nylon Filament yarn by 1360 tonnes and Polyester Filament Yarn by 216 tonnes.

On 29th December, capacity to produce higher tonnage of Polyester filament yarn as a result of shift in the average deniers from finer to Coarser denier, was recognised by the Government.

1978: Polyester chips plant was commissioned.

1979: Under diversification programme drawtexturing machine was installed using directly spun yarn for texturing, i.e. avoiding drawtwist stage.

1980: High spped drawtexturing machine was installed in R&D Cell.

Letter of intent was received for 2000 tonnes per annum for manufacture of Nylon Tyre Yarn.

1981: Two high speed polyester drawtexturing machines were installed and one high speed dpinning machine was installed in R&D Cell.

POY was for the 1st time manufactured by Modipon.

Technical Agreement with M/s. Unitika for Tyre Yarn was submitted for Government approval.

1982: Polyester licence capacity was increased from 576 MT to 1723 MT per annum and three high speed spinning machine for POY polyester were installed.

Letter of intent for 2000 MTA of Nylon Tyre Yarn was reviewed to read 4000 MTA of Nylon Industrial Yarn/ Tyre cord.

1983: Licenced capacity for Nylon was increased from 4760 MT to 6000 Mt per annum

1983 (contd): Letter of intent to manufacture 3400 MTA of Nylon Industrial/Tyres Fabric was received.

Approval under TDF Scheme for import of Technical know-how for upgradation of presently employed technology was also received.

(ix) National Rayon Corporation Limited

1946: The Company was incorporated at Bombay with authorised capital of Rs.10 crores dividend into equity of Rs.5 crores and Preference Shares of Rs.5 crores.

1951: Production of Rayon Textile Yarn started.

1961: Production of Rayon Tyre Cord and Fabric was commenced.

1976: In April, the share capital was raised to Rs.12.5 crores comprising of equity of Rs.7.5 crores and Preference Shares of Rs.5 crores.

Commercial production of Nylon - 6 Tyre cord was commenced.

Water Pollution Control Plant Phase-I was commissioned.

1978: Commercial conversion of Nylon-6 Tyre Yarn to Fibre was commenced and Water Pollution Control Plant Phase-II was commissioned.

(x) Nirlon Synthetic Fibres & Chemicals Ltd.

1961: Nylon Textile Yarn Plant started production with an annual installed capacity of 720 tonnes.

1963: The Company was converted into Public Limited Company.

Commenced exports of synthetic fabrics.

1965: The annual licensed capacity of Nylon Textile Yarn was increased from 1872 tonnes to 2520 tonnes and that of Nylon Tyre Cord from 576 tonnes to 1,440 tonnes.

1967: Research & Development Division developed know-how for manufacturing polyester filament yarn.

Commenced production of polyester filament yarn which was manufactured in India for the first time.

1968: The first phase of Nylon Textile Yarn expansion was completed. The annual production capacity of Nylon Textile Yarn was increased to 2160 tonnes.

1968: (contd) Tariff Commission Inquiry into the price structure of Nylon yarn was ordered by the Government.

1970: The annual production capacity of nylon yarn was increased to 2520 tonnes.

Machinery for setting up of the Tyre Cord Plant was received at site.

The Company with other Nylon Spinners, entered into a voluntary agreement with Consumers Association for selling yarn at an agreed price, which were far less than the price ruling in the market.

1971: Nylon Tyrecord Plant commenced production. Nylon tyre cord was manufactured for the first time in India.

1972: Exported synthetic fabrics to Czechslovakia for the first time.

1973: Annual licenced capacity for manufacturing polyester filament yarn was increased from 360 tonnes to 576 tonnes.

1974: Polycondensation plant was commissioned.

Installed capacity of Nylon Tyrecord was increased from 1440 tonnes to 2190 tonnes p.a.

1975: Plant for the recovery of Glycol and Methanol was commissioned.

Commenced work on Deploymerisation plant for recovery of Caprolactum from waste.

Received industrial licence for the manufacture of the Conveyer Belting and Fan and V-Belts.

1976: Recognition of Research & Development Centre was renewed by the Government.

1977: Deploymerisation plant for recovery of caprolactum from waste was commissioned. Work on conveyer belting, Fan & V - Belts Project and installation of additional capacity due to modernisation of Nylon & Polyester Textile Yarn was also started.

Modernisation of Polyester Textile Yarn to achieve increased capacity of 922 MT was completed. The annual licensed capacity of Nylon Textile Yarn was also increased from 2520 tonnes to 3528 tonnes.

1978: Plant for manufacture of Conveyor Belt was commissioned.

1978: (contd) Government's approval for Foreign Technical collaboration with B.T.R. Belting Ltd., U.K. for manufacture of Synthetic Fibre Reinforced Conveyer Belt was also received.

1979: Plant for manufacture of V-Belts/Fan Belt was commissioned.

Modernisation of Nylon Textile Yarn to achieve the increased licence capacity of 3528 tonnes was also completed.

1980: Recognition of Research and Development Centre was renewed by the Government.

1981: Production of Nylon conveyer Belting was started.

Export orders for V-Belt were received.

1983: Licensed capacity for Nylon was increased from 3528 tonnes to 5308 tonnes p.a., Polyester from 922 tonnes to 2655 tonnes p.a., and Tyrecord from 2109 tonnes to 4000 tonnes p.a.

1984: Industrial Licence for increasing the Nylon Tyre cord yarn Fibre capacity from 1860 tonnes to 4000 tonnes was received. Government's approval for import of Technical Know-how for Nylon Tyrecord was received.

(xi) Shriram Fibres Limited

1966: In November, letter of intent for 4500 tonnes of Nylon Tyre Cord was received by Delhi Cloth & General Mills Co., Ltd.

1969: In July, the letter of intent was modified for two thousand tonnes of Nylon Tyre Cord in a plant to be set up at Madras.

1971: In May, MRTP clearance was obtained for participation of DCM in equity shares of Shriram Fibres Ltd.

In June, Certificate for commencement of Business was obtained.

In July, Government approval for collaboration with M/s. Chemtex and Unitika was obtained.

1973: Project office was set up at Madras.

1974: On 31st December, trial runs were commenced.

Industrial licence for 2000 tonnes of yarn was endorsed for manufacture of 1000 tonnes of Nylon Fabric.

1975: On 1st April, commercial production was commenced.

1976: Facilities for fabric production were installed.

1977: On 13th January, permission for manufacture of 500 tonnes per annum of Nylon chips and 600 tonnes per annum of Nylon Industrial yarn was issued by the Government.

By September, technology for the manufacture of Nylon Chafer Yarn and OPD was successfully developed in R&D Laboratory of the Company.

1978: An industrial licence was issued for the manufacture of 500 MTs per annummof Nylon Moulding Powder with total capacity of 3000 MT per annum of NTY.

1979: On 31st December, letter of intent was issued by the Government for increasing the Fabric conversion capacity from 1000 MT to 2550 MT per annum, including 200 MT chafer Fabric within the over all limit of 2550 MT.

1980: Government recognition for the R&D Centre of the Company was received.

Letter of intent for manufacture of 200 MT of Chafer Fabric was also received.

1981: Letter of intent for expansion of Nylon Tyre Yarn capacity from 3000 MT p.a. to 5000 MT p.a. was received

1982: Capacity was re-endorsed to manufacture 6335 TPA.

Plans for installation of Deploymerisation Plant for convérting solid waste into caprolactam was undertaken.

Letter of intent for expansion in Tyre Fabric capacity from 1000 tonnes to 2550 tonnes was converted into industrial licence.

In October construction of I ndustrial Fabrics (chafee) Project was started at Viralimalai (T-amil Nadu).

1983: In March, erection of I ndustrial Fabrics (Chafer) Division was completed and commercial production was commenced.

In July, letter of intent for expansion of Nylon Industrial Yarn capacity from 3000 to 5000 tonnes p.a. was converted into Industrial Licence.

In October, Industrial Licence for expansion of Tyre Cord Fabric/Industrial Yarn capacity from 2550 MTA to 4250 MTA was recived.

1984: Additional facilities for expansion of Nylon Fabric, -Tyre cord/Industrial yarn Fabrics was installed.

(xii) Stretch Fibre (India) Ltd.

1965: Incorporation on 19th June with authorised capital of Rs. 150 lakhs dividend in 15 lakhs equity shares of Rs. 10 each.

On 29th July, certificate for commencement of business was received.

1966: In January, production of Stretch Nylon Yarn was commenced.

1969: 1st plant for manufacture of knitting fabric was commissioned.

1973: Spinning plant for the manufacture of nylon was installed.

On 6th October, commercial production of nylon yarn was commenced.

1976: Permission for production of 135 MTA of Polyester Filament Yarn was obtained.

1977: Steps for erection of Polymerisation plant were started.

1978: In January, licence for substantial expansion of capacity for production of Nylon Yarn from 540 MT to 4200 MTPA was granted.

1979: Government's clearance for import of machinery for expansion scheme was obtained.

1980: LA for production of 135 MTPA Polyester Yarn was converted to Industrial Licence.

1981: Work for installation of Polymerzation Plant was started.

(xiii) Shree Synthetics Limited

1968: Shreeram Silk Mills Ltd., Calcutta, a unit of Hastings Mills was incorporated with an authorised capital of Rs.5 crores.

An Industrial licence for the manufacture of 1080 tonnes/annum of Nylon-6 filament Yarn was received.

1969: A new company named Shree Synthetics Ltd. was incorporated for implementation of the industrial licence.

1972: The plant for production of Nylon-6 and Polyester/ filament yarn was commissioned.

1975: Monomer Recovery Plant for recovering the caprolactum from wash water was commissioned.

1976: Industrial licence for expansion of nylon/polyester filament yarn capacity was received.

1978: Loans were sanctioned by the Financial Institutions for implementing Nylon Expansion Schemes.

1979: Industrial licences for 1740 MT p.a. of nylon 576 MT p.a. of Polyester Fibre were received.

Four draw texturising machines were commissioned for manufacture of textile yarn.

1980: First Phase of nylon expansion was completed and commercial production was started.

Authorised capital of the company was increased from Rs.5 crores to Rs.7 crores.

The company approached the Government of India for enchancement of its capacity of nylon yarn from 1740 tonnes to 6000 tonnes and polyester yarn from 576 tonnes to 1800 tonnes.

1981: With the commissioning of balance equipments, expansion of nylon plant was completed.

1982: Poly condensation plant for manufacture of Polyester Chips and 6 Draw Twisting machines were commissioned.

The licensed capacity for production of nylon yarn was increased from 1740 MT to 3452 MT per annum.

1983: A letter of intent for raising licensed capacity of Nylon yarn upto 6000 MTA was received.

(xiv) Swadeshi Polytex Limited

1970: In September, collaboration agreement for polyester staple fibre plant was finalised with Zimmer A.G. West Germany.

In October, foundation stone of the plant was laid.

1971: In October, erection of plant and equipment was completed and trial runs were commenced.

1973: In March, commercial production was commenced.

In August, normal 1.4 and 2.1 deniers of polyester fibre were introduced in India for the first time.

1974: In July, 0.9 denier Jailene polyester fibre was introduced for the first time in the world.

1975: In March, low and high shrinkage fibre was for the first time introduced in India.

In September, Research & Development activities were recognised by the Government of India.

1977: Jailene polyester khadi (hand spun on Amber Charkha and hand woven) was introduced.

During October to December labour had strike for 51 days.

1978: Sponsored khadi & Village Industries Commission Research Project to optimise bend composition of Khadi fabrics.

In July, DMT Recovery Plant was commissioned.

1979: Had Labour strike from 7th September to 4th November resulting in shutdown of plant.

1981: In November, letter of intent for expansion of capacity to 12,200 tonnes per annum was received.

There was labour strike for 119 days during the year The plant was however, operated by officers/supervisors to 50% capacity for 70 days.

1982: On 17th January, the licensed capacity of Polyester Staple fibre was endorsed from 6000 tonnes to 8131 tonnes per annum.

Letter of intent for expansion of production capacity from 6100 tonnes to 12,000 tonnes per annum was extended to 6th November, 1983.

1983: In January, re-endorsement licence to increase PSF capacity from 6100 tonnes to 8131 tonnes was received.

In May, letter of intent for expansion of PSF capacity from 6100 tonnes to 12,200 tonnes per annum was received.

1984: In March, Super High Tenacity Fibre was introduced for the first time in India.

(xv) Protrofils Cooperative Limited.

1970: In July, Govt. of I ndia conveyed decision for manufacture of polyester filament yarn by IPCL and Co-operatives.

In November, Feasibility Report for manufacture of 10 tonnes/day of polyester filament yarn was submitted to the Government by IPCL.

1971: In February, Industrial licence application was submitted to Government by IPCL for a plant to produce 3500 tonnes/year of polyester filament yarn.

1972: In March, Government gave formal investment sanction to IPCL for the setting up a polyester filament yarn plant with an initial capacity of 3500 tonnes per year expandable to 7000 tonnes per year at an estimated initial investment of Rs. 15.39 crores with a foreign exchange component of Rs. 7.38 crores. Government also directed that a new company with 60:40 equity participation between the Government and co-operatives be set up to implement the project.

1973: During March-May, a sub-committee of the Board of directors of IPCL was constituted for evaluating and recommending the arrangements for technical collaboration and supply of imported and Indian main plant equipment.

In August, Board of Directors of IPCL approved the selection of the officer of Karl Fischer/J.K.Synthetics for technical collaboration and supply of equipment for the project.

In September, an application for approval of the Foreign Collaboration was submitted to the Foreign Investment Board, Government of India. Industrial licence for the production of 3500 tonnes/year of polyester filament Yarn was also received during the same month.

1974: In January, first import licence application was submitted to the Government.

In March, FIB approval to Foreign Collaboration was received.

In April, Government's approval to Collaboration Agreement was received.

In May, Collaboration Agreements was signed and taken on records by the Government.

In August, site office at plant site adjacent to ethylene glycol plant site was ready for occupation.

In September, Petrofils Co-operative Limited was registered.

In December, possession of new land was taken from GIDC.

1975: In February, Know-how and basic engineering documents received fromCollaboration. Members to the Board of Directors nominated by the Government.

1975: (contd) In March, Foundation stone was laid by the Hono-rable Minister of Petroleum, Shri K.D. Malaviya and civil works started.

1976: In January, Government's approval to the revised estimated capital cost amounting to Rs.24.76 crores was received.

In April, Government permission to increase the equity capital from Rs. 8.0 crores to Rs. 10.0 crores was received and mechanical and electrical erection of the plant was started.

In July, Civil work of main plant and Utility Block was completed.

1977: In M ay-August, mechanical erection of main plant and Utility was completed.

In November, First spinning line was commissioned (B.Line).

1978: In April, the second spinning line was commissioned (A. Line).

In September, the 3rd Spinning line was commissioned (A 2 Line).

1979: In February, the Fourth Spinning line was commissioned (C Line).

In J uly, proposal for expansion by conversion of R&D lines into high speed spinning (POY) and installation of D/. Texturisers was submitted to Government.

1980: In April, approval for expansion was received from Govt.

1981: In January, the approval of the Government of India was received for the manufacture of Nylon 6/66 filament yarn.

In February, Application for Foreign Collaboration for manufacture of POY and D/Texturised yarn was submitted. Application for Industrial Licence for expansion project was also submitted.

In May, the Government of India gave approval to the expansion to doubling the capacity of PFY from 3500 MT to 7000 MT per annum.

In June, the first line of the Poly Condensation (Chips) Plant was commissioned.

In September, the second line of Polycondensation Plant was commissioned.

1982: In J-anuary, first of the nine draw texturisers was commissioned and proposals for setting up 6000 MTA Nylon-6/66 project, 10,000 MTA polyester Draw Texturised yarn Plant and 20 TPD Chips plant (balancing facilities) were submitted to the Government.

In April, the third line of Polycondensation Plant was commissioned.

In May, approval of the Govt. for setting up a 250 MTA dyeing plant was received.

In June, all the 9 high speed Draw Texturisers were commissioned for production.

1983: In June, first line of Partialled Oriented Yarn (POY) was commissioned.

In August, second line of POY was commissioned.

In November, third line of POY was commissioned.

In December, first simaltaneous draw texturising machine model SDS-3 type was commissioned for converting undrawn yarn directly to texturised yarn.

1984: In January, second simaltaneous draw texturising machine model SDS-3 type was commissioned.

In February, Dyeing plant of 1 ton/day capacity was commissioned.

(D) SYNTHETIC RUBBER

M/s Synthetic & ChemicalsLtd.

1958: Chairman visited U.S.A. for foreign collaboration.

1959: Agreement was signed for setting up the Synthetic rubber plant complex based on earlier visits of Lummus Team, Goodyear and Firestone Teams for setting up a plant complex in India.

1960: Company was registered to manufacture styrene, butadiene, synthetic latices and rubbers with technical collaboration from M/s. Firestone Tire & Rubber Co., U.S.A.

Government approval of the project and Firestone agreement received.

1961: Foundation stone was laid at Bareilly.

1962: T-echnical service Laboratory at Bombay was commissioned to help rubber consuming industries in the field of application of synthetics.

1963: All plants were commissioned and commercial production was started.

1964: Imports of SBR manufactured by the company were banned by the Government of India.

1965: Explosion at Butadiene Plant caused temporary stoppage of production for about six months.

Production of self-reinforcing rubber 1958 was started for the first time.

Developed other grades, i.e. S-1714, S-570 and S-1006.

1968: Developed emulsion polymerised polybutadiene rubber-EBR.

1969: Government applied for the first time statutory control under the Esdential Commodities Act on the prices of Company's SYNAPRENT rubber.

Developed new rubbers, S-1513.

1970: For the first time Excise duty at the rate of Rs.300 per tonne was levied by the Government.

1971: The Company developed and marketed a special high solids and high bound styrene S-2000 latex for use in cord dipping operations.

1972: Letter of intent for manufacture of 2000 MT year of nitrile rubber was received.

Pilot plant was received for nitrile rubber was completed.

Agreement with NCL/NRDC on Nitrile Rubber was signed. Agreement for ABS technology based on process know-how of Shri Ram Institute was also signed with NRDC.

1973: Developed and produced low based styrene rubber, viz. S-0052 and S-0212 on experimental basis.

Letter of intent for the manufacture of Steel Cord, T-extile Reinforced and Solid PVC conveyor belting was received.

R&D Centre of the Company was recognised by Department of Science & Technology and NCST.

1974: Developed and produced S-1552, S-1752, S-1941 and S-5812 based on low bound styrene.

Technical Collaboration with M /s. Firestone Tire & Rubber Co. USA expired.

1974: (contd) Tariff Commission held a second public enquiry to review the industry's price structure.

Exported SBR rubber for the first time.

Industrial licence for manufacture of 2000 MT/year nitrile rubber was received. Set up 1 ton/day pilot plant for nitrile rubber and produced nitrile rubber in tonnage quantities for the first time.

1975: Letter of intent for manufacture of 200 MT/year Vinyl pyridine Monomer and 800 MT/year Vinyl Pyridine Latex, was received.

A pilot plant for ABS plastics resins for development of technology and commenced trial production in a few grades of ABS was set up.

1976: Construction of Nitrile Rubber plant was completed.

Letter of intent for manufacture of 60 tonnes/p.a. of butadiene catalyst was received.

Foreign collaboration for V.P. Monomer with M/s. Croda Synthetic Chemicals Ltd., U.K. and for V.P. Latex with M/s. Uniroyal, USA was approved by the Government.

Letter of intent for manufacture of ABS resins and plastics was received.

1977: Commercial production of Nitrile Rubber was started.

Also developed and produced S-1511 on experimental basis.

Foreign collaboration agreement for Butadiene Catalyst Plant was surrendered to Government of India and it was decided to build up catalyst plant based on technology developed by the Company's R&D Laboratory.

Industrial licence for the manufacture of Butadiene Catalyst was received and commercial production of Butadiene Catalyst using spent catalyst (after regeneration and acid treatment) as the base material was started.

Industrial licence was received for the manufacture of 2000 tonnes per annum of ABS Plastics and Resins.

Application for financial assistance for ABS Project was submitted to the Financial Institutions.

1978: M/s. Croda Synthetic withdraw their foreign collaboration proposals for VP Menomer as the terms & conditions laid down by the Govt. of India were not acceptable to them.

1978: (contd) First charge of rejuvenated Butadiene Catalyst manufactured in the Batadiene Catalyst Plant was charged into Butadiene Convertor.

A foreign collaboration proposal for the sale of manufacturing know-how for V.P. Latex was received from M/s. Firestroe Tire & Rubber Company, U.S.A.

Production of Butadiene Catalyst using imported silica gel from M/s. W.R. Grace was started for the first time.

1979: Industrial Licence application for expansion of SBR manufacturing capacity to 60,000 MTPA from 30,000 MTPA, manufacture of Vinyl Pyridine Latex @ 800 MTPA (dry basis) and manufacture of 400 MTPA of Styrenated Phenol was submitted.

Industrial licence for the manufacture of 2000 MTPA of ABS Resins and Plastics was revalidated upto December, 1980.

A unit for the recovery of Ethylene from the by-product crude ethylene streams from our Butadiene Plant was erected and commissioned during the year.

Third Styrene Reactor alongwith its balancing equipment was installed.

1980: The validity of Industrial Licence granted for manufacture of 2000 MTPA of ABS Resins and Plastics was extended upto December, 1981.

1981: There was labour problem on bonus issue resulting in lockout of the factory for about 3 weeks.

One additional rubber coagulation and drying line was completed and commissioned to increase the production capacity to 37,500 MTPA.

1982: The expansion of Industrial licence capacity for production of SBR from 30,000 MTPA to 60,000 MTPA was not approved by the Government.

Validity period for ABS industrial licence was extended to the 31-12-1982 for reduced capacity of 1000 MTPA.

1984: In February, an additional Waste Water Treatment plant was inaugurated.

II. CAPACITY AND PRODUCTION

Annual Installed Capacity and Production of Petro-Chemicals in India during the years 1970, 1975, 1980 and 1983.

(Tonnes)

Name of the Industry/item.	1970			1975		
	No. of Units	Installed Capacity	Production	No. of Units	Installed Capacity	Production
1	2	3	4	5	6	7
Orgahic Heav Chemicals						
Benzene	10	94000	49228	10	94000	70737
Butadiene	2	32400	18482	2	32400	15154
Butyl Acetate	3	6280	2529	4	7230	3761
Butya Alcohol	3	12450	3445	4	15450	5582
Diacetone Alcohol	2	4800	2418	2	5800	2336
Diethylene Glycol	1	600	411	1	600	732
Dichlore Ethane	1	3000	634	1	50000	29361
Dripolene A+B	1	5000	4423	1	5000	3615
2-Ethylene	2	9600	6380	2	9600	7822
Ethylene	2	75000	52068	2	75000	66326
Ethylene Oxide	1	12000	1403	1	12000	10340
Monethylene Glycol	1	10000	4998	1	10000	7719
Methyl Isobutyl Ketone	1	3700	1131	1	3700	866
Isopropanol	1	1500	1594	1	1500	1352
Phthalic Anhydride	3	123 0	7256	3	15300	5653
Polyethylene Glycol	1	1000	543	1	1000	860
Propylene	2	6000	5494	2	42000	33299
Styrene	-	-	-	3	33000	15691
Toluene	9	25755	7834	9	25755	13407
D.M.T.	-	-	-	1	24000	15553
Ortho-xylene	-	-	-	1	21000	3933
Para-xylene	-	-	-	1	17000	9919
Mixed-xylene	-	-	-	1	2500	3962
Vinyl Chloride	-	-	-	1	30000	16071
Caprolactum	-	-	-	1	20000	13832
Synthetic Fibres						
Nylon Staple Fibre	-	-	-	1	900	174
Nylon Filament Yarn	5	8996	9797	8	15586	13581
Nylon Tyre Cord	2	360	68	3	5790	3813
Polyester Filament Yarn	2	720	574	5	2166	2233
Polyester Staple Fibre	1	4550	5333	5	25300	14315
Synthetic Rubber						
Synthetic Rubber	1	30000	30339	1	30000	22958
Plastic Raw Material Thermosets						
M.F. Moulding Powder	2	550	83	3	1490	106
P.F. Moulding Powder	2	3200	3237	3	6200	3592
U.F. Moulding Powder	3	1680	1589	4	5150	1764
C.A. Moulding Powder	2	) 7200	1003	2	7200	1003
Thermo-plastics						
Polyethylene H.D.	1	20000	18346	1	20000	22987
Polyethylene L.D.	2	19000	23215	2	25000	27835
Polystyrene	2	17500	8708	2	17500	9091
P.V.C. Resin	4	43700	38552	5	64700	42884

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Note : Installed Capacity as per D.G.T.D. Records.

Annual Installed Capacity and Production of Petro-chemicals in India during the years 1970, 1975, 1980 and 1983.

(Tonnes)

Name of the Industry/Item	1980			1983		
	No. of Units	Installed Capacity	Prodn.	No. of Units	Installed Capacity	Prodn.
1	2	3	4	5	6	7
Organic Heavy Chemicals						
Benzene	11	139000	137060	11	137060	101311
Butadiene	3	54400	54400	3	54400	23540
Butyl Acetate	4	8730	8230	4	8230	3533
Butyl Alcohol	4	15440	14190	4	14190	11256
Diacetone Alcohol	2	5800	700	2	7800	4117
Diethylene Glycol	1	600	7800	1	700	369
Dichloride Ethane	1	30000	30000	1	30000	33737
Dripolene A+B	1	5000	5000	1	5000	4250
2-Ethyl Hexanol	2	10700	11600	2	11600	3911
Ethylene	3	210000	213000	3	213000	164753
Ethylene Oxide	2	17000	17000	2	17000	15472
Monoethylene Glycol	2	30000	30000	2	30000	17414
Methyl Isobutyl Ketone	1	3700	3700	1	3700	1277
Isopropanol	1	4000	2500	1	2500	3239
Phthalic Anhydride	5	27300	35800	6	35800	31696
Polyethylene Glycol	1	1000	1500	1	1500	929
Propylene	3	123300	117300	3	117300	86283
Styrene	3	35000	38936	3	38936	26146
Toluene	9	25755	41755	9	41755	24279
DMT	1	24000	30000	1	24000	26397
Ortho-xylene	1	21000	21000	1	21000	18838
Para-xylene	1	17000	17000	1	17000	13595
Mixed-Xylene	1	2500	2500	1	2500	3228
Vinyl Chloride (M)	1	30000	30000	1	30000	23437
Caprolactum	1	20000	20000	1	20000	15270
Carbon Black Feedstock	1	17900	17900	1	17900	8294
Acrylonitrile	1	24000	24000	1	24000	15736
Linear Alkyl Benzene	1	30000	30000	1	30000	24367
Synthetic Fibres						
Nylon Acrylic Fibre	2	16000	16000	2	16000	14623
Nylon Filament Yarn	8	21976	30030	9	27002	27311
Nylon Indl. yarn/tyre cord	4	10490	15490	5	17250	13976
Polyester Staple Fibre	5	32050	36925	5	31140	25832
Polyester Filament yarn	8	8046	136711	10	31411	44587
Synthetic Rubber						
Styrene Butadiene Rubber	1	30000	30000	1	30000	18892
Polybutadiene Rubber	1	20000	20000	1	20000	12536
Plastic Raw Material & Thermosets						
CA Moulding Powser	2	7200	7200	2	7200	751
MF Moulding Powder	4	1740	1740	4	1740	438
PF Moulding Powder	3	5000	6861	3	5000	4568
UF MouldingPowder	6	5400	7296	6	5850	3338
Thermo-plastics						
Polyethylene L.D.	3	110000	121906	3	109000	98312
Polyethylene H.D.	1	30000	30000	1	30000	33419
Polystyrene	2	23500	26156	2	23500	15025
PVC Resins	5	77900	84400	5	85750	55363
Polypropylene	1	3000	30000	1	30000	23839

Note : Installed Capacity as per D.G.T.D. on 1.4.1983.

Production of Petro-chemicals in India 1970-71, 1975-76, 1980-81, 1982-83 & 1983-84.

(Tonnes)

Products	Annual Installed Capacity as on 1.4.84	1970-71	1975-76	1980-81	1982-83	1983-84
1	2	3	4	5	6	7
Organic Chemicals.						
Benzene	137060	53190	71224	79726	100093	103468
Butadiene	54400	18183	16323	18070	25408	24851
Butyl Acetate	8230	2691	3703	3860	3910	4084
Butyl Alcohol	14190	4231	5587	8844	10740	11076
Diethylene Glycol	700	527	681	249	425	381
Diacetone Alcohol	7800	2572	2351	4099	3971	4246
Dichlore Ethane	30000	642	24557	31150	33853	35352
Dripolene A+B	5000	4476	3730	4852	4119	4372
2- Ethyl Hexanol	11600	7938	8340	6610	7881	3994
Ethylene	213000	58668	64257	139846	170274	172600
Ethylene Oxide	17000	1513	9921	11787	14677	16807
Monoethylene Glycol	30000	4500	7287	11989	17361	18018
Methyl Isobutyl Ketone	3700	1236	960	460	1033	1358
Isopropanol	2500	1650	1346	2501	2623	2927
Phthalic Anhydride	35800	7984	6429	23081	29934	30721
Polyethylene Glycol	1500	563	872	2227	962	938
Propylene	117300	5663	32766	72691	89152	89530
Styrene	38936	--	16436	19524	21664	27560
Toluene	41755	8385	15292	19012	19799	22968
DMT	30000	--	19018	23136	22835	25063
Ortho-xylene	21000	--	7888	18059	13622	18462
Para-xylene	17000	--	12412	13221	10486	13124
Mixed xylene	2500	--	4336	2844	4115	3824
Vinyl Chloride (M)	30000	--	13812	16759	19706	25402
Caprolactum	20000	--	13270	13089	13247	15857
Carbon Black Feedstock	17900	--	--	5881	8682	8617
Acrylonitrile	24000	--	--	9326	17961	16477
Linear Alkyl Benzene	30000	--	--	17062	27788	17527
Synthetic Fibres						
Acrylic Fibre	16000	--	--	10275	16157	16589
Nylon Filament Yarn	30030	9338	14037	20822	25675	30298
Nylon Indl. Yarn/Tyre cord	15490	440	4000	11766	15507	16755
Polyester Staple fibre	36925	5423	16018	22381	25970	26862
Polyester filament yarn	36711	602	2297	10707	24360	48453
Synthetic Rubber						
Styrene Butadiene Rubber	30000	29791	25195	18968	14580	21109
Polybutadiene Rubber	20000	--	--	6469	16176	11468
Plastic Raw Materials & Thermoplastics.						
CA Moulding Powder	7200	1084	1133	324	692	720
MF Moulding Powder	1740	78	120	214	386	456
PF Moulding Powder	6861	3286	3665	4794	4290	4793
UF Moulding Powder	7296	1735	1887	2845	2938	3303
Polyethylene L.D.	121906	24437	27635	87154	106148	99687
Polyethylene H.D.	30000	21153	20018	24293	32702	36215
Polystyrene	26156	8925	9203	10205	12580	15308
P.V.C. Resisns	84400	41472	43818	42050	41648	64002
Polypropylene	30000	--	--	16729	24048	24348

Note : Installed Capacity as per D.G.T.D. records.

XII. S A L E S / C O N S U M P T I O N

Estimated/Consumption of Selected Petro-chemicals

(Qty. Tonnes)

PRODUCTS	1970-71	1975-76	1978-79	1979-80	1980-81	1981-82
1.	2.	3.	4.	5.	6.	7.
		Organic Intermediates				
Benzene	53209	72412	96773	95909	79746	81677
Butadiene	18183	16323	19953	21766	18070	22720
Diethylen Glycol	527	681	608	411	249	339
Dichlore Ethane	642	24557	9 39664	33528	31150	23604
Ethylene	58668	64257	115779	126537	139846	147754
Ethylene Oxide	1513	19921	13396	22134	11787	11426
Ethylene Glycol	4805	7444	11534	13647	13230	16908
2 Ethyl Hexanol	7938	8340	9301	8564	6610	6959
Isopropanol	1650	1346	2306	2077	2504	1823
M. I. Ketone	1236	960	1430	712	7732	1498
Phathalic-Anhydride	13275	12931	23240	2404	26040	12309
Propylene	5663	32766	56048	6608	72091	67638
Polyethylene Glycol	563	872	1173	1181	11491	712
Styrene	-	16436	25476	27781	19514	15963
Toluene	8327	15296	24544	23894	19084	25365
		Plastics Raw Materials.				
M.F. Moulding Powder	78	120	178	245	214	328
P.F. Moulding	3367	3661	4287	4753	5214	4718
U.F. Moulding Powder	1663	1939	2506	3071	2870	3246
C.A. Moulding Powder	1170	1465	1093	689	5387	435
Polythylene L.D	22988	35012	83770	73631	90544	96413
Polythylene H.D	13590	31479	54251	62706	59624	57686
Polystyrene	8189	19610	15531	12457	10552	9504
P.V.C. Resins	41452	44223	68736	81953	107768	101505
		Synthetic Fibre				
Alcoholic Fibre	195	3163	25330	5748	20936	13715
Nylon Filament Yarn	9338	16890	23651	19858	2289	27768
Nylon Industrial Yarn/Tyre cord	440	4000	8560	11194	11768	14423
Nylon polymides/ staple Fibre	117	356	236	129	-	415
Polyester filament yarn	602	4456	14157	17783	17763	35039
Polyester staple	14166	16559	31882	33039	26399	32277
Synthetic Rubber	21731	31582	42083**	47969	40093	59359

Note:- Estimated Consumption, production, imports, exports.
* includes imports and exports of Natural & reclaimed rubber also. ** Included polybutadene Rubber from IPCL Baroda also.

IV. PRICES Trends in Ex- Factory Prices of Caprolactum DMT Mona- Ethylene Glycol.

(Rs./Tonnes)

Years	Months	Ex-Factory Prices (Exclusive of Duties & Taxes)				
		Caprolactum		DMT Mona-Ethylene Glycol		
		Used for Filament upto 225 Denier	Used for Tyre Cord & Nylon Yarn (above 225 Denier)		Bulk	Packed
1975	April	22000	22000	16000	7100	7900
	December	21334	21334			
1976	January				7550	8350
1977	January			12000		
	April			11000		
	October	17147	17147			
1978	January	16000	16000			
	March				7650	8450
	September	16000	13500			
1979	April	17000	16000			
	May	21334	20026	15000		
	June				7650-7750	8750
	August	22174	20813	16000	10900-11000	11900-12000
	August 17	23900	22431			
1980	Janary	25900	25900			
	April					12300
	June	26480	26480		12000 - 12700	13400 - 14100
	August 5	22000	22000			
1981	January				12800 - 13300	14100 - 14700
	September	23850	23850		13800 - 14050	15300 - 15500
1982	April	24162	24162			
	September				13800 - 14350	15300 - 15850
	November	24475	24475			
1983	April			16500	14500 - 14650	15800 - 16300
	September	25000	25000			
	October			17000		
	December					
1984	April			17500		
	May	No change	No change	-	No change	No. change

Source:- Hand book of Statistics on Man-made/Synthetic Fibre/ Yarn Industry 1983-84 brought out by Association of Synthetic Fibre Industry.

Ex- Works Prices of Selected Petro-chemicals Excluding Excise Duty

(Rs./MT)

ITEM	Manufacture	Grade	1-4-80	1-4-81	1-4-82	1-4-83	1-4-84
1.	2.	3.	4.	5.	6.	7.	8.
1. Dioctyl Phthalate (DOP)	IOC		17310	17880	16630	18240	18720
	HCL		20550	20900	19900	18900	19400
2. Dibutyl Phthalate	IOC		15210	20770	18580	20240	20270
3. Ethylene Oxide	NOCIL*		13950	NA	18400	18600	18600
4. Ethylene Glycol	NOCIL*		10900	NA	14050	14350	14650
5. 2-Ethylene- Hexanol	NOCIL*		14700	NA	18750	18750	18750
	UCI		13950	19250	25600	2280	
6. High Density Polythylene	Polyolefins Industries	Natural colour	13300	15078	14289	13389	15722
		Colour	14015	15949	15949	14587	17367
		Trade					
7. Low Density Polythylene(LDP)	UCI@		20300	22000	22000	21700	21700
	ACCI@		18000	22000	18250	NA	18500
8. Phthalic Anhydride	Durgapur chemicals		13250	11700	11300	12900	13000
	HCL		13350	12350	13150	14100	14100
9. PVC Resin	NOCIL*		9000	NA	9000	9500	11000
10. PVC Suspension Resin	Chemicals & Plastics Ltd.		8180	15500	12000	13000	10969
	ILAC			9400	9400	NA	11000
	NOCIL*		17900	NA	19850	22550	22550
11. PVC Compound			10732	19000	17750	18750	15174
12. PVC Plastic Resin	Chemicals& Plastics			12400	12400	NA	16000
	ILAC				17500	19000	15722
13. PVC Copolymer Resin	Chemicals & Plastics Ltd.		9682	17500			
14. Polystyrene	Polychem	General purpose	14365	N.A.	20250	20250	21000
	HPL @	-do-	21500	26300	26800	21700	23800
15. Polystyrene	HPL @	High impact	22200	27500	28000	24900	25400
16. Styrene Butadiene Rubber	S&CL	S-1502	13500	17500	18400	18400	20240
		S-1712	12500	15600	16400	16400	18150
		S-1958	18700 to 19200	21800	22150	22150	23900

@ - Prices are inclusive of the Excise Duty.

* - Prices are inclusive of marketing charges.

AVERAGE BOMBAY MARKET PRICE QUOTATION OF SYNTHETIC FIBRE/YARN

(Rs/kg.)

Denier	1975	1980	1981	1982	1983	1984 Jan.-March
1.	2.	3.	4.	5.	6.	7.
		1. NYLON FILAMENT YARN				
12-1-o-SD	139.76	166.73	184.17	172.46	-	-
20-1-0-SD	134.24	146.07	157.98	157.25	188.29	148.54
30-10-0-SD	131.41	158.34	149.79	157.50	-	-
40-10-0-SD	124.77	134.50	145.79	137.32	156.90	139.61
111-24-0-SD	102.19	107.87	117.90	110.59	122.44	108.32
		2. POLYESTER FILAMENT YARN				
76-24-0	197.53	142.65	168.90	156.35	169.92	158.12
76-34-0	199.12	141.85	169.16	154.20	166.43	-
76-36-0	194.61	143.30	172.02	159.18	169.32	155.68
150-36-0	NA	121.95	144.32	126.83	132.21	-
		3. POLYESTER STAPLE FIBRE				
1.2 D	74.55	77.37	87.12	85.98	87.77	84.03
1.5 D	74.27	76.12	87.92	86.74	86.37	82.90
2.0 D	72.33	75.42	86.49	85.56	86.76	82.03

SOURCE : Hand book of Statistics of Man-made/synthetic fibre/yarn Industry 1983-84 brought out by Association of Synthetic Fibres Industry.

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V. EXCISE AND CUSTOM DUTIES.

REALISATION OF EXCISE & CUSTOM DUTIES FROM PETROCHEMICALS AND PETRO-BASED ITEMS

(Rs./Crores)

Products	Actuals				R.E.	B.E.
	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85*
1.	2.	3.	4.	5.	6.	7.
EXCISE DUTIES						
1. Plastics materials & synthetic resins	110	123	138	140	154	188
2. Synthetic Organic Dyestuffs	42	42	43	48	52	55
3. Carbon Black	7	10	12	15	18	19
4. Man-made Fabrics	5	6	9	11	16	30
5. Man-made Fibre and Yarn including Man-made Filament Yarn	363	425	527	556	873	943
6. Synthetic Rubber	2	4	4	6	6	7
TOTAL(A)	529	610	733	776	1119	1242
CUSTOM DUTIES						
7. Artificial resins, plastic materials and articles thereof	108	142	178	226	250	270
8. Yarn of man-made fibres	98	160	217	246	170	150
9. Man-made fibres and filament tow	97	92	103	145	115	120
TOTAL(B)	303	394	498	617	535	540
GRAND TOTAL(A+B)	832	1004	1231	1393	1654	1782

Figures rounded to nearest crores.

*Doest not include the impact of 5 percentage points increase in the rates of import duty (basic plus auxiliary) wherever applicable.

Source: Budget Papers of the Central Government.

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EXCISE DUTY RATES FOR SELECTED PETRO-CHEMICAIS AS ON 1.3.1984

Product	Unit	Basic Duty	Special Duty	Addi. Duty	Total
A. ORGANIC CHEMICAIS					
Butadiene	Adv.	20%	5%	-	21%
Ethylene*	Adv.	20%	5%	-	21%
Ethylene Oxide*	Adv	10%	-	-	21%
Linear Alkyl Benzene*	Rs/KL	450	-	-	450
Monoethylene glycol*	Adv	10%	-	-	10%
Polyethylene Glycol*	Adv	10%	-	-	10%
Propylene(PG&EG)*	Adv	20%	5%	-	21%
Paraorthoxylene*	Rs/KL	450	-	-	450
Caprdactum	Adv	15%	5%	-	15.75%
Ethylene Glycol	Adv	10%	-	-	10%
2 Ethylene Hexanol	Adv	10%	-	-	10%
Pathalic Anhydriede	Adv	10%	-	-	10%
B. SYNTHETIC FIBRE					
Acrylic Fibre	Rs/Kg	14.00	1.40	2.10	17.50
Nylon Filament Yarn					
Below 80 D	Rs/kg	61.00	6.10	9.15	76.25
80D and above but not above 250D		41.00	4.10	6.15	51.25
Above 250D	Rs/kg	6.50	0.65	0.98	8.13
Polyester Filament Yarn					
Below 350	Rs/kg	72.00	7.20	10.80	90.00
350D and above but not above 750D		52.00	5.20	7.80	65.00
above 750 D	Rs/kg	15.00	1.50	2.25	18.75
Polyester Texterised Yarn					
Below 325D	Rs/kg	72.00	7.20	10.80	90.00
350D and above but not above 825D		52.00	5.20	7.80	65.00
Above 825D	Rs/kg	15.00	1.50	2.25	18.75
Polyamide(Nylon)Texterised Yarn					
Below 80D	Rs/kg	61.00	6.10	9.15	76.25
80D & above but not above 275D		41.00	4.10	6.15	51.25
Above 275D	Rs/kg	6.50	0.65	0.98	8.13
C. POLYESTER STAPLE FIBRE		45.00	-	-	45.00
PLASTIC RAW MATERIALS & THERMOSETS					
M.E Moulding Powder	Adv	15%	5%	-	15.75%
PF Moulding Powder	Adv	15%	5%	-	15.75%
UF Moulding Powder	Adv	15%	5%	-	15.75%
CA Moulding Powder	Adv	10%	5%	-	10.50%
Polyethylene L.D	Adv	30%	5%	-	31.5%
Polyethylene H.D.	Adv	35%@ 40%	5%@ 5%	-	36.75%@42.0
Polystyrene	Adv	15%	5%	-	15.75%
PVC Resins	Adv	35%	5%	-	36.75%
Polypropylene	Adv	27%	5%	-	28.35%
SYNTHETIC RUBBER					
Polybutadiene Rubber	Adv.	10%	10%		11%
Styrene Rubber	Adv.	10%	10%		11%

* The duty is NIL for certain specified uses indicated in Central excise notifications.

@ It manufactured from duty paid raw naphthas or chemical derived therefrom

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Customs Duty Rates For Selected Petro-Chemicals As On 1.3.1984.

PRODUCT	Basic Duty	Auxilary Duty	Courter Vailing Duty Basic	Special Others % of Basic CVD	TOTAL
ORGANIC CHEMICALS					
Acrylonitrile	70%	40%	-	-	110%
Caprolactum	75%	15%	15	5	119.93%
DMT	100%	40%	-	-	140%
Mono-Ethylene Glycol	70%	40%	10%	-	131%
Linear Alkyl Benzene	70%	35%	Rs.450/KL		105% +Rs.450/KL
Ortho-xylene	40%	30%	Rs.450/KL		70% +Rs.450/KL
Para-xylene	40%	30%	Rs.450/KL		70% +Rs.450/KL
Phthalic Anhydride	70%	40%	10%	-	131 %
Di-Octyl Phthalate	70%	40%	10%	-	131.8%
TPA	100%	40%	-	-	140%
SYNTHETIC FIBRES					
Acrylic Fibre	110% +Rs.12.50/Kg	30%	Rs.17.50/Kg	-	140% +Rs.30/Kg
Acrylic Filament Yarn	100% +Rs.30/Kg	30%	-	-	100% +Rs.30/Kg
Nylon Filament Yarn	100%	40%	@		
Nylone Tyre Yarn	100%	30%	@		
Polyester Filament Yarn	200% + Rs.15/Kg.	25%	@ @		
Polyester Staple Fibre	145% +Rs.9/Kg	30%	Rs.45/ Kg.	-	175 +Rs.54/Kg.
PLASTIC RAW MATERIALS					
MF Moulding Powder	150%	40%	15%	5%	235.68
PF Moulding Powder	150%	40%	15%	5%	235.68
Nylon Moulding Powder	150%	40%	15%	5%	235.68
UF Moulding Powder	150%	40%	15%	5%	235.68
CA Moulding Powder	100%	40%	40%	5%	240.80
LDPE	100%	30%	40%	5%	226.60
HDPE	50	30	40	5%	155.60
Polystyrene	75%	40%	15%	5%	148.06
Polypropylene	65%	35%	27%	5%	156.70
PVC Resins i)Preferred Source*	75%	-	35%	5%	139.31
ii)Non-Preferred source	150%		35%	5%	241.88%
Polystyrene	150%	40%	15%	5%	235.67
SYNTHETIC RUBBER					
Polybutadiene Rubber	40%	30%	10%	10%	88.70

@ - As per excise duty rates.

* When imported from countries like Korea, Yugoslavia, Paraguay, Uraguay, Spain etc.

VI. IMPORTS/EXPORTS

IMPORTS OF SELECTED PETRO-CHEMICALS

(Qty. Tonnes: Value Rs. in lakhs)

Products	1975-76		1980-81		1981-82		1982(Apl.-S	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9
A. Organic Chemicals								
Acrylonitrile	-	-	38	5	-	-	-	-
Benzene	1191	48.2	40	9	17	2	-	-
Butyl Alcohol	28	2.7	30	4	83	9	215	21
Butyl Acetate	161	14.5	57	7	119	13	36	4
DMT	248	13.0	84	7	2	1	821	174
Epsilon Caprolactum	1985	200.2	21395	3210	16108	3471	12904	1922
Ethylene Glycol	157	13.7	1250	105	1417	108	1102	80
Ethyl Alcohol Undenatured	neg.	0.1	12	1	-	-	-	-
Methyl Isobutyl Ketone	-	-	272	26	1060	96	191	18
Ethyl Alcohol denatured	1	0.3	36	5	6134	238	13	2
Phthalic Anhydride	6502	207.8	2959	154	1658	99	25	3
Toluene	4	0.3	69	5	-	-	3	1
B. Plastic Raw Materials								
CA Moulding Powder	332	30.3	63	6	144	14	21	1
PF Moulding Powder	1	0.5	421	34	162	12	122	12
Polyethylene LD	7376	311.9	4063	314	2121	192	436	40
Polyethyelene HD	1512	84.0	36939	2785	25963	1770	17937	1394
Polystyrene Moulding Powder	416	27.0	347	32	1863	156	1468	130
PVC Resins	405	26.9	66355	4203	64490	3741	34675	1893
UF Moulding Powder	83	3.9	25	4	3	1	-	-
C. Synthetic Fibres								
Acrylic Fibre	3163	380.2	661	102	123	24	106	18
Acrylic Filament Yarn	-	-	7	2	2	2	1	1
Nylon Filament Yarn	2853	587.0	1481	483	4461	897	573	171
Polymide Fibres	356	60.9	87	17	415	77	-	-
Polyester Filament Yarn	2159	274.0	11072	2151	19670	4309	8358	2147
Sy. & Regenerated Fibre	--	-	63427	8859	103464	15542	36210	5686
Polyester Staple Fibre	541	66.9	4018	568	2570	421	2465	416
D. Synthetic Rubber								
Crude & Syn. Rubber	6391	651.6	16635	2140	30487	3953	11117	1778

Neg. = Negligible.

Source : Directorate General of Commercial Intelligence & Statistics, Calcutta.

EXPORTS OF SELECTED PETRO-CHEMICALS.

(Qty. Tonnes: Value Rs. in Lakhs.)

Product	1975-76		1980-81		1981-82		1982 (Apl.-Sept.)	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9
A. Organic Chemicals								
Benzene	3	0.1	-	-	-	-	-	-
Ethyl Alcohol (Undenatured)	-	-	-	-	-	-	13	-
B. Plastic Materials								
PF Moulding Powder	5	0.3	-	-	-	-	-	-
Polyethylene LD	-	-	-	-	1	1	-	-
Polyethylene HD	51	5.6	-	-	9	3	-	-
Polystyrene Moulding Powder	9	2.8	-	-	1	1	26	4
PVC Resins	-	-	1	1	22	4	-	-
UF Moulding Powder	31	1.6	-	-	7	1	-	-
C. Synthetic Fibres								
Nylon Tyre Cord	-	-	-	-	-	-	-	
Nylon Filament Yarn	-	-	16	5	76	31	2	3
Acrylic Filament Yarn	-	-	1	1	5	4	4	3
Syn. & Regenerated Fibre	15	0.6	-	-	154	17	-	-
D. Synthetic Rubber								
Crude & Syn. Rubber		0.3	4	1	-	-	16	6

Source : Directorate General of Commercial Intelligence & Statistics, Calcutta.

VII. INTERNATIONAL STATISTICS

WORLD PRODUCTION OF TEXTILE FIBRES

('000' Million Tonnes)

YEAR	MAN-MADE FIBRES						MAN MADE FIBRES TOTAL	RAW COTTON	RAW WOOL	RAW SILK	GRAND TOTAL
	CELLULOSIC			SYNTHETIC							
	Yarn	Staple	Total	Yarn	Staple	Total					
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1950	874	738	1612	54	15	69	1681	6647	1057	- 19	9404
1955	1042	1236	2278	184	82	266	2544	9492	1265	- 29	13330
1960	1131	1476	2607	417	285	702	3309	10113	1463	- 31	14916
1970	1393	2043	3436	2363	2337	4700	8136	11782	1602	- 41	21561
1975	1136	1823	2959	3763	3590	7353	10312	11757	1538	- 47	23654
1976	1188	2022	3210	4128	4473	8601	11811	12480	1487	- 48	25826
1977	1172	2109	3281	4312	4837	9149	12430	13921	1488	- 49	27888
1978	1167	2151	3318	4603	5431	10034	13352	12973	1528	- 51	27904
1979	1176	2195	3371	4889	5712	10601	13472	14270	1573	- 55	29870
1980	1161	2081	3242	4732	5744	10476	13718	14260	1581	- 56	29621
1981	1104	2100	3204	4803	6007	10810	14014	15422	1609	- 57	31102
1982	1032	1917	2949	4482	5618	10100	13049	14677	1616	- 55	29397
1983 (Prodn. capacity)	1307	2417	3720	6300	7577	13877	17597	-	-	-	-
1984 (Prodn. capacity)	1304	2436	3740	6556	7881	14437	18177	-	-	-	-

Source:-

Production of Plastics & Resins in Selected Countries of the World - 1971-1980

('000'Metric Tons)

Country or Area and Product	1971	1975	1977	1978	1979	1980
1.	2.	3.	4.	5.	6.	7.
Australia(Total)	255.6	362.4	406.8	494.4	618.0	709.2
Belgium						
Condensation	40.6	42.0	44.0	-	-	-
Polymerization	410.4	615.6	1037.0	-	-	-
Others	21.1	20.9	22.0	-	-	-
Czechoslovakia(Total)	270.0	427.2	738.0	810.0	853.2	894.0
Condensation	14.0	25.2	26.7	28.0	29.9	31.2
Alkyd Resins						
Amino Plastics	2.3	2.0	2.2	2.2	2.1	2.2
Phonoplasts	15.6	18.5	18.0	18.5	18.8	19.2
Polymerization						
Polyethylene	29.4	30.6	112.2	139.9	152.8	164.2
Polypropylene	-	31.3	100.7	105.6	111.6	101.5
Polystyrene	25.7	42.6	47.0	50.2	54.6	61.2
Polyvinyl Chloride	43.4	82.9	174.3	188.5	193.4	204.2
Others						
Regen.Cellulose	17.0	17.7	18.5	18.4	18.2	18.2
Canada(Total)	387.0	722.4	-	-	-	-
Condensation						
Alkyd Resins	-	-	-	-	-	-
Polymerization	179.7	246.1	345.0	477.5	628.2	641.7
Polyethylene						
Polystyrene	60.4	59.3	90.5	98.7	123.8	109.8
Polyvinyl Chloride	78.0	69.9	99.7	127.8	149.4	190.4
France						
Condensation	372.0	480.0	532.0	486.0	521.4	-
Alkyd Resins	28.5	38.4	46.4	47.4	41.9	41.7
Amino Plastics	91.9	203.9	194.8	173.4	191.0	168.5
Phenoplasts	46.2	61.1	65.4	57.2	63.7	57.8
Polymerization	1327.2	1479.0	2243.2	2420.0	2784.0	2552.0
Polyethylene	503.5	622.6	954.5	980.9	1173.3	1074.5
Polystyrene	149.3	160.6	233.3	239.9	268.5	254.2
Polyvinly Chloride	457.6	473.6	645.2	664.6	784.8	725.4
Others	69.6	57.0	67.0	-	-	-
Polypropylene	-	49.3	90.6	145.3	206.6	211.0
Germany Dem. Rep.						
Total	420.0	604.8	734.4	762.0	778.8	859.2

Source: U.N. Statistical Year Book, 1981.
*Provisional.

Production of Plastics & Resins in Selected Countries of the World 1971-1980

('000 Metric Tons)

Country of Area and Product	1971	1975	1977	1978	1979	1980
Germany Fed. Rep. of						
Condensation	1502.4	1611.6	1929.6	2055.6	2228.4	2114.2
Alkyd Resins	111.9	88.7	99.0	113.5	115.4	121.4
Amino Plastics	644.3	717.2	814.8	792.4	854.0	804.9
Polymerization	3162.0	3278.4	4162.8	4521.6	4842.0	4408.8
Polyethylene	928.2	1068.4	1433.6	1521.6	1578.0	1399.9
Polypropylene	-	-	290.0	298.0	311.0	287.0
Polyvinyl Chloride	846.4	833.3	897.4	1006.3	1084.8	953.2
Others	175.2	156.0	177.6	177.6	194.8	187.2
India (Total)	103.2	82.8	103.2	120.0	156.0	138.0
Polythylene	51.5	50.8	47.0	71.7	99.8	97.9
Polystyrene	11.0	9.1	14.7	12.7	13.5	10.5
Polyvinyl Chloride	-	41.5	57.0	59.1	59.0	-
Italy						
Condensation	234.0	208.8	231.6	250.8	241.2	236.4
Alkyd Resins	29.1	27.5	28.5	31.1	31.8	29.1
Phenoplastic	39.4	31.8	37.4	39.9	40.9	44.3
Polymerization	1602.0	1816.8	2277.6	2188.8	2284.8	2192.4
Polyethylene	515.8	626.0	779.7	696.5	731.4	747.6
Polystyrene	181.9	211.0	262.3	277.2	264.7	324.7
Polyvinyl Chloride	483.2	555.2	685.4	673.1	694.5	672.5
Others	35.2	27.0	28.8	26.9	36.0	34.8
Polypropylene	-	100.0	256.0	256.6	279.7	230.6
Japan						
Condensation	1128.0	1014.0	1240.8	1347.6	1464.0	1426.8
Alkyd Resins	229.6	217.3	275.1	310.2	345.2	316.5
Amino Plastics	647.9	573.7	665.8	706.5	733.8	716.1
Phenoplastics	217.6	195.6	246.2	267.5	300.4	303.7
Polymerization	4033.2	3358.8	3736.8	4357.2	5302.6	4792.8
Polyethylene	1340.0	1290.6	1466.7	1766.6	2165.3	=860.2
Polypropylene	627.2	594.5	607.8	744.1	1022.7	927.2
Polystyrene	694.9	690.0	900.3	1031.8	1226.9	1128.8
Polyvinyl Chloride	1034.5	1125.4	1030.8	1204.8	1502.1	1429.3
Netherlands						
Condensation	302.4	397.2	530.4	603.6	628.8	548.4
Alkyd Resins	49.3	52.5	60.3	58.6	65.6	65.6
Amino Plastics	123.0	126.0	140.0	150.0	145.0	131.0
Phenoplast	-	2.5	3.4	3.5	5.1	4.2
Polypropylene	-	-	55.0	-	-	-
Polystrene	-	175.0	-	-	-	-
Polyvinyl Chloride	-	220.0	-	-	-	-

Source: U.N. Statistical Year Book, 1981

Production of Plastics & Resins in Selected Countries of the World during 1971-78

('000 Metric Tons)

Country or Area and Products	1971	1975	1977	1978	1979	1980
Poland (Total) Condensation	256.8	538.8	583.2	596.4	571.2	667.2
Amino Plastics	4.1	7.4	10.2	12.9	12.4	12.2
Phenoplasts	18.8	19.6	16.6	9.3	10.0	9.9
Polymerization	18.9	47.8	47.8	46.3	113.1	110.8
Polythylene						
Polystryene	22.1	32.0	33.8	33.9	32.9	33.9
Polyvinyl Chloride	93.8	124.4	122.2	125.5	101.9	118.6
Sweden						
Condensation	148.0	236.0	266.0	266.0	255.6	-
Alkyd resins	27.7	31.2	32.3	34.2	31.2	-
Amino Plastics	74.7	106.4	125.3	-	-	-
Phenoplasts	38.4	48.2	50.2	51.8	56.6	-
Polymerization	210.9	280.0	330.0	343.1	-	-
Polyethylene	104.0	147.6	173.4	190.6	234.4	-
Polystyrene	16.1	7.3	10.2	8.3	11.0	-
Polyvinyl Chloride	79.8	118.0	119.0	129.4	137.3	-
Others	10.8	13.0	-	-	-	-
Regen-cellulose	-	0.8	1.6	1.7	1.15	1.9
U.S.S.R Total	1860.0	2844.0	3300.0	3516.0	3504.0	3636.0
United Kingdom						
Condensation	327.6	710.4	864.0	897.6	882.0	746.4
Alkyd resins	71.0	112.2	132.0	123.5	129.8	118.7
Amino Plastics	138.0	121.9	178.4	167.5	164.5	164.8
Phenoplasts	55.0	46.7	57.9	53.0	54.7	38.1
Polymerisation	1059.6	1238.4	1736.4	1755.6	1655.6	1416.0
Polyethlene	378.4	382.9	489.9	428.2	483.6	454.2
Polypropylene	92.0	169.7	248.2	292.3	263.4	194.9
Polystyrene	161.0	184.6	228.9	209.2	216.5	169.3
Polyvinyl Chloride	314.0	334.0	386.4	490.7	440.2	343.2
Others	93.6	108.0	109.2	111.6	99.6	97.2
Regen. Cellulose	-	64.6	77.7	79.8	73.8	78.8
United States						
Condensation	1130.4	799.2	769.2	810.8	907.2	765.6
Alkyd resins	246.2	305.7	341.7	341.9	342.4	-
Amino Plastics	349.1	479.4	617.2	727.5	727.5	-
Phenoplasts	535.5	578.2	815.2	873.6	806.7	647.0
Polymerization	6870.0	7618.8	8133.6	8937.6	10194.0	9193.2
Polypropylene	607.4	863.2	1227.3	1385.6	1734.2	1516.6
Polyethylene	2894.0	3302.1	4581.3	5151.7	507.4	5178.6
Polyvinyl Chloride	1558.9	1634.5	2309.2	2665.8	2816.5	2496.1
Others	1873.2	1788.0	2529.2	2388.0	-	-
Regen. Cellulose	631.7	339.8	-	-	-	-
Polystyrne	1809.7	1757.3	2360.2	2715.9	2869.4	2051.4

Source: U.N. Statistical Year Book, 1981

Production of Synthetic and Reclaimed Rubber - 1971-1980.

('000 Metric Tons)

Country or Area	1971	1975	1977	1978	1979	1980*
		A. SYNTHETIC RUBBER				
World Total	5230	5210	6720	6835	7150	6405
of which:						
Argentina*	42.5	40.0	36.0	34.0	37.0	33.0
Australia	43.4	37.6	43.5	43.5	42.8	46.0
Belgium*	60.0	65.0	119.0	124.0	125.0	125.0
Brazil	78.2	128.8	188.1	206.1	223.8	249.1
Bulgaria	11.9	18.9	25.0	25.0	30.0	30.0
Canada	197.4	173.3	237.9	248.3	282.5	252.8
Czechoslovakia	52.2	56.7	58.8	58.9	59.3	60.0
France	323.1	350.4	479.0	491.5	541.4	510.8
Germany Dem. Rep.	129.3	143.9	146.9	145.0	165.0	170.0
Germany Fed.Rep.	306.4	315.9	414.3	407.0	418.5	380.0
India	33.0	23.0	27.4	28.0	32.1	22.5
Italy*	160.0	200.0	240.0	250.0	270.0	250.0
Japan	179.8	788.7	971.0	1028.9	1107.2	1094.1
Korea Rep. of	24.2	35.3	43.4	61.8	60.3	75.5
Mexico	48.7	60.0	62.6	80.3	90.0	100.0
Netherlands	191.0	215.9	240.0	222.8	238.4	211.7
Poland	66.2	107.9	119.4	125.6	129.4	117.9
Romania	71.0	98.9	136.2	147.5	148.8	150.4
South Africa	29.7	31.8	27.2	31.8	31.2	38.7
Spain	45.4	66.1	87.1	86.3	86.8	80.0
Sweden	6.5	8.3	8.2	15.4	4.5	12.6
United Kingdom	285.4	260.8	329.2	293.7	277.7	211.8
United States	2277.0	1989.5	2660.0	2661.7	2720.3	2241.0
Turkey	7.5	18.7	21.4	15.9	23.0	23.0
		B. RECLAIMED RUBBER				
World Total	555	460	460	460	-	-
of which						
Australia	9.0	5.8	1.1	0.9	0.6	0.2
Brazil	22.0	28.5	31.6	32.6	32.5	37.7
Bulgaria	2.8	2.0	-	-	-	-
Canada	13.6	3.9	3.4	3.8	5.2	3.0
Czechoslovakia	14.7	15.1	16.0	19.8	19.8	19.3
France	24.7	22.4	21.0	20.0	17.5	-
Germany Fed.Rep.	14.9	10.8	13.3	11.9	-	-
Hungary	2.7	1.7	0.1	-	-	-
Japan	59.5	47.8	56.7	59.6	63.3	67.2
Korea Rep. of	4.2	3.7	-	-	-	-
Sweden	8.3	5.9	0.5	0.5	0.3	-
United Kingdom	30.0	24.6	23.0	20.7	19.9	15.4
United States	202.4	120.6	121.1	123.6	123.7	86.6
Yugoslavia	6.0	6.4	6.1	7.5	6.5	7.4

*Provisional
Source:- U.N.Statistical Year Book, 1981.

Production of Basic Organic Chemicals in Selected Countries of the World 1971-80

('000 Metric Tons)

Country or Area and Product	1971	1975	1977	1978	1979	1980*
Bulgaria						
Ethylene	53.0	75.8	78.4	81.2	95.3	-
Propylene	45.6	59.2	62.2	62.1	63.0	79.4
Acetylene	7.3	14.7	12.2	13.1	11.9	12.8
Benzene	41.8	54.4	61.4	-	-	-
Toluné	44.5	52.1	48.0	56.0	52.4	54.4
Xylenes	30.4	34.7	30.9	32.4	33.2	30.1
Methyl Alcohol	26.1	27.5	27.3	24.3	25.7	27.0
Ethylene Oxide	7.4	9.6	10.4	10.4	9.9	10.9
Canada						
Ethylene	421.0	430.0	567.0	826.0	1014.0	1197.0
Acetylene	8.7	8.6	8.0	7.5	-	-
Benzene	263.9	248.0	435.0	559.0	493.0	560.0
Tolune	132.8	54.0	-	283.0	341.0	470.0
Xylenes	51.1	76.0	-	352.0	-	493.0
Ethyl Alcohol	396.0	233.0	240.0	-	-	-
Propylene	-	-	-	310.0	-	540.0
Czechoslovakia						
Ethylene	127.8	75.0	201.0	229.0	252.0	323.0
Propylene	62.9	36.0	99.0	108.0	116.0	151.0
Acetylene	14.1	15.0	16.0	16.0	16.0	16.0
Benzene	114.5	152.0	195.0	203.0	178.0	184.0
Toluene	40.8	39.0	49.0	49.0	44.0	49.0
Xylenes	20.8	88.0	97.0	115.0	111.0	114.0
Methyl Alcohol	83.9	93.0	104.0	110.0	112.0	113.0
Ethyl Alcohol	171.9	1330.0	1189.0	1130.0	1138.0	1140.0
Ethylene Oxide	5.9	8.0	11.0	11.0	11.0	13.0
France	-	1235.0	1879.0	1922.0	2248.0	2073.0
Propylene	567.0	647.0	941.0	1063.0	1156.0	988.0
Acetylene	114.0	15.4	14.7	14.0	13.9	14.5
Benzene	371.7	295.0	494.0	519.0	595.0	547.0
Toluene	90.5	58.0	71.0	54.0	84.0	64.0
Xylenes	49.4	47.0	73.0	111.0	103.0	78.0
Methyl Alcohol	225.2	287.0	376.0	347.0	353.0	345.0
Ethyl Alcohol	70.0	10549.0	8556.0	8300.0	8983.0	1087.0
Ethylene Oxide	91.0	153.0	-	-	-	-
German Dem. Rep.						
Methyl Alcohol	172.4	240.0	240.0	249.0	227.0	249.0
Ethyl Alcohol	359.0	358.0	315.0	359.0	359.0	308.0

Source:- U.N. Statistical Year Book, 1981

* Provisional

Production of Basic Organic Chemicals in Selected Countries of the World 1971-80

('000 M.Tons)

Country or Area and Product	1971	1975	1977	1978	1979	1980
Germany Fed. Rep. of						
Ethylene	2004.7	2140.0	2999.0	3219.0	3544.0	3065.0
Propylene	903.2	1091.0	1536.0	1704.0	1844.0	1592.0
Acetylene	335.1	260.0	204.0	209.0	224.0	279.0
Benzene	814.5	691.0	824.0	894.0	1007.0	979.0
Toluene	181.2	176.0	243.0	226.0	299.0	261.0
Xyelnes	278.9	350.0	456.0	412.0	493.0	356.0
Methyl Alcohol	876.7	771.0	887.0	800.0	871.0	823.0
Ethyl Alcohol	2189.0	1829.0	2116.0	1823.0	1821.0	2179.0
Ethylene Oxide	232.8	271.0	295.0	361.0	434.0	386.0
Italy						
Ethylene	1016.3	1128.0	1414.0	1225.0	1181.0	1074.0
Propylene	617.5	704.0	830.0	748.0	678.0	648.0
Acetylene	203.7	158.0	164.0	122.0	108.0	92.0
Benzene	481.3	467.0	594.0	522.0	530.0	450.0
Toluene	388.4	375.0	425.0	358.0	367.0	287.0
Xylenes	385.0	322.0	342.0	312.0	403.0	356.0
Methyl Alcohol	277.9	230.0	233.0	156.0	172.0	-
Ethyl Alcohol	1851.0	235.0	[illegible]	-	-	-
Ethylene Oxide	69.3	75.0	79.0	76.0	78.0	-
Japan						
Ethylene	3536.8	3399.0	3979.0	4387.0	4784.0	4175.0
Propylene	2455.0	2314.0	2716.0	2964.0	3113.0	2637.0
Acetylene	73.5	62.0	54.0	51.0	33.0	18.0
Benzene	1689.0	1608.0	1951.0	2015.0	2179.0	2060.0
Toluene	790.5	657.0	892.0	884.0	962.0	908.0
Xylenes	855.6	895.0	1213.0	1249.0	1318.0	1195.0
Methyl Alcohol	1010.7	719.0	762.0	907.0	940.0	836.0
Ethylene Oxide	333.8	509.0	538.0	631.0	593.0	529.0
Ethyl Alcohol	2289.0	2080.0	2219.0	2278.0	2179.0	2107.0
Mexico						
Ethylene	68.7	213.0	230.0	258.0	343.0	366.0
Propylene	70.6	93.0	138.0	138.0	160.0	137.0
Benzene	74.6	90.0	74.0	79.0	71.0	79.0
Toluene	92.9	116.0	116.0	124.0	108.0	125.0
Xylenes	58.5	99.0	112.0	130.0	118.0	133.0
Methyl Alcohol	17.4	32.0	33.0	103.0	174.0	174.0
Ethylene Oxide	-	27.0	27.0	26.0	24.0	30.0
Ethyl Alcohol	596.0	586.0	763.0	785.0	924.0	905.0
Netherlands						
Ethylene	-	1406.0	1780.0	1958.0	2159.0	1906.0
Propylene	-	764.0	905.0	1023.0	1149.0	984.0
Benzene	280.2	729.0	610.0	910.0	715.0	732.0
Toluene	105.6	56.0	-	-	-	-
Xylene	147.6	192.0	-	-	-	-
Ethyl Alcohol	1074.0	1351.0	1448.0	1378.0	1476.0	-
Ethylene Oxide	89.0	225.0	200.0	235.0	239.0	190.0

Source:- U.N.STATISTICAL YEAR BOOK, 1981 .

Production of Basic Organic Chemicals in Selected Countries of the World 1971-1980.

('000 Metric Tons)

Country or Area and Product	1971	1975	1977	1978	1979	1980
Poland						
Ethylene	35.3	95.0	96.5	98.3	98.4	184.7
Propylene	25.3	58.6	83.7	96.3	85.0	128.6
Acetylene	11.7	14.0	16.8	15.5	15.6	16.6
Methyl Alcohol	86.3	149.0	194.0	196.0	193.0	188.0
Toluene	82.2	99.0	95.5	92.7	92.6	-
Xylene	79.0	75.1	91.8	93.2	83.6	-
Ethyl Alcohol	2265.0	3297.0	3235.0	2366.0	2703.0	-
Romania						
Ethylene	-	155.0	263.0	280.0	243.0	267.0
Propylene	-	121.0	170.0	182.0	142.0	160.0
Benzene	109.0	125.0	162.0	157.0	125.0	122.0
Toluene	125.0	117.0	157.0	149.0	128.0	138.0
Xyelene	137.0	180.0	221.0	195.0	170.0	203.0
Methyl Alcohol	93.9	107.0	228.0	273.0	275.0	295.0
Ethyl Alcohol	608.0	810.0	820.0	823.0	886.0	877.0
Ethylene Oxide	-	-	36.2	35.7	30.4	34.9
Acetylene	-	-	77.8	71.7	70.0	67.3
Spain						
Ethylene	110.3	232.0	301.0	432.0	610.0	609.0
Propylene	65.7	121.0	157.0	202.0	268.0	279.0
Acetylene	31.3	22.9	23.9	-	-	-
Benzene	151.9	197.0	191.0	174.0	212.0	212.0
Toluene	90.2	37.1	67.0	63.0	74.0	69.7
Xylenes	115.6	21.9	77.6	34.0	44.0	43.4
Methyl Alcohol	41.0	2.8	69.5	99.0	147.7	72.2
Ethyl Alcohol	1593.0	2406.0	-	-	-	-
Ethylene Oxide	16.5	23.1	25.5	27.3	75.9	57.4
United Kingdom						
Ethylene	1040.0	950.0	1138.0	1096.0	1234.0	1095.0
Propylene	506.0	566.0	660.0	671.0	766.0	573.0
Benzene	550.0	582.0	845.0	791.0	1056.0	797.0
Toluene	263.0	184.0	213.0	200.0	294.0	470.0
Ethyl Alcohol	1672.0	1982.0	2717.0	2973.0	2799.0	1805.0
Ethylene Oxide	192.0	-	-	-	-	-
United States						
Ethylene	8367.2	8971.0	11533.0	1276.0	13239.0	13003.0
Propylene	3125.3	3446.0	6046.0	6520.0	6486.0	6203.0
Acetylene	386.2	102.0	91.0	149.0	180.0	176.0
Benzene	3502.0	3459.0	4787.0	5037.0	5729.0	6497.0
Toluene	2861.3	2649.0	3346.0	4190.0	5346.0	3302.0
Xylenes	2027.2	2330.5	2667.0	2909.0	3347.0	3127.0
Methyl Alcohol	2244.9	2348.0	2927.0	2885.0	3362.0	3245.0
Ethyl Alcohol	1575.0	21993.0	18860.0	-	14297.0	14083.0
Ethylene Oxide	1631.5	1786.0	1980.0	2174.0	2570.0	2368

Source:- U.N.Statistical Year Book, 1971.

PART - III

PLAN STATISTICS

Sixth Five Year Plan Outlay for the Deptt. of Petroleum.

(Rs. Crores)

UNDERTAKING	Sixth Plan Outlay	
	Original	Revised
(1)	(2)	(3)
A. Exploration & Production	2873.58	7719.71
ONGC	2546.20	7143.0
OIL	327.38	576.71
B. REFINERY & MARKETING	1426.75	2340.28
IOC	706.94	941.03
BPCL	147.86	314.45
HPCL	208.80	488.00
CRL	62.14	166.80
MRL	85.82	240.83
BRPL	14.59	38.84
LIL	7.52	10.83
IBP	14.53	18.50
Deptt. of Petroleum	178.55	120.00
C. PETROCHEMICALS & OTHERS	934.67	981.63
IPCL	160.13	265.45
PCL	1.00	1.00
BRPL	166.56	213.04
BPCL	13.12	39.50
EIL	7.20	17.52
CIPET	2.28	1.87
CRL	-	41.0
IIP	7.00	-
Balmer Lawrie	14.13	17.00
Bridge & Roof	3.90	2.25
Biecco Lawrie	10.35	8.00
Deptt. of Petroleum	549.00	375.00
Grand Total (A+B+C)	5235.00	11041.62

Year-wise Annual Expenditure/Plan outlays of Public Sector Undertakings under the purview of Department of Petroleum during the sixth Five Year Plan Period.

(Rs./Crires)

Name of the Undertakings	1980-81 (.....Actuals.....)	1981-82 (.....Actuals.....)	1982-83 (.....Actuals.....)	1983-84 (BE)	1983-84 (RE)	1984-85 (BE)
1	2	3	4	5	6	7
a. Exploration & Prodn.	505.70	924.13	1494.80	2262.00	1920.00	2684.30
1. ONGC	464.99	888.27	1421.80	2085.00	1800.00	2499.00
2. OIL	40.71	35.86	73.00	175.00	120.00	185.30
New Schemes	-	-	-	2.00	-	-
b. Refining & Marketing	227.27	282.03	354.41	557.15	515.21	449.66
3. IOC	157.34	156.19	119.75	147.18	135.00	148.26
4. BPCL	17.61	26.71	39.73	102.22	80.00	82.78
5. HPCL	22.74	39.80	88.80	159.84	136.00	136.81
6. IBP @@	5.35	6.28	7.59	9.10	12.45	13.62
7. MRL	7.11	25.12	53.29	69.90	80.00	42.10
8. CRL	9.67	19.33	37.11	54.51	65.00	20.33
9. LIL	0.45	1.15	2.14	2.90	3.00	3.13
10. Deptt. of Petroleum	-	-	-	2.00	-	1.00
11. HRIL	7.00	7.45	6.00	9.50	3.76	1.63
c. Petrochemicals	35.70	57.18	86.83	102.20	111.21	108.30
12. IPCL	17.20	26.01	44.78	46.80	50.00	45.00
13. EPRL	18.40	30.58	37.07	37.00	45.71	47.00
14. PCL	0.10	0.10	0.10	0.10	0.10	0.10
BPCL	-	0.49	4.85	13.00	15.00	15.00
CRL	-	-	0.03	5.00	0.10	0.10
Deptt. of Petroleum (MGCC)	-	-	-	0.30	0.30	1.10
d. Consultancy & Engg. Service	1.47	5.29	3.28	5.65	5.58	8.98
15. EIL	1.41	4.98	2.85	4.95	4.88	7.92
16. CIPET	0.06	0.31	0.43	0.70	0.70	1.06
GRAND TOTAL:	770.14	1268.63	1939.32	2927.00	2552.00	3251.24

@ = Since transferred to CSIR.

@@ = Including subsidiaries.

PHYSICAL PRODUCTION TARGETS FOR PETROLEUM AND PETRO-CHEMICALS FOR 1984-85.

INDUSTRY.	UNITS.	1979-80		1984-85			
		Capacity	Prdn.	Six Plan Projections Capa-city.	Prodn.	Mid-Term Estimates. Capa-city	Prodn.
1.	2.	3.	4.	5.	6.	7.	8.
1. Crude Oil	M.Tonnes	-	11.77	-	21.60	-	27.52
2. Petroleum Products.	M.Tonnes	-	25.79	-	35.34	-	39.26
3. Thermo Plastics & Synthetic Rubber.							
1.L.D. Polyethylene	'000'T.	112	71.3	112	100	112	105
2.H.D. Polyethylene	" "	30	25.4	30	27	30	35
3.Polyvinyl Chloride	" "	77.9	49.9	173	128	175	120
4.Polypropylene	" "	30	13.4	30	27	30	27
5.Polystyrene	" "	23.5	12.0	23.5	20	23.5	15
6.Synthetic Rubbers Styrene Butadiene Rubber.	" "	30	21.6	30	27	30	30
7.Polybutadiene Rubber.	" "	20	8.7	20	18	20	18
4. Petro-chemicals Intermediates.							
1.Acrylonitrile	" "	24	3.7	24	20	24	20
2.D. M. T.	" "	24	27.9	66	56	135	65
3.Caprolactam	" "	20	13.5	20	18	20	18
5. Man-made Fibres.							
1.Nylon Filament Yarn	" "	21	17.7	31.4	28	31.4	28
2.Nylon Tyre Cord & Indl. Yarn.	" "	12.1	11.2	13.5	13.5	13.5	16
3.Polyester Staple Fibres.	" "	30.4	23.6	58.6	55	46.5	40
4.Polyester Filament Yarn.	" "	8	9.0	18	18	37.9	35
5.Acrylic Fibres	" "	16	3.4	16	14	16	16

SOURCE : - Sixth Five Year Plan 1980-1985.

SIXTH PLAN TARGETS OF DOMESTIC CRUDE PRODUCTIONS.

(In Million Tonnes)

1	1980-81 2	1981-82 3	1982-83 4	1983-84 5	1984-85 6	TOTAL 7
IN WESTERN REGION						
O.N.G.C.	3.4	3.2	3.1	3.0	2.8	15.5
EASTERN REGION						
O.N.G.C.	1.7	2.1	2.6	2.8	3.0	12.2
O.I.L.	2.8	3.2	3.0	2.8	2.6	14.4
TOTAL:-	4.5	5.3	5.6	5.6	5.6	26.6
TOTAL ONSHORE:-	7.9	8.5	8.7	8.6	8.4	42.1
OFFSHORE:-	5.2 (5.2)	8.4 (8.5)	11.8 (13.95)	12.7 (16.5)	13.2 (19.12)	51.30 (63.34)
GRAND TOTAL :-	13.1 (13.1)	16.9 (17.0)	20.5 (22.65)	21.3 (25.17)	21.6 (27.52)	93.4 (105.44)

NOTE : Figures in parenthesis are as per sixth plan mid-terms apparaisal.

MATERIAL BALANCE CRUDE PETROLEUM 1979-80/ 1984-85.

MMT.

	1979-80 Actuals	1984-85 Sixth Plan Projections	1984-85 Mid-terms Estimates.
a) Installed Refining Capacity	31.80	45.55	45.55
b) Production of POL Products	25.79	35.34	39.26
c) Crude Throughput	27.47	38.00	N.A.
d) Crude Production	11.77	21.60	27.52
e) Crude Imports	16.12	16.40	N.A.

MATERIAL BALANCE: PETROLEUM PRODUCTS - 1979-80/1984-85.

(MMT).

Product Category	1979-80 Produ-ction	Impo-rt	Exp.& Re.Exp	Cons-ump.	1984-85(Projection) Produ-ction	Impo-rts.	Expo-rt	Demand
1	2	3	4	5	6	7	8	9
a) Light Distillates.	4.459	0.131	0.088	4.460	7.690	--	0.640	7.05
b) Middle Distillates	13.080	3.504	--	16.321	19.430	6.490	--	25.92
c) Heavy Ends	8.255	0.843	--	9.102	8.220	4.310	--	12.53
TOTAL:	25.794	4.478	0.088	29.883	35.340 (39.26)	10.800	0.640	45.50 (39.7)

NOTE : Figures in parenthesis are as per sixth plan mid-term Apparaisal.

PART - IV

FINANCIAL PERFORMANCE/ STRUCTURE 1982-83 AND QUICK REVIEW - 1983-84.

Financial Review/Structure of the Public/Joint Sector Undertakings under the purview of Department of Petroleum during 1982-83 and Quick Review 1983-84

I. Financial Review/Structure 1982-83

The financial structure of the public/joint sector undertakings as per their annual published accounts/data submitted by them for the three years ending 1982-83 has been given in the attached statements. The glossary of the terms used has been given at the end. The public sector undertakings have been divided into four broad categories (A) Oil Exploration & Production; (B) Refining & Marketing; (C) Petrochemicals & other downstream units; and (D) Engineering Services. In the review/analysis that follows, consolidated financial position of all the undertakings has been analysed, followed by an analysis of the consolidated position under each of the above mentioned categories.

Overall financial analysis

A consolidated picture of overall financial structure and performance of the public sector undertakings during the three years viz., 1980-81, 1981-82 and 1982-83 is provided in the tables 1 to 3. The following is the summary of the results :

(Rs./Crores)

	1980-81	1981-82	1982-83
1. Equity	841.67	883.66	884.13
1.1 Preference capital	0.50	0.50	0.50
2. Loans	1167.31	1590.59	2428.18
3. Reserves & surpluses	936.39	1494.94	2427.55
4. Capital employed	2935.44	3764.33	4483.15
4.1 Net fixed assets	1713.57	2414.32	3246.06
4.2 Working capital	1221.87	1350.01	1237.09
5. Net worth	1725.44	2315.54	3246.94
6. Sales turnover	10901.53	15638.65	19178.74
7. Adjusted gross profit	398.71	1307.30	2013.31
8. Adjusted net profit	130.71	654.36	1049.64
9. Dividend paid	44.01	56.30	56.70
10. Corporate tax	75.10	370.16	707.86

An analysis of the individual items is briefly discussed as underneath :

1. Capital Investment : The capital investment defined as the sum-total of paid up capital and long term loans registered an increase of 33.8% from Rs.2474.25 crores in 1981-82 to Rs.3312.31 crores in 1982-83. The corresponding increase during 1981-82 over 1980-81 was 23.2%. The increase in capital investment during 1982-83 over 1981-82 was on account of increase in the paid up capital from Rs.883.66 crores to Rs.884.13 crores and also in loans quantum from Rs.1590.59 crores to Rs.2428.18 crores, the increase in loans being of the order of 52.7%. The break-up of increase in loans in 1982-83 over 1981-82 is as under :-

(Rs./Crores)

Name of the company	Loans in 1981-82	1982-83	%age increase
1. ONGC	957.57	1613.04	68.5%
2. IOC	271.35	295.30	8.8%
3. HPCL	47.32	100.43	112.2%
4. CRL	28.42	56.33	98.2%
5. MRL	29.32	89.53	205.4%
6. Lubrizol India Ltd.	0.20	1.67	735.0%
7. Balmer Lawrie	3.07	4.41	43.7%
8. Biecco Lawrie	8.17	10.91	33.5%
9. Bridge & Roof	6.55	9.47	44.6%
10. BRPL	75.12	99.16	32.0%

There was also an increase in paid up capital from Rs.1.34 crores in 1981-82 to Rs.1.77 crores in 1982-83 in Biecco Lawrie Ltd.

The position of the foreign loans during the three years, viz., 1980-81 to 1982-83 is given below :-

(Rs./Crores)

	1980-81	1981-82	1982-83
Foreign loans	143.14	257.78	898.53
Total loans	1167.31	1590.59	2428.18
%age of foreign loans to total loans	12.3%	16.8%	37.0%

ONGC was the recipient of the largest share of foreign loans which were Rs.265.74 crores in 1981-82 and went upto Rs.897.75 crores in 1982-83.

With the increase in equity and loans, the equity/loans ratio declined from 0.56 in 1981-82 to 0.36 in 1982-83.

2. Capital employed : Capital employed defined as the sum total of fixed net assets and working capital of the public sector undertakings went up by 19.1% from Rs.3764.33 crores in 1981-82 to Rs.4483.15 crores in 1982-83. The corresponding increase in the preceding year was of the order of 28.2%. The break up of the figures has revealed that the major increase in the capital employed was mainly on account of increase in the net fixed assets in respect of under-mentioned companies :

(Rs./Lakhs)

Name of the Company	Net Fixed Assets 1981-82	1982-83	%age increase
1. ONGC	132102	193072	46.2%
2. OIL	12231	13913	13.8%
3. IOC	50167	67801	35.2%
4. BPCL	4143	5038	21.6%
5. HPCL	6993	9348	33.7%
6. CRL	744	1040	39.8%
7. MRL	819	1189	45.2%
8. Balmer Lawrie	492	598	21.5%
9. Bridge & Roof	155	282	81.9%

3. Sales Turnover : The sales turnover of all the companies bracketed together increased by 22.6% from Rs.15638.65 crores in 1981-82 to Rs.19178.74 crores in 1982-83. The increase in the preceding period of last year was 43.5%. The increase in sales turnover has contributed to the increase in the gross profits. The gross profit expressed as a percentage of sales turnover increased to 10.5% in 1982-83 from 8.4% in 1981-82. Out of the total sales achieved during 1982-83, the share of the companies having largershare in the oil sector is as under :

1.	IOC	..	51.0%
2.	ONGC	..	12.0%
3.	BPCL	..	9.0%
4.	HPCL	..	11.4%
5.	Others	..	16.6%
			100.0%

4. Profitability : A rising trend is perceptible in the overall profitability of the public sector undertakings under the Department of Petroleum. The adjusted gross profits have shown a remarkable improvement of 54.0% from Rs.1307.30 crores in 1981-82 to Rs.2013.31 crores in 1982-83. The corresponding increase in the preceding year was 227.9%. Likewise the adjusted net profits increased by 60.4% from Rs.654.36 crores in 1981-82 to Rs.1049.64 crores in 1982-83. The adjusted net profits expressed as a percentage of paid-up capital and net worth went up from 74.1% and 28.3% in 1981-82 to 118.7% and 32.3% in 1982-83. The return on capital employed measured in terms of gross profit before interest and taxes on capital employed during 1982-83 has registered an increase from 34.7% in 1981-82 to 44.9% in 1982-83.

5. Dividends : There has been a slight increase in the quantum of dividend in respect of public sector undertakings over three years under review. This has been consistently increasing from Rs.44.01 crores in 1980-81 to Rs.56.30 crores in 1981-82 and to Rs.56.70 crores in 1982-83. The highest amount of dividend declared in absolute terms was in respect of ONGC which stood at Rs.27.43 crores followed by IOC at Rs.17.26 crores. Bisco Lawrie Ltd., Bridge & Roof, IPCL, BRPL and BPCL did not declare any dividend during 1982-83.

6. Corporate Tax : The contribution made by the oil sector to the National Exchequer by way of taxes during 1982-83 amounted to Rs.707.86 crores. The amounts of taxes paid during 1980-81 and 1981-82 were Rs.75.10 crores and Rs.370.16 crores respectively.

Exploration & Production
(See Table No.4)

This category includes the following three enterprises and the data in respect of the individual companies is given in the table Nos.5 to 7:

1. Oil & Natural Gas Commission (ONGC)
2. Hydro Carbons India Limited (HIL)
3. Oil India Limited (OIL).

Summary of the results of these undertakings under this category for the last three years is as under :-

(Rs./Lakhs)

	1980-81	1981-82	1982-83
1. Equity	395.85	395.85	395.85
2. Loans	662.00	1010.59	1661.51
3. Net worth	617.50	1018.97	1738.50
4. Capital employed	1031.49	1795.37	2405.42
(a) Net fixed assets	917.32	1446.08	2072.23
(b) Working capital	114.17	349.29	333.19
5. Sales turnover	468.70	1607.84	2757.80
6. Gross profit adjusted	38.56	889.26	1562.88
7. Net profit adjusted	(-)18.99	475.77	811.40
8. Dividend	20.37	25.62	31.63
9. Tax	Nil	366.91	635.99

Salient points of the analysis are given as under :

(a) Capital investment : There has been an increase in the investment of capital from 1406.44 crores in 1981-82 to Rs.2057.36 crores in 1982-83, by registering a growth of 46%. The corresponding increase in the preceding year was of the order of 33%. The increase in the capital investment was on account of increase in loans of ONGC from Rs.957.57 crores in 1981-82 to Rs.1613.04 crores in 1982-83. As a result of change/increase in loans, the equity loan ratio came down from 0.60 in 1980-81 to 0.39 in 1981-82 and then to 0.24 in 1982-83. Thus, a declining trend during the years is discernable in the equity loan ratio.

(b) Capital employed : The capital employed increased from Rs.1795.37 crores in 1981-82 to Rs.2405.42 crores in 1982-83, thereby showing an increase of 34.0%. The corresponding increase in the preceding year was 74.2%. The increase in capital employed comprised of increase in net fixed assets from Rs.1446.08 crores in 1981-82 to Rs.2072.23 crores in 1982-83 (43.3%). However, there was a slight decline in the requirement of working capital in 1982-83 as compared to 1981-82.

(c) Sales turnover : The sales turnover under this category increased by 71.5% from Rs.1607.84 crores in 1981-82 to Rs.2757.80 crores in 1982-83. The corresponding increase in the preceding year was of the order of 243.0%. Gross profit expressed as a percentage of sales turnover increased from 55.3% in 1981-82 to 56.7% in 1982-83. The outstanding feature was increase in sales in respect of ONGC from Rs.1348.49 crores in 1981-82 to Rs.2401.63 crores in 1982-83.

(d) Profitability : The adjusted gross profit increased by 75.8% from Rs.889.26 crores in 1981-82 to Rs.1562.88 crores in 1982-83. The ratio of gross profit to capital employed increased from 49.5% in 1981-82 to 65.0% in 1982-83. Likewise the adjusted net profit also increased from Rs.475.77 crores in 1981-82 to Rs.811.40 crores, the improvement being of the order of 70.5%. The ratio of adjusted net profit to paid-up capital increased from 120.2% in 1981-82 to 205.0% in 1982-83. However, the ratio of net profit to net worth was the same in 1982-83 as in 1981-82.

(e) Dividend : The total dividend declared by ONGC and OIL in this category has been consistently increasing from Rs.20.37 crores in 1980-81 to Rs.25.62 crores (increase of 25.8%) and to Rs.31.63 crores in 1982-83.

(f) Corporate tax : The contribution made by the undertakings by way of taxes to National Exchequer was Rs.306.91 crores in 1981-82 and increased by 107.2% to Rs.635.99 crores in 1982-83.

Refining & Marketing
(Refer Table No.8)

Financial structure and performance of the individual companies from 1980-81 to 1982-83 have been provided in the table Nos.9 to 19, while the consolidated summary of the refinery & marketing companies has been given in the table No.8. Summary of the results of the undertakings under this category for the three years is as under :

(Rs./Crores)

	1980-81	1981-82	1982-83
1. Equity	146.07	187.96	188.39
2. Loans	315.41	394.40	568.05
3. Capital employed	1426.68	1437.51	1536.21
(a) Net fixed assets	498.89	647.28	867.51
(b) Working capital	927.79	790.23	668.70
4. Sales turnover	10061.01	13447.44	15727.30
5. Adjusted gross profit	290.70	320.55	355.83
6. Adjusted net profit	98.92	106.21	170.17
7. Dividends	22.68	29.71	24.10
8. Corporate tax	73.30	61.00	66.86

An analysis of the salient features is as under :

(a) Capital Investment : The capital investment under this category increased by 29.9% from Rs.582.36 crores to Rs.756.44 crores in 1982-83. The corresponding increase in the preceding year was 26.2%. There was an increase of Rs.43 lakhs in the paid-up capital of Biecco Lawrie Ltd. The loans have substantially contributed to the increase of the capital investment and company-wise increase in 1982-83 duly compared with 1981-82 position is as under :

(Rs./Crores)

	1981-82	1982-83	%age increase
1. IOC	271.35	295.30	8.8%
2. HPCL	47.32	100.43	112.2%
3. CRL	28.42	56.33	98.2%
4. MRL	29.32	89.53	205.4%
5. Lubrizol India Ltd.	0.20	1.67	735.0%
6. Balmer Lawrie	3.07	4.41	43.7%
7. Biecco Lawrie	8.17	10.91	33.5%
8. Bridge & Roof	6.55	9.47	44.6%
	394.40	568.05	44.0%

As a result of changes both in equity and loans, the equity/loan ratio came down from 0.48 in 1981-82 to 0.33 in 1982-83.

(b) Capital employed : The capital employed by the refining & marketing companies increased by 6.9% from 1437.51 crores in 1981-82 to Rs.1536.21 crores in 1982-83. The corresponding increase in the preceding year was 0.8%. This increase was made of increases in net fixed assets by 34%. The working capital went down from Rs.790.23 crores in 1981-82 to Rs.668.70 crores in 1982-83, the decrease being of the order of 15.4%.

(c) Sales turnover : The sales turnover increased by 17.0% from Rs.13447.44 crores in 1981-82 to Rs.15727.30 crores in 1982-83. The corresponding increase in the last year was 33.7%. The increase in sales turnover in 1982-83 was accompanied by increase in gross profit which expressed as percentage of sales turnover and stood at 2.3% but was slightly lower than the profit percentage in 1981-82. IOC's sales increased by 23.3% from Rs.7940.05 crores in 1981-82 to Rs.9786.83 crores in 1982-83.

(d) Profitability : There was an improvement in the adjusted gross profit in 1982-83. The adjusted gross profit increased by 11.0% from Rs.320.55 crores in 1981-82 to Rs.355.83 crores in 1982-83. The corresponding increase in the previous year was 10.3%. Likewise, the adjusted net profits also increased by 60.2% from Rs.106.21 crores in 1981-82 to Rs.170.17 crores in 1982-83. The percentage of net profit to paid up capital and net worth also went up from 56.5% and 12.6% to 90.3% and 17.2% respectively. The return on capital employed which stood at 22.3% in 1981-82 went up to 23.2% in 1982-83.

(d) Dividend : During the year 1982-83, the companies in this category paid out a total dividend of Rs.24.10 crores and this was lower than the dividend paid in 1981-82 because BPCL did not pay out any dividend in 1982-83 and CRL also declared loss amount on account of dividend. Biecco Lawrie Ltd.& Bridge & Roof did not pay out any dividend during the year under review.

(f) Corporate tax : The taxes paid by this category of companies to the National Exchequer increased by 9.6% from Rs.61.00 crores in 1981-82 to Rs.66.86 crores in 1982-83. The taxes paid in 1980-81 were Rs.73.30 crores.

Petrochemicals & Other Downstream Units
(See Table No. 20)

There are three companies under this category, viz.,

1. Indian Petrochemicals Corporation Ltd. (IPCL)
2. Petrofils Cooperative Limited (PCL)
3. Bongaigaon Refinery & Petrochemicals Ltd.(BRPL).

The combined financial structure of the three undertakings for the three years has been given in table No.20 while those of the individual companies are provided in table Nos.21 to 23.

Summary of the results of three undertakings for the three years is as under :

(Rs./Crores)

	1980-81	1981-82	1982-83
1. Equity	299.25	299.35	299.39
2. Loans	189.77	185.60	198.62
3. Capital employed	461.55	514.53	522.23
3.1 Net fixed assets	293.17	316.54	300.94
3.2 Working capital	168.38	197.99	221.29
4. Sales turnover	348.01	560.75	652.82
5. Adjusted gross profit	65.02	92.08	84.95
6. Adjusted net profit	44.86	68.65	62.32
7. Dividend	0.88	0.89	0.89
8. Corporate tax	Nil	Nil	1.09

(a) Capital investment : The total capital investment of the three companies increased by 2.7% from Rs.484.95 crores in 1981-82 to Rs.498.01 crores in 1982-83. As a result of change/increase in loans, the equity/loan ratio declined from 1.61 in 1981-82 to 1.51 in 1982-83.

(b) Capital employed : The capital employed by this category increased by 1.5% from Rs.514.53 crores in 1981-82 to Rs.522.23 crores in 1982-83. The corresponding increase in the last year was of the order of 11.5%. The net fixed assets and working capital during two years are as under :

(Rs./Crores)

Name of the Company	1981-82	1982-83	%age increase/ decrease
A. Net fixed assets			
1. IPCL	208.42	200.58	(-)3.8
2. Petrofils	31.01	28.09	(-)9.4
3. BRPL	77.11	72.27	(-)6.7
B. Working Capital			
1. IPCL	171.09	189.43	+10.7
2. BRPL	13.22	17.20	+30.1
3. Petrofils	13.48	14.66	+ 8.8%

(c) Sales turnover : The sales turnover increased by 16.4% from Rs.560.75 crores in 1981-82 to Rs.652.82 crores in 1982-83. The corresponding increase in the previous year was 61.1%. Though there was an increase in the sales turnover, yet the adjusted gross profit showed a declining trend. The ratio of adjusted gross profit to sales turnover which stood at 16.4% in 1981-82 went down to 13.0% in 1982-83.

(d) Profitability : The adjusted gross profitshave decreased by 7.7% from Rs.92.08 crores in 1981-82 to Rs.84.95 crores in 1982-83. But there was an increase of 41.6% in the gross profitsin the year 1981-82 as compared to 1980-81 profits. The return on capital employed also decreased from 17.9% in 1981-82 to 16.3% in 1982-83. Likewise the adjusted net profit also went down from Rs.68.65 crores in 1981-82

to Rs.62.32 crores in 1982-83. The ratio of net profit to paid-up capital and net worth went down from 22.9% and 15.8% to 20.8% and 12.5% respectively.

(e) Dividend : The dividend was declared by Petrofils only in 1982-83 and it was Rs.89 lakhs. The amount declared in 1980-81 and 1981-82 was the same as in 1982-83.

(f) Corporate tax : Only Petrofils has made contribution to the National Exchequer by way of taxes and it was Rs.1.09 crores in 1982-83. No other company made contribution on account of taxes to the National Exchequer.

Engineering Services
(Table No. 24)

There is only one company, viz., Engineers India Ltd.(EIL) in this category. The financial structure over the three years is given in table No.24.

Summary of the results of this company for the three years is as under :-

(Rs./Crores)

	1980-81	1981-82	1982-83
1. Paid up capital	0.50	0.50	0.50
2. Loans	0.13	Nil	Nil
3. Capital employed	15.72	17.12	19.29
3.1 Net fixed assets	4.19	4.42	5.38
3.2 Working capital	11.53	12.70	13.91
4. Income from services rendered	23.81	22.62	40.82
5. Adjusted gross profit	4.43	5.41	9.65
6. Adjusted net profit	5.92	3.73	5.75
7. Dividend	0.08	0.08	0.08
8. Corporate tax	1.80	2.25	3.90

From the figures given above, it would be seen that the income of the company has gone up by 80.4% from Rs.22.62 crores in 1981-82 to Rs.40.82 crores in 1982-83. The adjusted gross profit also increased from Rs.5.41 crores in 1981-82 to Rs.9.65 crores in 1982-83. Likewise, the adjusted net profit went up from Rs.3.73 crores in 1981-82 to Rs.5.75 crores in 1982-83. The ratios of net profit to equity and net worth which stood at 746.0% and 18.6% in 1981-82 went up to 1150% and 22.2% respectively in 1982-83. The dividend paid was Rs.8 lakhs and this has been uniformally maintained during the preceding two years 1980-81 and 1981-82. The contribution made towards National Exchequer was Rs.390 lakhs and this was higher by Rs.165 lakhs in 1982-83 as compared to 1981-82 figures.

Quick Review of Financial Structure - 1983-84

During 1983-84, there were altogether 18 running enterprises under the purview of Department of Petroleum, three under the category "Exploration & Production", eight under the "Refining & Marketing", three under "Petrochemicals" and one under "Engineering Services". This includes Petrofils which is in Co-operative sector.

According to the provisional figures on the financial position/performance of these undertakings available in the E&S Division, the 18 enterprises together employed a total capital of Rs.5524.19 crores and held a paid up capital of Rs.914.43 crores as per details of enterprise-wise financial performance in Annexure I. During 1983-84, these enterprises had an annual sales turnover of Rs. 21133.53 crores and they earned a gross profit of Rs.2354.77 crores, the corresponding figure in the year 1982-83 being Rs.19174.66 crores and Rs.1921.37 crores respectively. Thus, while the sales turnover registered an increase of 10.2%, the gross profit increased by 22.6%. The net profit after tax and interest amounted to Rs.1044.48 crores during 1983-84 as against Rs.1003.58 crores. The ratio of net profit to paid up capital and net worth / out to 114.2% and /worked 24.3% respectively compared with the figures of 113.4% and 30.9% achieved during 1982-83.

The overall financial results for the year 1983-84 of the above mentioned categories are summarised below :

(Rs./Crores)

	Exploration & Production	Refining & Mktg.	Petrochemicals & others	Engineering Service	Total
1. Equity	395.85	208.02	299.40	11.16	914.43
2. Loans	1970.70	1063.10	220.00	28.44	3282.84
3. Net worth	-2566.94	1152.76	535.47	35.33	4290.50
4. Capital employed	-3129.57	1790.13	529.84	74.65	5524.19
5. Sales	3915.15	16393.53	654.43	170.42	21133.53
6. Gross profit	1932.19	347.40	56.58	18.60	2354.77
7. Net worth	834.07	165.94	37.99	6.48	1044.48
Percentage of					
1. Net profit to equity	210.7	79.8	12.7	58.0	114.2
2. Net profit to net worth	32.5	14.4	7.1	18.3	24.3
3. Gross profit to capital employed	61.7	19.4	10.7	24.9	42.6
4. Sales to capital employed	125.1	915.8	123.5	228.3	382.6
5. Equity to loan ratio	0.20	0.20	1.36	0.39	0.28

It will be seen that with the exception of Bicco Lawrie Ltd., all the companies under the purview of Department of Petroleum have made profits. ONGC has earned highest gross profit /the of Rs.1733.59 crores, with IOC standing as second with Rs.244.64 crores. OIL made a gross profit of Rs.193.09 crores. Likewise ONGC earned the highest net profit of Rs.767.27 crores during 1983-84 followed by IOC with Rs.125.47 crores. The third to earn the highest profit after the above mentioned two companies was OIL with a profit of Rs.64.40 crores.

Annexure -I.

FINANCIAL STRUCTURE/PROFITABILITY OF THE PUBLIC/JOINT SECTOR UNDERTAKINGS UNDER THE PURVIEW OF DEPARTMENT OF PETROLEUM DURING 1983-84.

(PROVISIONAL) (Rs./LAKHS)

Name of the Undertakings	Paid up Capital	Loans	Net Worth	Capital employed	Sales turn-over	Gross profit	Net profit	Divi-dend	Corpor-ate tax	PERCENTAGE OF Net profit to paid-up capital	NP to net-worth	GP to capital employed
A. Exploration & PRODUCTION	39585	190070	256694	312957	391515	193219	83407	3849	99938	210.7	32.5	61.7
1. ONGC	34285	191429	231737	284261	348807	173359	76727	3429	87292	223.8	33.1	61.0
2. HIL	2500	--	4300	2398	227	551	240	--	311	11.0	5.6	22.9
3. OIL	2800	5641	20657	26298	42481	19309	6440	420	12335	230.0	31.2	73.4
B. REFINING & MKTG.	20802	106370	115276	179013	1639353	34740	16594	2470	7188	79.8	14.4	19.4
4. IOC	12327	48096	80308	122313	1034457	24464	12547	1726	5491	101.8	15.6	20.0
5. HPCL	4020	17782	15737	19719	245776	3461	1231	319	86	30.6	7.8	17.6
6. BPCL	1657	5834	10385	18177	182646	3156	1150	Nil	593	69.4	11.1	17.4
7. CRL	700	12695	2076	4133	57456	1185	477	105	498	68.1	23.0	28.7
8. MRL	1288	21665	3602	10998	62443	1366	683	193	-	53.0	19.0	12.4
9. IBP	290	Nil	1350	1359	49100	535	244	41	243	84.1	18.1	39.4
10. Lubrizol	480	298	1594	2051	7149	526	247	82	245	51.5	15.5	25.6
11. IOB	40	Nil	224	263	326	47	15	4	32	37.5	6.7	17.9
C. PETROCHEMICALS & OTHER DOWNSTREAM UNITS	29940	22000	53547	52984	65443	5658	3799	90	515	12.7	7.1	10.7
12. IPCL	18600	6222	38024	37866	47231	4661	3109	-	515	16.7	8.2	12.3
13. Petrofils	1490	1132	4687	5618	4728	645	510	90	-	34.2	10.9	11.5
14. HRPL	9850	14646	10836	9500	13484	352	180	Nil	Nil	1.8	1.7	3.7
D. ENGINEERING & OTHER SERVICES	1116	2844	3533	7465	17042	1860	648	38	645	58.0	18.3	24.9
16. EIL	50	--	3141	2740	4030	1125	560	8	565	1120.0	17.8	41.1
17. Balmer Lawrie	189	360	913	2297	7469	430	123	30	80	65.1	13.5	18.7
18. Biecco Lawrie	177	1328	-1057	344	546	-67	-232	--	--	Neg.	Neg.	Neg.
18. Bridge & Roof	700	1156	536	2084	4997	372	197	--	--	28.1	36.8	17.9
GRAND TOTAL	91443	328284	429050	552419	2113353	235477	104448	6447	108286	114.2	24.3	42.6

TABLE NO. : 1.

CONSOLEDATED FINANCIAL STRUCTURE. 1982-83

NAME OF THE COMPANY : All Categories.

Rs./Lakhs.

ITEM	Exploration & Prodn.	Refining & Marktg.	Petro-chem. & other down Steam Unit.	Engg. & services	Total
1	2	3	4	5	6
1. Authorised Capital	8000	24495	32000	200	64695
2. i) Paid-up Capital	39858	18839	29939	50	88413
ii) Preference Capital	--	50	--	--	50
iii) Reserves & Surpluses	138865	81497	19854	2539	242755
3. i) Total Loans	166151	56805	19862	Nil	242818
ii) Of which Foreign	89792	4	57	Nil	89853
4. Cash Credits/Advances from Banks/Others	Nil	47253	2257	--	49510
5. Net Worth	173850	98470	49785	2589	324694
6. i) Net Fixed Assets	207223	86751	30094	538	324606
ii) Working Capital	33319	66870	22129	1391	123709
iii) Capital Employed (i+ii)	240542	153621	52223	1929	448315
7. Sales/Operating Income	275780	1572730	65282	4082	1917874
8. i) Total Emoluments	10206	15145	2156	1298	28805
ii) Of which Bonus	947	1062	133	25	2167
iii) Average Emoluments per person	0.24	0.25	0.22	0.38	0.27
9. Inventories	46194	162900	16428	27	225549
10. Adjusted Gross Profit	156288	35583	8495	965	201331
11. Adjusted Net Profit	81140	17017	6232	575	104964
12. Dividends Declared	3163	2410	89	8	5670
13. Corporate Tax	63599	6688	109	390	70786
% Age of :-					
a) Net Profit to Equity	205.0	90.3	20.8	1150.0	118.7
b) Net Profit to Net Worth	46.7	17.2	12.5	22.2	32.3
c) Gross Profit to Capital Emp.	65.0	23.2	16.3	50.0	44.9
d) Sales to Capital Emp.	114.7	1023.7	125.0	211.6	427.8
e) Gross Profit to Sales	56.7	2.3	13.0	23.6	10.5
f) Equity Loan Ratio	0.24	0.33	1.51	Nil	0.36

Source : Annual Reports of the Companies.

TABLE NO. :2.

CONSOLEDATED FINANCIAL STRUCTURE.1981-82

NAME OF THE COMPANY : All Categores.

Rs./Lakhs.

ITEM	Exploration & Prodn.	Refining & Marktg.	Petrochem.	Engg. service	Total
1	2	3	4	5	6
1. Authorised Capital	8000	24495	32000	200	64695
2. i) Paid-up Capital	39585	18796	29935	50	88366
ii) Preference Capital	Nil	50	--	--	50
iii) Reserves & Surpluses	66725	67231	13592	1946	149494
3. i) Total Loans	101059	29440	18560	Nil	159059
ii) Of which Foreign	26595	36	147	Nil	26778
4. Cash Credits/Advances from Banks/Others	Nil	70733	2291	Nil	73024
5. Net Worth	101897	84145	43516	1996	231554
6. i) Net Fixed Assets	144608	64728	31654	442	241432
ii) Working Capital	34929	79023	19799	1270	135001
iii) Capital Employed (i+ii)	179537	143751	51433	1712	376433
7. Sales/Operating Income	160784	1344744	56075	2262	1563865
8. i) Total Emoluments (Incl. perks)	6781	11760	1780	1032	21353
ii) Of which Bonus	538	562	72	23	1195
iii) Average Emoluments per person	0.19	0.20	0.21	0.33	0.23
9. Inventories	34538	176583	14288	17	225426
10. Adjusted Gross Profit	88926	32055	9208	541	130730
11. Adjusted Net Profit	47577	10621	6865	373	65436
12. Dividends Declared	2562	2971	89	8	5630
13. Corporate Tax	30691	6100	Nil	225	37016
% Age of :-					
a) Net Profit to Equity	120.2	56.5	22.9	746.0	74.1
b) Net Profit to Net Worth	46.7	12.6	15.8	18.7	28.3
c) Gross Profit to Capital Emp.	49.5	22.3	17.9	31.6	34.7
d) Sales to Capital Emp.	89.6	935.5	109.0	132.1	415.4
e) Gross Profit to Sales	55.3	2.4	16.4	23.9	8.4
f) Equity Loan Ratio	0.39	0.48	1.61	Nil	0.56

Source : Annual Reports of the Companies.

Note : There is no authorised Capital in respect of ONGC.

CONSOLEDATED FINANCIAL STRUCTURE 1980-81.

TABLE NO. :3.

NAME OF THE COMPANY : - All Categories.

Rs./Lakhs.

ITEMS	Explora-tion & Prodn.	Refin-ing & Marktg.	Petro-chemicals	Engg. serves	TOTAL
1. Authorised Capital	8000	24295	32000	200	64495
2. i) Paid-up Capital	39585	14607	29925	50	84167
ii) Preference Capital	--	50	--	--	50
iii) Reserves & Surpluses	25200	59510	7347	1582	93639
3. i) Total Loans	66200	31541	18977	13	116731
ii) Of which Foreign	13993	105	216	--	14314
4. Cash Credits/Advances from Banks/Others	2055	82756	2084	--	86895
5. Net Worth	61750	72394	36768	1632	172544
6. i) Net Fixed Assets	91732	49889	29317	419	171357
ii) Working Capital	11417	92779	16838	1153	122187
iii) Capital Emp.(i+ii)	103149	142668	46155	1572	293544
7. Sales/Operating Income	46870	1006101	34801	2381	1090153
8. i) Total Emoluments (incl. Perks)	5876	10002	1407	885	18170
ii) Of which Bonus	450	506	36	26	1018
iii) Average Emoluments Per Person	0.19	0.21	0.18	0.30	0.22
9. Inventories	25828	166400	13838	15	206081
10. Adjusted Gross Profit	3856	29070	6502	443	39871
11. Adjusted Net Profit	-1899	9892	4486	592	13071
12. Dividends Declared	2037	2268	88	8	4401
13. Corporate Tax	--	7330	--	180	7510
% Age of:-					
a) Net Profit to Equity	loss	67.7	15.0	1184.0	15.5
b) Net Profit to Networth	loss	13.7	12.2	36.2	7.6
c) Gross Profit to Capital Emp.	3.7	20.4	14.0	28.2	13.6
d) Sales to Capital Emp.	45.4	705.2	75.4	151.5	371.4
e) Gross Profit to Sales	8.2	2.9	18.7	18.6	3.7
f) Equity Loan Ratio	0.60	0.46	1.58	3.85	0.72

Source: - Annual Reports of the Company.

TABLE NO.:4.

CONSOLEDATED FINANCIAL STRUCTURE.

NAME OF THE COMPANY: Exploration & Production.

Rs./Lakhs

ITEMS	1980-81	1981-82	1982-83
1. Authorised Capital	8000	8000	8000
2. i) Paid-up Capital	39585	39585	39585
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	25200	66725	138865
3. i) Total Loans	66200	101059	166151
ii) Of which Foreign	13993	26595	89792
4. Cash Credits/Advances from Banks/Others	2055	NIL	NIL
5. Net Worth	61750	101897	173850
6.i) Net Fixed Assets	91732	144608	207223
ii) Working Capital	11417	34929	33319
iii) Capital Employed(i+ii)	103149	179537	240542
7. Sales/Operating Income	46870	160784	275780
8. i) Total Emoluments (incl. perks)	5876	6781	10206
ii) Of which Bonus	450	538	947
iii) Average Emoluments Per person	0.19	0.11	0.24
9. Inventories	25828	34538	46194
10. Adjusted Gross Profit	3856	88926	156288
11. Adjusted Net Profit	-1899	47577	81140
12. Dividends Declared	2037	2562	3163
13. Corporated Tax	NIL	30691	63599
% Age of:-			
a) Net Profit to Equity	loss	120.2	205.0
b) Net Prfofit to Net Worth	loss	46.7	46.7
c) Gross Profit to Capital Emp.	3.7	49.5	65.0
d) Sales to Capital Emp.	45.4	89.6	114.7
e) Gross Profit to Sales	8.2	55.3	56.7
f) Equity Loan Ratio	0.60	0.39	0.24

Source :- Annual Reports of the Company.
Note :- There is no authorized Capital in respect of ONGC.

TABLE NO:5.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Oil & Natural Gas Commission.

Rs./Lakhs.

ITEMS	1980-81	1981-82	1982-83
1. Authorised Capital	—	—	—
2. i) Paid-up Capital	34285	34285	34285
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	24675	60230	126762
3. i) Total Loans	59281	95757	161304
ii) Of which Foreign	13962	26574	89775
4. CashCredits/Advances from Banks/Others	1819	nil	NIL
5. Net Worth	56485	90561	156805
6.i) Net Fixed Assets	84156	132102	193072
ii) Working Capital	11951	30797	25579
iii) Capital Employed(i+ii)	96107	162899	218651
7. Sales/Operating Income	43518	134849	240163
8. i) Total Emoluments	5223	5966	9095
ii) (incl. perks)			
ii) Of which Bonus	370	457	851
iii) Average Emoluments per person	0.19	0.19	0.28
9. Inventories	22374	30115	39680
10. Adjusted Gross Profit	6894	69521	133865
11. Adjusted Net Profit	2044	41238	73046
12. Dividends Declared	2037	2142	2743
13. Corporate Tax	NIL	19750	49000
% Age of:-			
a) Net Profit to Equity	6.0	120.3	213.1
b) Net Profit to Net Worth	3.6	45.5	46.6
c) Gross Profit to Capital	7.2	42.7	61.2
d) Sales to Capital Emp.	45.3	82.8	109.8
e) Gross Profit to Sales	15.8	51.5	55.7
f) Equity Loan Ratio	0.58	0.36	0.21

Source: - Annual Reports of the Company.

Note : There is no authorised Capital in respect of ONGC.

TABLE NO.:6.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Hydro Carbons India Limited.

Rs./Lakhs.

ITEMS 1	1980-81 2	1981-82 3	1982-83 4
1. Authorised Capital	3000	3000	3000
2. i) Paid-up Capital	2500	2500	2500
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	322	279	266
3. i) Total Loans	NIL	NIL	NIL
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	NIL	NIL	NIL
5. Net Worth	2262	2320	2408
6. i) Net Fixed Assets	331	275	238
ii) Working Capital	1791	2045	2169
iii) Capital Employed(i+ii)	2122	2320	2407
7. Sales/Operating Income	188	196	205
8. i) Total Emoluments (incl. Perks)	2	2	2
ii) Of which Bonus	neg.	neg.	neg.
iii) Average Emoluments per person	0.25	0.23	0.26
9. Inventories	NIL	NIL	NIL
10. Gross Profit	= 19	35	63
11. Net Profit	- 169	- 43	- 13
12. Dividends Declared	NIL	NIL	NIL
13. Corporate Tax	150	78	76
% Age of :-			
a) Net Profit to Equity	loss	loss	loss
b) Net Profit to Net Worth	loss	loss	loss
c) Gross Profit to Capital Emp.	loss	loss	2.6
d) Sales to Capital Emp.	8.9	8.5	8.5
e) Gross Profit to Sales	loss	NIL	30.7
f) Equity Loan Ratio	NIL	NIL	NIL

Source :- Annual Reports of the Company.

TABLE NO.: 7.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Oil India Limited.

Rs./Lakhs.

ITEMS	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	5000	5000	5000
2. i) Paid-up Capital	2800	2800	2800
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	203	6216	11837
3. i) Total Loans	6919	5302	4847
ii) Of which Foreign	31	21	17
4. Cash Credits/Advances from Banks/Others	236	NIL	NIL
5. Net Worth	3003	9016	14637
6. i) Net Fixed Assets	7245	12231	13913
ii) Working Capital	- 2325	2087	5571
iii) Capital Em.(i+ii)	4920	14318	19484
7. Sales/Operating Income	3164	25739	35412
8. i) Total Emoluments (incl. Perks)	651	813	1109
ii) Of which Bonus	80	81	96
iii) Average Emoluments Per person	0.13	0.16	0.17
9. Inventories	3454	4423	6514
10. Adjusted Gross Profit	- 3019	19370	22360
11. Adjusted Net Profit	- 3774	6382	8107
12. Dividends Declared	NIL	420	420
13. Corporate Tax	NIL	10863	14523
% Age of :-			
a) Net Profit to Equity	loss	227.9	270.9
b) Net Profit to Net Worth	loss	70.8	51.8
c) Gross Profit to Capital Emp.	loss	135.3	116.2
d) Sales to Capital Emp.	64.3	179.8	181.8
e) Gross Profit to Sales	loss	75.2	63.9
f) Equity Loan Ratio	0.40	0.53	0.58

Source : Annual Reports of the Company.

TABLE NO.:8.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Refining & Marketing.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	24295	24495	24495
2. i) Paid-up Capital	14607	18796	18839
ii) Preference Capital	50	50	50
iii) Reserves & Surpluses	59510	67231	81497
3. i) Total Loans	31541	39440	56805
ii) Of which Foreign	105	36	4
4. Cash Credits/Advances from Banks/Others	82756	70733	47253
5. Net Worth	72394	84145	98470
6. i) Net Fixed Assets	49889	64728	86751
ii) Working Capital	92779	79023	66870
iii) Capital Emp.(i+ii)	142668	143751	153621
7. Sales/Operating Income	1006101	1344744	1572730
8. i) Total Emoluments (incl. perks)	10002	11760	15145
ii) Of which Bonus	506	562	1062
iii) Average Emoluments per person	0.21	0.20	0.25
9. Inventories	166400	176587	162900
10. Adjusted Gross Profit	29070	32055	35583
11. Adjusted Net Profit	9892	10621	17017
12. Dividends Declared	2268	2971	2410
13. Corporate Tax	7330	6100	6686
% Age of:-			
a) Net Profit to Equity	67.7	56.5	90.3
b) Net Profit to Net Worth	13.7	12.6	17.2
c) Gross Profit to Capital Emp.	20.4	22.3	23.2
d) Sales to Capital Emp.	705.2	935.5	1023.7
e) Gross Profit to Sales	2.9	2.4	2.3
f) Equity Loan Ratio	0.46	0.48	0.33

Source :- Annual Reports of the Company.

TABLE NO. :9.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Indian Oil Corporation Ltd.,

Rs./Lakhs.

ITEMS	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	15000	15000	15000
2. i) Paid-up Capital	8218	12327	12327
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	42367	47201	57160
3. i) Total Loans	25087	27135	29530
ii) Of which Foreign	105	36	4
4. Cash/Credits/Advances from Banks/Others	50894	43326	26158
5. Net Worth	50585	52528	69487
6. i) Net Fixed Assets	36873	50167	67801
ii) Working Capital	58593	48462	42048
iii) Capital Emp. (i+ii)	95456	98629	109849
7. Sales/Operating Income	571094	794005	978683
8. i) Total Emoluments (incl. perks)	4803	6180	8296
ii) Of which Bonus	295	353	673
iii) Average Emoluments per person	0.24	0.24	0.30
9. Inventories	97796	102409	107514
10. Adjusted Gross Profit	17627	17696	23159
11. Adjusted Net Profit	7677	7589	12593
12. Dividends Declared	1150	1726	1726
13. Corporate Tax	2750	750	3324
% Age of:-			
a) Net Profit to Equity	93.4	61.6	102.2
b) Net Profit to Net Worth	15.2	12.7	18.1
c) Gross Profit to Capital Emp.	18.5	17.9	21.1
d) Sales to Capital Emp.	598.2	805.0	890.9
e) Gross Profit to Sales	3.1	2.2	2.4
f) Equity Loan Ratio	0.33	0.45	0.42

Source : Annual Reports of the Company.

TABLE NO. : 10.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Bharat Petroleum Corporation Ltd.,

Rs./Lakhs.

I T E M	1980-81	1981-82	1982-83
1. Authorised Capital	2500	2500	2500
2. i) Paid-up Capital	1454	1454	1454
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	4979	6182	7577
3. i) Total Loans	NIL	NIL	NIL
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	7895	8261	10554
5. Net Worth	6433	7635	9031
6. i) Net Fixed Assets	3056	4143	5038
ii) Working Capital	9619	8536	8337
iii) Capital Employed (i+ii)	12675	12679	13375
7. Sales/Operating Income	121413	151542	172409
8. i) Total Emoluments	1327	1427	1815
ii) (incl. perks)			
ii) Of which Bonus	62	63	148
iii) Average Emoluments Per person	0.20	0.20	0.30
9. Inventories	22679	26972	13379
10. Adjusted Gross Profit	2674	3063	2695
11. Adjusted Net Profit	1029	836	85
12. Dividends Declared	204	204	NIL
13. Corporate Tax	1267	1554	1650
% Age of:-			
a) Net Profit to Equity	70.7	57.5	5.9
b) Net Profit to Net Worth	16.0	10.9	0.9
c) Gross Profit to Capital Emp.	21.1	24.1	20.2
d) Sales to Capital Emp.	957.9	1195.2	1289.0
e) Gross Profit to Sales	2.2	2.0	1.6
f) Equity Loan Ratio	NIL	NIL	NIL

Source : Annual Reports of the company.

TABLE NO.: 11.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Hindustan Petroleum Corporation Ltd.,

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	2075	2075	2075
2. i) Paid-up Capital	1520	1520	1520
ii) Preference Capital.	NIL	NIL	NIL
iii) Reserves & Surpluses	8491	9719	11335
3. i) Total Loans	3543	4732	10043
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Crdits/Advances from Banks/Others	9232	9477	6834
5. Net Worth	9538	10734	12325
6. i) Net Fixx Assets	6804	6993	9348
ii) Working Capital	14069	13137	8084
iii) Capital Employed (i+ii)	20873	20130	17432
7. Sales/Operating Income	157383	197813	219044
8. i) Total Emoluments (incl. Perks)	1313	1344	1627
ii) Of which Bonus	67	58	136
iii) Average Emoluments per person	0.24	0.23	0.26
9. Inventories	26577	27754	24121
10. Adjusted Gross Profit	4102	4481	5018
11. Adjusted Net Profit	831	697	1723
12. Dividends Declared	213	213	213
13. Corporate Tax	1735	1599	831
% Age of:-			
a) Net Profit to Equity	54.7	45.8	113.7
b) Net Profit to Net Worth	8.7	6.5	14.0
c) Gross Profit to Capital Emp.	19.7	22.3	28.8
d) Sales to Capital Emp.	754.0	982.7	1256.6
e) Gross profit to Sales	2.6	2.3	2.3
f) Equity Loan Ratio	0.43	0.32	0.15

Source : Annual Reports of the Company.

TABLE NO.: 12.

NA FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Cochin Refineries Limited.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	1500	1500	1500
2. i) Paid-up Capital	700	700	700
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	330	443	1004
3. i) Total Loans	986	2842	5633
ii) Of which Foreign	--	NIL	NIL
4. Cash Credits/Advances from Banks/Others	5847	3759	2104
5. Net Worth	1030	1143	1704
6. i) Net Fixed Assets	837	744	1040
ii) Working Capital	5887	3831	1985
iii) Capital Employed (i+ii)	6724	4575	3025
7. Sales/Operating Income	56072	76803	70212
8. i) Total Emoluments (incl. perks)	115	118	121
ii) Of which Bonus	6	6	6
iii) Average Emoluments per person	0.27	0.25	0.24
9. Inventories	7953	6290	7685
10. Adjusted Gross Profit	2051	3010	1787
11. Adjusted Net Profit	197	584	1275
12. Dividends Declared	382	507	140
13. Corporate Tax	560	968	78
% Age of :-			
a) Net Profit to Equity	28.1	83.4	182.1
b) Net Profit to Net Worth	19.1	51.1	74.8
c) Gross Profit to Capital Emp.	30.5	65.8	59.1
d) Sales to Capital Emp.	833.9	1678.8	2321.1
e) Gross Profit to Sales	3.7	3.9	2.6
f) Equity Loan Ratio	0.71	0.25	0.12

Source : Annual Reports of the Company.

TABLE NO. 13.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Madras Refineries Limited.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	1350	1350	1350
2. i) Paid-up Capital	1288	1288	1288
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	1545	1620	1834
3. i) Total Loans	178	2932	8953
ii) Of which Foreign	NIL	NIL	NIL
4. Cash/Credits/Advances from Banks/Others.	7343	4069	NIL
5. Net Worth	2815	2896	3116
6. i) Net Fixed Assets	707	819	1189
ii) Working Capital	1728	1872	2927
iii) Capital Employed (i+ii)	2435	2691	4116
7. Sales/Operating Income	60443	73280	71429
8. i) Total Emoluments (incl. perks)	105	115	142
ii) Of which Bonus	6	7	14
iii) Average Emoluments per person	0.22	0.22	0.24
9. Inventories	8640	8961	5590
10. Adjusted Gross Profit	1507	2752	1122
11. Adjusted Net Profit	- 16	659	716
12. Dividends Declared	193	193	193
13. Corporate Tax	460	906	199
% Age of:-			
a) Net Profit to Equity	- 0.12	51.2	55.6
b) Net Profit to Net Worth	- 0.6	22.8	23.0
c) Gross Profit to Capital Emp.	61.9	102.3	27.3
d) Sales to Capital Emp.	2482.3	2723.2	1735.4
e) Gross Profit to Sales	2.5	3.8	1.6
f) Equity Loan Ratio	7.2	0.44	0.14

Source : Annual Reports of the company.

TABLE NO. : 14.

FINANCIAL STRUCTURE.

NAME OF THE COMPNAY : IBP CO. LIMITED.

Rs./Lakhs.

ITEM	1980-81	1981-82	182-83
1	2	3	4
1. Authorised Capital	300	300	300
2. i) Paid-ip Capital	160	240	240
ii) Preference Capital	50	50	50
iii) Reserves & Surpluses	517	642	889
3. i) Total Loans	90	NIL	NIL
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Crdits/Advances from Banks/Others	379	701	364
5. Net Worth	727	933	1179
6.i) Net Fixed Assets	563	644	710
ii) Working Capital	46	393	94
iii) Capital Emp. (i+ii)	609	1037	834
7. Sales/Operating Income	28222	38253	45035
8. i) Total Emoluments (incl. perks)	191	234	303
ii) Of which Bonus	16	19	19
iii) Average Emoluments per person	0.16	0.18	0.22
9. Inventories	282	423	457
10. Adjusted Gross profit	278	404	530
11. Adjusted Net Profit	113	197	244
12. Dividends Declared	32	41	41
13. Corporate Tax	139	176	238
% Age of :-			
a) Net Profit to Equity	70.6	82.1	101.7
b) Net Profit to Net Worth	15.5	21.1	20.7
c) Gross Profit to Capital Emp.	45.6	38.9	63.6
d) Sales to Capital Emp.	4634.2	3688.8	5399.9
e) Gross Profit to Sales	1.0	1.1	1.2
f) Equity Loan Ratio	1.78	NIL	NIL

Source :- Annual Reports of the Company.

TABLE NO. : 15.

FINANCIAL STRUCTURE.

NAME OF THE COMPNAY : Lubrizol India Limited.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	480	480	480
2. i) Paid-up Capital	480	480	480
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	679	730	926
3. i) Total Loans	NIL	20	167
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others.	23	123	NIL
5. Net Worth	1159	1210	1406
6. i) Net Fixed Assets	276	318	452
ii) Working Capital	881	1012	1029
iii) Capital Emp. (i+ii)	1157	1330	1481
7. Sales/Operating Income	3819	4396	5511
8. i) Total Emoluments (incl. perks)	70	95	117
ii) Of which Bonus	4	4	5
iii) Average Emoluments per person	0.29	0.33	0.36
9. Inventories	945	1081	1257
10. Adjusted Gross Profit	494	87	545
11. Adjusted Net Profit	190	51	225
12. Dividends Declared	60	53	67
13. Corporate Tax	301	16	278
% Age of:-			
a) Net Profit to Equity	39.6	10.6	46.8
b) Net Profit to Net Worith	16.4	4.3	16.0
c) Gross Profit to Capital Emp.	42.7	6.5	36.8
d) Sales to Capital Emp.	330.1	330.5	372.1
e) Gross Profit to Sales	12.9	1.9	9.9
f) Equity Loan Ratio	NIL	24.0	2.87

Source :- Annual Reports of the Company.

TABLE NO. : 16.

FINANCIAL STRUCTURE.

NAME OF THE COMPNAY : Balmer Lawrie & Co. Ltd.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	300	300	300
2. i) Paid-up Capital	189	189	189
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	431	501	577
3. i) Total Loans	282	307	441
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	725	587	1036
5. Net Worth	620	691	765
6. i) Net Fixed Assets	424	492	598
ii) Working Capital	1145	998	1339
iii) Capital Empl. (i+ii)	1569	1490	1937
7. Sales/Operating Income	4077	4172	4871
8. i) Total Emoluments (incl. perks)	283	346	398
ii) Of which Bonus	19	21	22
iii) Average Emoluments per person	0.20	0.19	0.21
9. Inventories	985	844	782
10. Adjusted Gross Profit	354	379	360
11. Adjusted Net Profit	118	106	105
12. Dividends Declared	30	30	26
13. Corporate Tax	100	107	65
% Age of :-			
a) Net Profit to Equity	62.4	56.1	55.6
b) Net Profit to Net Worth	19.0	15.3	13.7
c) Gross Profit to Capital Emp.	22.6	25.4	18.6
d) Sales to Capital Emp.	259.6	280.0	251.5
e) Gross Profit to Sales	8.7	9.1	7.4
f) Equity Loan Ratio	0.67	0.61	0.43

Source :- Annual Reports of the company.

TABLE NO. : 17.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Bioeco Lawrie Co. Ltd.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	250	250	250
2. i) Paid-up Capital	134	134	177
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	12	3	3
3. i) Total Loans	832	817	1091
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	79	98	34
5. Net Worth	- 557	- 706	- 825
6. i) Net Fixed Assets	61	92	94
ii) Working Capital	190	196	180
iii) Capital Empl.(i+ii)	251	288	274
7. Sales/Operating Income	503	585	600
8. i) Total Emoluments	202	191	213
ii) Of which Bonus	9	9	9
iii) Average Emoluments per person	0.14	0.13	0.14
9. Inventories	250	240	263
10. Adjusted Gross Profit	- 49	- 1	- 13
11. Adjusted Net Profit	-150	-139	-155
12. Dividends Declared	NIL	NIL	NIL
13. Corporate Tax	NIL	NIL	NIL
% Age of :-			
a) Net Profit to Equity	NEG.	NEG.	Loss
b) Net Profit to Net Worth	NEG.	NEG.	Loss.
c) Gross Profit to Capital Emp.	NEG.	NEG.	Loss.
d) Sales to Capital Emp.	200.4	233.1	219.0
e) Gross Profit to Sales	NEG.	NEG.	Loss.
f) Equity Loan Ratio	0.16	0.16	0.16

Source :- Annual Reports of the Company.

TABLE NO. :18.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Bridge & Roof Co. (India) Limited..

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	500	700	700
2. i) Paid-up Capital	424	424	424
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	34	46	72
3.i) Total Loans	533	655	947
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	304	310	145
5. Net Worth	- 121	- 103	62
6. i) Net Fixed Assets	155	155	282
ii) Working Capital	560	541	774
iii) Capital Empl. (i+ii)	715	696	1056
7. Sales/Operating Income	2836	3630	4627
8. i) Total Emoluments (incl. perks)	1470	1578	1960
ii) Of which Bonus	14	14	15
iii) Average Emoluments per person	0.12	0.14	0.17
9. Inventories	281	1596	1836
10. Gross Profit	- 10	135	316
11. Net Profit	-115	18	165
12. Dividends Declared	NIL	NIL	NIL
13. Corporate Tax	NIL	NIL	NIL
% Age of :-			
a) Net Profit to Equity	NEG.	4.2	38.9
b) Net Profit to Net Worth	NEG.	Neg.	266.1
c) Gross Profit to Capital Emp.	NEG.	19.4	29.9
d) Sales to Capital Emp.	396.6	521.6	438.2
e) Gross Profit to Sales	NEG.	3.8	6.8
f) Equity Loan Ratio	0.80	0.65	0.45

Source : Annual Reports of the Company.

Due to non receipt of A/cs. from the company.
GP & NP are unadjusted for the Year 1981-82-83.

TABLE NO. : 19.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Indian Oil Blending Ltd.,

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	40	40	40
2. i) Paid-up Capital	40	40	40
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	125	144	180
3. i) Total Loans	NIL	NIL	NIL
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Crdits/Advances from Banks/Others	30	22	24
5. Net Worth	165	184	220
6. i) Net Fixed Assets	133	161	169
ii) Working Capital	61	45	73
iii) Capital Empl. (i+ii)	194	206	242
7. Sales/Operating Income	239	265	309
8. i) Total Emoluments (incl. perks)	123	132	153
ii) Of which Bonus	8	8	15
iii) Average Emoluments per person	0.25	0.26	0.30
9. Inventoreis	12	13	16
10. Adjusted Gross Profit	42	49	64
11. Adjusted Net Profit	18	23	36
12. Dividends Declared	4	4	4
13. Corporate Tax	18	24	25
% Age of :-			
a) Net Profit to Equity	45.0	57.5	90.0
b) Net Profit to Net Worth	10.9	12.5	16.4
c) Gross Profit to Capital Emp.	21.6	23.8	26.5
d) Sales to Capital Emp.	123.2	128.6	127.7
e) Gross Profit to Sales	17.6	18.5	20.7
f) Equity Loan Ratio	NIL	NIL	NIL

Source : Annual Reports of the Company.

TABLE NO. : 20.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Consolidated Petrochemical and Other down Stream units.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	32000	32000	32000
2. i) Paid-up Capital	29925	29935	29939
ii) Preferecne Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	7347	13592	19854
3. i) Total Loans	18977	18560	19862
ii) Of which Foreign	216	147	57
4. Cash Credits/Advances from Banks/Others	2084	2291	2257
5. Net Worth	36768	43516	49785
6. i) Net Fixed Assets	29317	31654	30094
ii) Working Capital	16838	19799	22129
iii) Capital Empl. (i+ii)	46155	51453	52223
7. Sales/Operating Income	34801	56075	65282
8. i) Total Emoluments (incl. perks)	1407	1780	2156
ii) Of which Bonus	36	72	133
iii) Average Emoluments per person.	0.18	0.21	0.22
9. Inventories	13838	14288	16428
10. Adjusted Gross Profit	6502	9288	8495
11. Adjusted Net Profit	4486	6865	6232
12. Dividends Declared	88	89	89
13. Croporate Tax	NIL	NIL	109
% Age of :-			
a) Net Profit to Equity	15.0	22.9	20.8
b) Net Profit to Net Worth	12,2	15.8	12.5
c) Gross Profit to Capital Emp.	14.0	17.9	16.3
d) Sales to Capital Emp.	75.4	109.0	125.0
e) Gross Profit to Sales	18.7	16.4	13.0
f) Equity Loan Ratio	1.58	1.61	1.51

Source : Annual Reports of the companies.

TABLE NO. : 21.

FINANCIAL STRUCTRE.

NAME OF THE COMPANY : Indian Petrochemicals Corporation Ltd.,

Rs./Lakhs.

I T E M	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	20000	20000	20000
2. i) Paid-up Capital	18600	18600	18600
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	5620	11174	16263
3. i) Total Loans	14616	10052	8952
ii) Of which Foreign	216	147	57
4. Cash Credits/Advances from Banks/Others	2019	2034	1364
5. Net Worth	24220	29774	34863
6. i) Net Fixed Assets.	22738	20842	20058
ii) Working Capital	15700	17109	18943
iii) Capital Empl (i+ii)	38438	37951	39001
7. Sales/Operating Income	28073	40622	44269
8. i) Total Emoluments (incl. perks)	1119	1365	1658
ii) Ofwhich Bonus	31	53	111
iii) Average Emoluments per person	0.21	0.24	0.29
9. Inventories	12310	10756	12418
10. Adjusted Gross Profit	5091	7104	6377
11. Adjusted Net Profit	3390	5511	5136
12. Dividends Declared	NIL	NIL	NIL
13. Corporate Tax	NIL	NIL	NIL
% Age of:-			
a) Net Profit to Equity	18.2	29.6	27.6
b) Net Profit to Net Worth	14.0	18.6	14.7
c) Gross Profit to Capital Emp.	13.2	18.7	16.4
d) Sales to Capital Emp.	73.0	107.0	113.5
e) Gross Profit to Sales	18.1	17.5	14.4
f) Equity Loan Ratio	1.27	1.85	2.08

Source : Annual Reports of the company.

TABLE NO. : 22.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Petrofils Coperative Limited.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	2000	2000	2000
2. i) Paid-up Capital	1475	1485	1489
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	1474	2241	2777
3. i) Total Loans	1024	996	994
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	21	142	232
5. Net Worth	2948	3726	4267
6. i) Net Fixed Assets	2536	3101	2809
ii) Working Capital	986	1348	1466
iii) Capital Empl. (i+ii)	3522	4449	4275
7. Sales/Operating Income	6165	7047	7771
8. i) Total Emoluments (incl. perks)	160	232	266
ii) of which Bonus	5	19	22
iii) Average Emoluments per person	0.16	0.19	0.20
9. Inventories	586	1237	1391
10. Adjusted Gross Profit	816	943	844
11. Adjusted Net Profit	701	816	593
12. Dividends Declared	88	89	89
13. Corporate Tax	NIL	NIL	109
% Age of:-			
a) Net Profit to Equity	47.6	54.9	39.8
b) Net Profit to Net Worth	23.8	21.9	13.9
c) Gross Profit to Capital Emp.	23.2	21.2	19.7
d) Sales to Capital Emp.	175.0	158.4	181.8
e) Gross Profit to Sales	13.2	13.4	10.8
f) Equity Loan Ratio	1.44	1.49	1.50

SOURCE : Annual Reports of the Company.

TABLE NO. : 23.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Bongaigion Refinery & Petrochemicals Ltd.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	10000	10000	10000
2. i) Paid-up Capital	9850	9850	9850
ii) Preference Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	253	177	814
3. i) Total Loans	3337	7512	9916
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	44	115	661
5. Net Worth	9597	10016	10655
6. i) Net Fixed Assets	4043	7711	7227
ii) Working Capital	152	1322	1720
iii) Capital Empl. (i+ii)	4195	9033	8947
7. Sales/Operating Income	563	8406	13242
8. i) Total Emoluments (incl. perks)	128	183	232
ii) Of which Bonus	NIL	NIL	NIL
iii) Average Emoluments per person	0.16	0.20	0.17
9. Inventories	940	2295	2619
10. Adjusted Gross Profit	595	1161	1274
11. Adjusted Net Profit	395	538	503
12. Dividends Declared	--	NIL	NIL
13. Corporate Tax	--	NIL	NIL
% Age of :-			
a) Net Profit to Equity	4.0	5.5	5.1
b) Net Profit to Net Worth	4.1	5.4	4.7
c) Gross Profit to Capital Employed	14.2	12.9	14.2
d) Sales to Capital Emp.	13.4	93.1	148.0
e) Gross Profit to Sales	105.7	13.8	9.6
f) Equity Loan Ratio	2.95	1.31	0.99

Sourc : Annual Reports of the Company.

TABLE NO. : 24.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Engineers India Limited.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
1. Authorised Capital	200	200	2000
2. i) Paid-up Capital	50	50	50
ii) Preferecne Capital	NIL	NIL	NIL
iii) Reserves & Surpluses	1582	1946	2539
3. i) Total Loans	13	NIL	NIL
ii) Of which Foreign	NIL	NIL	NIL
4. Cash Credits/Advances from Banks/Others	--	--	NIL
5. Net Worth	1632	1996	2589
6. i) Net Fixed Assets	419	442	538
ii) Working Capital	1153	1270	1391
iii) Capital Empl. (i+ii)	1572	1712	1929
7. Sales/Operating Income	2381	2262	4082
8. i) Total Emoluments (incl. perks)	885	1032	1298
ii) Of which Bonus	26	23	25
iii) Average Emoluments per person	0.30	0.33	0.38
9. Inventories	15	17	27
10. Adjusted Gross Profit	443	541	965
11. Adjusted Net Profit	592	373	575
12. Dividends Declared	8	8	8
13. Corporate Tax	180	225	390
% Age of:-			
a) Net Profit to Equity	1184.0	746.0	1150.0
b) Net Profit to Net Worth	36.2	18.6	22.2
c) Gross Profit to Capital Emp.	28.2	31.6	50.0
d) Sales to Capital Emp.	151.5	132.1	211.6
e) Gross Profit to Sales	18.6	23.9	23.6
f) Equity Loan Ratio	3.85	NIL	NIL

Source : Annual Reports of the company.

TABLE NO. : 25.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY : Petrochemicals Private Sector --- All Categories.

Rs./Crores

ITEM	1980-81	1981-82	1982-83
1	2	3	4
No. of Companies.	39	36	36
1. Authorised Capital	402.70	438.10	453.71
2. i) Paid-up Capital	232.40	224.70	255.26
ii) Preference Capital	16.20	15.60	14.91
iii) Reserves & Surpluses	361.20	400.90	484.72
3. i) Total Loans	317.50	339.30	525.03
ii) Of which Foreign	22.60	18.90	27.00
4. Cash Credits/Advances from Banks/Others	275.50	313.50	386.64
5. Net Worth	579.80	629.40	690.33
6. i) Net Fixed Assets	590.40	648.80	801.77
ii) Working Capital	464.70	560.00	578.62
iii) Capital Employed(i+ii)	1055.10	1208.80	1380.39
7. Sales /Operating Income	2041.10	2233.10	2580.71
8. Value of Production	1585.90	1904.00	2003.32
9. Net Value added	593.60	642.50	693.36
10. Gross Profit	156.20	181.70	145.45
11. Net Profit	66.20	68.00	28.26
12. Dividends Declared	32.40	33.90	28.94
% Age of :-			
a) Net Profit to Equity	28.5	30.5	6.2
b) Net Profit to Net Worth	11.4	10.9	4.1
c) Gross Profit to Capital Emp.	14.8	15.0	10.5
d) Sales to Capital Emp.	193.4	193.0	187.0
e) Gross Profit to Sales	7.7	7.8	5.6
f) Equity Loan Ratio	0.73	0.66	0.49

Source : Annual Reports of the Companies & data submitted by Private Companies.

TABLE NO. : 26.

CONSOLEDATED FINANCIAL STRUCTRE.

NAME OF THE COMPANY : Synthetic Fibre (Private Sector).

Rs./Lakhs.

ITEM 1	1981-82 2	1981-82 3	1982-83 4
No. of Companies	14	14	14
1. Authorised Capital	15739	18379	21567
(i)			
2. i) Paid-up Capital	8549	8939	10558
ii) Preference Capital	916	926	859
iii) Reserves & Surpluses	16787	19590	25908
3. i) Total Loans	13929	15730	26405
ii) Of which Foreign	1060	936	1280
4. Cash Credits/Advances from Banks/Others	6927	9329	13934
5. Net Worth	25552	28515	35403
6. i) Net Fixed Assets	27846	32588	48790
ii) Working Capital	16555	18400	25161
iii) Capital Employed(i+ii)	44401	50988	73951
7. Sales/Operating Income	81481	94845	122164
8. Vale of Production	53642	64131	81098
9. Net Value added	23816	26843	31055
10. Gross Profit	7836	9570	7942
11. Dividends Declared	1611	1772	1402
12. Net Profit	3327	4728	816
% Age of :-			
a) Net Profit to Equity	38.9	52.9	7.7
b) Net Profit to Net Worth	13.0	16.6	2.3
c) Gross Profit to Capital Emp.	17.7	18.7	10.7
d) Sales to Capital Emp.	183.5	185.9	166.0
e) Gross Profit to Sales	9.6	10.0	6.5
f) Equity Loan Ratio	0.61	0.57	0.40

Source : Annual Reports of the companies.

TABLE NO. : 27.

CONSOLEDATED FINANCIAL STRUCTURE.

NAME OF THE COMPANY : "Plastics" Private Sector .

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
No. Of Companies	13	11	11
1. Authorised Capital	9904	10799	10274
2. i) Paid-up Capital	4971	3757	5153
ii) Preference Capital	376	333	286
iii) Reserves & Surpluses	6337	7053	8749
3. i) Total Loans	11209	9468	16282
ii) Of which Foreign	466	328	384
4. Cash Credits/Advances from Banks/Others	10626	10487	16765
5. Net Worth	10362	11979	9942
6. i) Net Fixed Assets	11817	12337	15465
ii) Working Capital	12916	17322	17199
iii) Capital Employed (i*ii)	24733	29659	32664
7. Sales/Operating Income	59547	70956	78482
8. Vale of Production	51734	65682	69118
9. Net Value added	18291	18453	24065
10. Gross Profit	2673	3258	2457
11. Net Profit	1383	327	1211
12. Dividends Declared	564	591	580
% Age of:-			
a) Net Profit to Equity	27.8	8.7	23.5
b) Net Profit to Net Worth	13.4	2.7	12.2
c) Gross Profit to Capital Emp.	10.8	10.9	7.5
d) Sales to Capital Emp.	240.8	239.2	240.3
e) Gross Profit to Sales	4.5	4.6	3.1
f) Equity Loan Ratio	0.44	0.40	0.32

Source : Annual Reports of the Companies.

TABLE NO. : 28.

CONSOLIDATED FINANCIAL STRUCTURE.

NAME OF THE COMPANY : "Chemicals" Private Sector.

Rs./Lakhs.

ITEM	1980-81	1981-82	1982-83
1	2	3	4
No. of Companies	11	11	11
1. Authorised Capital	12030	12030	12030
2. i) Paid-up Capital	9147	9194	9234
ii) Preference Capital	326	296	346
iii) Reserves & Surpluses	12415	12951	13585
3. i) Total Loans	6521	8240	9719
ii) Of which Foreign	725	620	1034
4. Cash Credits/Advances from Banks/Others	9312	11014	5366
5. Net Worth	20917	21371	22775
6. i) Net Fixed Assets	18585	19127	15077
ii) Working Capital	15867	19005	14560
iii) Capital Employed(i+ii)	34452	38132	29637
7. Sales/Operating Income	59815	64752	53533
8. Value of Production	50965	57134	47102
9. Net Value added	15938	17560	12848
10. Gross Profit	5101	5450	4267
11. Net Profit	1902	1908	1039
12. Dividends Declared	1063	1029	912
% Age of :-			
a) Net Profit to Equity	20.8	20.8	8.6
b) Net Profit to Net Worth	9.1	8.9	4.6
c) Gross Profit to Capital Emp.	14.8	14.3	14.5
d) Sales to Capital Emp.	173.6	169.8	182.3
e) Gross Profit to Sales	8.5	8.4	8.0
f) Equity Loan Ratio	1.40	1.12	1.24

Source : Annual Reports of the Companies.

TABLE NO. : 29.

CONSOLEDATED FINANCIAL STRUCTURE.

NNAME OF THE COMPANY : Synthetic ~~Fibres~~ Rubber Synthetic & Chemicals Ltd.,

Rs./Lakhs.

ITEM 1	1980-81 2	1981-82 3	1982-83 4
1. Authorised Capital	1500	1500	1500
2. i) Paid-up Capital	575	581	581
ii) Preference Capital	--	NIL	NIL
iii) Reserves & Surpluses	577	495	330
3. i) Total Loans	89	519	97
ii) Of which Foreign	4	3	2
4. Cash Credits/Advances from Banks/Others	685	524	779
5. Net Worth	1152	1076	911
6. i) Net Fixed Assets	778	822	845
ii) Working Capital	1148	1270	942
iii) Capital Employed (i+ii)	1926	2092	1787
7. Sales	3266	2754	3292
8. Value of Production	3147	3531	3014
9. Net Value added	1319	1391	1368
10. Gross Profit	12	- 105	- 151
11. Net Profit	12	- 105	- 240
12. Dividends Declared	NIL	NIL	NIL
% Age of :-			
a) Net Profit to Equity	2.1	loss	loss
b) Net Profit to Net Worth	1.1	loss	loss
c) Gross Profit to Capital Emp.	0.6	loss	loss
d) Sales to Capital Emp.	169.6	131.3	184.2
e) Gross Profit to Sales	0.4	loss	loss
f) Equity Loan Ratio	6.46	1.11	5.99

Source : Annual Reports of the company.

CAPITAL INVESTMENT OF THE PUBLIC/JOINT SECTOR UNDERTAKINGS.

Name of the undertakings	As on 1.4.82. Equity	Loans	Total	Govt's share	As on 1.4.83 Equity	Loans	Total	Govt's share	As on 1.4.84 Equity	Loans	Total	Govt's share
A. Exploration & Production	395.9	999.1	1395.0	461.5	395.9	1668.4	2064.3	448.8	395.9	1926.5	2322.4	435.3
1. ONGC	342.9	946.8	1289.7	384.7	342.9	1620.0	1962.9	375.5	342.9	1881.8	2224.7	365.4
2. HIL	25.0	--	25.0	Nil	25.0	--	25.0	--	25.0	Nil	25.0	Nil
3. OIL	28.0	52.3	80.3	76.8	28.0	48.4	76.4	73.3	28.0	44.7	72.7	69.9
B. REFINING & MARKETING	188.4	346.4	534.8	317.3	188.9	579.1	768.0	303.2	216.0	1054.4	1270.6	386.8
4. IOC	123.3	260.8	384.1	233.1	123.3	295.8	419.1	214.9	123.3	481.0	604.3	196.9
5. BPCL	14.5	--	14.5	14.5	14.5	40.6	55.1	14.5	16.6	83.5	100.1	29.7
6. HPCL	15.2	13.5	28.7	26.2	15.2	73.8	89.0	25.1	40.2	148.4	188.6	68.8
7. CRL	7.0	28.4	35.4	10.2	7.0	56.3	63.3	10.2	6.0	97.6	103.6	26.5
8. RL	12.9	27.7	40.6	9.5	12.9	89.4	102.3	9.5	12.9	216.7	229.6	32.8
9. I BP Co.Ltd.	2.9	--	2.9	1.6	2.9	--	2.9	1.6	2.9	--	2.9	1.6
10. Biecco Lawrie Ltd.	1.3	8.2	9.5	9.2	1.8	2.8	4.6.	--	1.8	11.3	13.1	12.80
11. Balmer Lawrie Ltd.	1.9	1.8	3.7	--	1.9	9.7	11.6	11.2	1.9	3.6	5.5	Nil
12. Bridge & Roof Co. (India)	4.2	5.8	40.0	9.7	4.2	9.0	13.2	12.9	5.2	9.5	14.7	14.4
13. Lubrizol India Ltd.	4.8	0.2	5.0	2.9	4.3	1.7	6.5	2.9	4.8	3.0	7.8	2.9
14. Indian Oil Blendug Ltd.	0.4	--	0.4	0.4	0.4	Nil	0.4	0.4	0.4	--	0.4	0.4
C. PETROCHEMICALS & OTHER DOWN STEAM UNIT	299.2	181.2	480.4	397.6	299.2	187.2	486.4	381.7	299.4	205.8	505.2	352.0
15. IPCL	186.0	98.3	284.3	260.4	186.0	71.8	257.8	244.5	186.0	37.2	223.2	214.3
16. Petrofits cooperative	14.7	10.0	24.7	13.2	14.7	40.5	25.2	13.2	14.9	12.2	27.1	13.2
17. BPPL	98.5	72.9	171.4	124.0	98.5	104.9	203.4	124.0	98.5	156.4	254.9	124.0
D. ENGG. SERVICE.	0.5	--	0.5	0.5	0.5	Nil	0.5	0.5	0.5	--	0.5	0.5
	0.5	--	0.5	0.5	0.5	Nil	0.5	0.5	0.5	--	0.5	0.5
GRAND TOTAL	884.0	1526.7	2410.7	1176.9 (48.8%)	884.5	2434.7	3319.2	1134.2 (34.2%)	911.8	3186.9	4098.7	1174.6 (28.7%)

Note : Figures in Brackets indicate the percentage share of the Government.

GLOSSARY OF TERMS USED IN THE "ANNUAL REPORT ANALYSIS"

1. Loans : These include both secured and unsecured loans but exclude interest accured, if any, included in the loans.

2. Net Worth : This represents paid-up capital plus free reserves less accumulated losses (deficit) and deferred revenue expenditure remaining unamortised.

3. Capital-Employed : This means gross block less accumulated depreciation there on plus working capital but excluding capital works in progress.

4. Working-Capital : Means all current assets, loans & advances, deposits, investments (other than trade investments) less current liabilities and provisions excluding cash credit & bank overdrafts and provision for gratuity.

5. Sales : Means not sales turnover i.e. after excluding trade discounts and products used for internal consumption.

6. Adjusted-Gross Profit. : Represents excess of Income over expenditure after providing for depreciation but before providing for interest on loans, taxes, appropriation to reserves, charges pertaining to previous years, bad debts, donations, exchange fluctuations, loss on disposal of Assets, Dividends etc.

7. Adjusted Net Profit. : Represents the figure arrived at after deducting from the adjusted gross profit interest on loans and taxes but before appropriation to reserves.

8. Dividend-Declared. : Includes preference dividend, if any.

ZSM/7

APPENDIX

ABBREVIATIONS

(i) Companies/Organisations

ACCI	: Alkali & Chemicals Corporation of India Limited
AOC	: Assam Oil Company
BPCL	: Bharat Petroleum Corporation Limited
BRPL	: Bongaigaon Refinery & Petrochemicals Limited
B/Shell/BSM	: Burmah Shell Oil Storage & Distributing Co. Ltd.
BSR	: Burmah Shell Refineries Limited
Caltex/CIL	: Caltex (India) Limited
CORIL	: Caltex Oil Refining (India) Limited
CRL	: Cochin Refineries Limited
EIL	: Engineers India Limited.
ESSO	: Esso Standard Eastern Inc.
ESRC	: Esso Standard Refining Company of India Ltd.
HCL	: Hordillia Chemicals Limited
HPCL	: Hindistan Petroleum Corporation Limited
HIL	: Hydrocarbons India Limited
IBPC	: Indo-Burma Petroleum Company Limited
IPCL	: Indian Petrochemicals Corporation Limited
IIP	: Indian Institute of Petroleum
IPE	: Institute of Petroleum Exploration
IOBL	: Indian Oil Blending Limited
IOC	: Indian Oil Corporation Limited
LIL	: Lube India Limited
Lubrizol	: Lubrizol India Limited
MRL	: Madras Refineries Limited
OIL	: Oil India Limited
ONGC	: Oil & Natural Gas Commission
OPEC	: Organisation of Petroleum Exporting Countries
TWOC	: Tide Water Oil Company
PCL	: Petrofils Cooperative Limited
NOCIL	: National Organic Chemicals Industries Limited
TIPCO	: The Industrial Plastics Corporation Pvt. Ltd.
WIODC	: Western India Oil Distributing Company Ltd.

(ii) Petroleum Products.

ATF	: Avitation Turbine Fuel
AVGAS	: Aviation Gasoline/Spirit
CBFS	: Carbon Black Feed Stock
HHS	: Hot Heavy Stock
HSDO	: High Speed Diesel Oil
JBO	: Jute Batching Oil
LDO	: Light Diesel Oil
LSHS	: Low Sulphur Heavy Stock
LPG	: Liquified Petroleum Gas
MS/MO AS	: Motor Spirit/Motor Gasoline
FO	: Furnace Oil
MTO	: Mineral Turpentine Oil
Pet-coke	: Petroleum Coke
SBP-Spirit	: Special Boiling Point Spirit
SKO	: Superior Kerosene Oil
TDO	: Tea Drier Oil

LIGHT DISTILLATES (including Gases): Gasolines, Naphtha, SBP Spirit/ Solvent Oils, Hexane, Benzene, Toluene, L.P.G., Refinery Gas and W.D. Mixture.

MIDDLE DISTILLATES: Kerosene ATF/Jet-A1, Vaporising Oil, Aromex-Iomex, HSDO, IBO/MLO and JDO Mineral Turpentien Oil, Chemisponse & LABFS.

(iii) Petrochemicals Products

CAMP	: Cellulose Acetate Moulding Powder
CBFS	: Carbon Black Fee-stock
DMT	: Dimethyl Teraphthalate
HDPE	: Polyethylene Resins & Compounds Low Pressure (High Density)
LAB	: Linear Alkyl Benzene
LDPE	: Polyethylene Resins & Compounds High Pressure (Low Density)
MEG	: Mono-Ethylene Glycol
MI Ketone	: Methyl Isobutyl Ketone
MF MP	: Malamine Fermaldehyde Moulding Powder
NSF	: Nylon Staple Fibre
PSF	: Polyester Staple Fibre
PFY	: PolyesterFilament Yarn
PE MP	: Phenol Formaldehyde Moulding Powder
PS	: Polystyrene
PP	: Polypropylene
PBR	: Polybutadiene Rubber
PVC	: Polyvinyl Chloride
SBR	: Styrene Butadiene Rubber
UFMP	: Urea Formal-dehyde Moulding Powder

(iv) PREFIXES USED IN METRIC TABLES

Prefix	: Meaning
Milli	: One thousandth (1/1000=.001)
Centi	: One hundredth (1/100=.01)
Deci	: One tenth (1/10 =.1)
Unit	: One (1)
Deka	: Ten (10)
Hecto	: One hundred (100)
Kilo	: One thousand (1,000)
Mega	: One Million (1000,000)

(v) Others

API	: American Petroleum Institute
AFRA	: Average Freight Rate Assessment
CIF	: Cost, Insurance and Freight
Crores	: 10 million/100 Lakhs
DWT	: Dead Weight Tonnage
FOB	: Free on Board
GP	: General Purpose (16, 500-24,999 dwt)
HV	: High Visoosity Index
KL	: Kilometre
LR I	: Large Range I (45,000-79,999 dwt)
LR II	: Larget Ramte II (80,000-1,59,999 dwt)
LV	: Low Viscosity
LVI	: Low Viscosity Index
MR	: Medium Range (25,000-49,999 dwt)
MT	: Metric Ton
MTPA	: Million Tonnes per annum
MV	: Medium Visocosity
MVI	: Medium Viscosity Index
R&D	: Research and Development
ULCC	: Ultra Large Crude Carrier (320,000-549,999dwt)
VLCC	: Very Large Crude Carrier (1,60,000dwt and more)
NA	: Not Available
-	: Nil
Neg.	: Negligible
Billion	: 10^9 or one thousand Million
Trillion	: 10^{12} or one million million
	: High Viscosity
	: Provisional

METRIC UNITS

LINER

10 Millimetre	= 1 Centimetre
10 Centimetres	= 1 decimetre
10 Decimetres	= 1 Metre
10 Metres	= 1 decametre
10 Decametres	= 1 Hectametre
10 Hectametres	= 1 Kilometre

AREA

100 sq. millimetre	= 1 sq. centimetre
100 sq. centimetres	= 1 sq. decimetre
100 sq. decimetres	= 1 sq. Metre
100 sq. metres	= 1 sq. decimetre 1 Are
100 sq. areas	= 1 sq. area = 1 hectare
100 Hectares	= 1 sq. hectometre = 1 sq. Kilometre

WEIGHT:

10 milligrams	= 1 centigram
10 centigrams	= 1 decigrams
10 decigrams	= 1 gram
10 grams	= 1 decagram
10 decagrams	= 1 hectogram
10 hectograms	= 1 kilograms
100 kilograms	= 1 quintal
1000 kilograms	= 1 matric tonne

CAPACITY

10 millilitre	= 1 centilitre
10 centilitres	= 1 decilitre
10 decilitres	= 1 litre
10 Litres	= 1 decalitre
10 decalitres	= 1 hectolitre
10 hectolitres	= 1 kilolitre

VOLUME

1000 cubic millimetres	= 1 cubic centimetre
1000 cubic centimetres	= 1 cubic decimetre
1000 cubic decimetes	= 1 cubic metre.

CONVERSION FACTORS USED IN THE OIL TRADE LINEAR AND SQUARE MEASURES.

L E N G T H

1 inch	= 25.4 millimetres (mm) = 0.0254 metre
1 foot	= 12 inches = 0.333333 Yard = 0.3048 metre (m)
1 Yard	= 36 inches = 3 feet = 0.9144 metre (m)
1 Metre	= 39.3701 inches = 3.28084 feet = 1.0[illegible]61 Yards = 0.001 kilometre (km)
1 Kilometre	= 1000 metre (m) = 0.621371 mile
1 mile	= 1760 Yards = 1.60934 Kilometres (km)
1 international nautical mile	= 6076.12 feet 1.852 kilometres (km) 1.15078 miles

A R E A

1 square inch	= 645.16 square millimetres (mm^2)
1 square foot	= 0.0929030 square metre (mm^2)
1 square yard	= 9 square feet = 0.836127 square metre (m^2)
1 square metre	= 10,7639 square feet 1.19599 square yards
1 acre	= 4840 square metres (m^2) = 4046.86 square metres (m^2) 0.404686 hectares
1 hectare	= 10000 square metres (m^2) = 2.47105 acres = 0.01 square kilometre (km^2)
1 square kilometre	= 100 hectares = 0.386102 square mile
1 square mile	= 640 acres = 258.999 hectares = 2,58999 square kilometres (km^2)

MASS. WEIGHTS

1 Ounce	= 28,3495 grams (g)
1 pound	= 0.453592 kilogram (kg.) = 0.0 092857 hundred weight
1 Kilogram	= 2.20462 pounds = 0.01 quintal
1 hundred weight (cwt)	= 112 pounds = 50.8023 Kilograms (kg.)
1 American(Short) ton	= 2000 pounds = 0.907185 tonne = 0.892857 long ton
1 tonne (Metric ton)	= 2204.62 pounds = 1000 kilograms (kg.) = 1.10231 short tons = 0.984207 long ton
1 Imperial (long) ton	= 2240 pounds = 1.12 short tons = 1.01605 tonnes

ENERGY AND POWER

1 international table (IT) caloric	= 4.1860 Joules (J)
115° C caloric	= 4.1855 Joules (J)
1 Thermochemical Caloric	= 4.184 joules (J)
1 kilo cloric (IT)	= 1000 calories = 3.9632 British thermal units = 1.163 watt hours = 1 thermie
1 Kilowatt hour	= 3412.14 British thermal units = 859.845 kilocalories = 3.6 megajoules (MJ) 1.34102 horse power hours
1 therm	= 100000 British thermal units (BTU) = 105.506 megajoules (MJ) = 29.3071 kilowatt hours = 25.1[illegible] thermies = 25200 kilocalories
1 metric horsepower (Pferdestaerke or cheval vapeur)	= 735.499 watts (W) = 542.476 foot pounds force/Second = 0.986320 Imperial horse power
1 Imperial horsepower	= 745,700 watts(W) = 550 foot pounds force/Second = 1.01387 metric horse power
1 Kilowatt	= 737.562 foot pounds force/Second 1.35962 metric horsepower = 1.34102 Imperial horsepower = 1000 watts.
1 BTU	= 0.252 Kilocalories = 1.055 Kilojoules

19.08.84

C U B I C M E A S U R E S

V O L U M E

1 Cubic inch	= 16.3871 cubic centimetres (cm^3)
1 Pint	= 0.568261 cubic decimetres (dm^3)
1 litre	= 1000 cubic centimetres = 61.024 cubic inches = 1.75975 pints = 1 cubic decimetre (dm^3) = 0.264172 American gallons = 0.219963 imperial gallons = 0.0353147 cubic foot.
1 hectolitre	= 100 cubic decimetres (dm^3) or = 100 litres
1 American gallon	= 231 cubic inches = 3.78541 cubic decimetres or litre = 0.832674 Imperial gallon = 0.133681 cubic foot = 0.0238095 American barrel = 0.00378541 cubic metre (m^3)
1 Imperial gallon	= 277.420 cubic inches = 4.54609 cubic decimetres (dm^3) or = 1.20095 American gallon-litres = 0.160544 cubic foot = 0.028594 American barrel = 0.00454609 cubic metre (m^3)
1 cubic foot	= 28.3168 cubic decimetres (dm^3) or = 7.48052 American gallona litre = 6.22883 Imperial gallons = 0.17811 American barrel = 0.0283168 cubic metre (m^3)
1 American barrel	= 9702 cubic inches = 158.987 cubic decimetres (dm^3) or = 42 American gallons = 34.9726 Imperial gallons = 5.6146 cubic feet = 0.158987 cubic metre (m^3)
1 cubic metre	= 1000 litres 264.172 American gallons = 219.969 Imperial gallons = 25.3147 cubic feet = 6.28981 American barrels.
1 Kilolitre	= 1000 cubic decimetres (dm^3) or litre = 6.28981 American barrels litre
1 gross ton (shipping)	= 2.83168 cubic metres or 100 cubic feet of permanently enclosed space.
1 ton of liquified methane	= approx. 16 barrels = approx. 1400 cubic metres of natural gas depending upon methane content.

PRODUCT CONVERSION FACTOR

(Coversion Factor from Volume to tonnes at Natural temp.)

PRODUCTS	Litres to Metric Tonnes	Tonnes per K.L.	American barrels to Metric tonnes
1	2	3	4
Aviation Spirit 100/130	1421	0.7034	8.94
Aviation Spirit 114/145	1449	0.6901	9.11
Aviation Spirit 73 ON	1432	0.6983	9.01
Motor Spirit 79 ON	1427	0.7008	8.98
Motor Spirit 80 ON	1427	0.7008	8.98
Motor Spirit 93 ON	1386	0.7215	8.72
Motor Spirit 95 ON	1359	0.7358	8.55
Motor Spirit 83 ON	1411	0.7087	8.88
JP-4	1384	0.7225	8.71
JP-5	1273	0.7855	8.01
Aviation Turbine Fuel	1288	0.7764	8.10
Naphtha	1467	0.6817	9.23
Power Alcohol	1286	0.7776	8.09
Benzol	1154	0.8666	7.26
SBP/Spirit/Hexane	1457	0.6863	9.16
Mineral Turpentine (Laws 140/205)	1302	0.7680	8.19
Liquified Petroleum Gas	1785	0.5602	11.23
Superior Kerosene	1285	0.7782	8.08
Inferior Kerosene	1265	0.7905	7.96
Power Kerosene (Vap. Oil)	1251	0.7994	7.87
High Speed Diesel	1210	0.8263	7.61
Light Diesel Oil	1172	0.8532	7.37
Malarial Oil	1172	0.8532	7.37
Special Larvicides	1175	0.8511	7.39
Furnace Oil	1071	0.9337	6.74
Tea Drier Oil	1071	0.9337	6.74
Hot Heavy Stock/LSHS	1017	0.9833	6.40
Refinery Gas/Ref. Boiler Fuel	1071	0.9337	6.74
Lubricants/Greases	1114	0.8977	7.01
Jute Batchin Oil/Wash Oils	1167	0.8569	7.34
Bitumen	1002	0.9980	6.30
SBP/Alcohol Mixture	1414	0.7072	8.89
Methanol Mixture	1106	0.9042	6.96
Carbon Black Feed Stock	1134	0.8818	7.13
Carburetter Testing Fluid	1388	0.7205	8.73
Benzene	1131	0.8812	7.05
Toluene	1148	0.8711	7.19
Demineralised Water	1002	0.9930	6.30
S. Glass Kleanzit	1003	0.9970	6.31
Miscellaneous	1114	0.8977	7.01
Wax/P.Coke/Chemicals	1114	0.8977	7.01
Aromex	1221	0.8190	7.68

VOLUME PER METRIC TON OF PETROLEUM PRODUCTS

Products	Kilolitre-Imperial M^3	Imperial Gallons	U.S. Gallon Barrel	
* 1	2	3	4	5
Liquified Pet. Gas.	1.8519	407.365	489.213	11.648
Aviation Spirit	1.3699	301.332	361.873	8.613
Natural Gasolines	1.3514	297.265	356.990	8.496
Motor Spirit	1.3514	297.265	356.990	8.496
Kerosene	1.2346	271.569	326.137	7.764
Jet Fuel	1.2346	271.569	326.137	7.764
Distillates Fuel Oil	1.1494	252.415	293.522	6.988
Lubricating Oil	1.1111	252.845	303.647	7.231
Fuel Oils N.O.S.	1.0939	241.727	290.301	6.911
Residuel Fuel Oils	1.0526	231.551	278.071	6.623
Asphalt and Bitumen	0.9615	211.515	254.013	6.050
Crude Oil	1.1856	260.910	313.340	7.441

COVERSION FACTORS FOR DUTY REDUCTION FROM.

15^C to 29.5^C

Product	Conversion Factor
1. Aviation Spirit 100/130	0.9827
2. Aviation Spirit 115/145	0.9820
3. Aviation Spirit 73 Clear	0.9824
4. Aviation Turbine Fuel	0.9862
5. Motor Spirit 83	0.9830
6. Motor Spirit 93	0.9836
7. H.S.D.C.	0.9879
8. Kerosene	0.9879
9. Light Diesel Oil	0.9864
10. Furance Oil	0.9877
11. Spedial Boiling Point Spirit 55/115	0.9899
12. Special Boiling Point Spirit 64/69	0.9820
13. Solvent 1425	0.9806
14. Hexane	0.9820
	0.9806

PETROLEUM SPECIFIC GRAVITIES.

Degrees A.P.I.	Specific Gravity	Barrels per tonne*	Long ton*
25	0.904	6.98	7.09
26	0.898	7.02	7.13
27	0.893	7.06	7.18
28	0.887	7.10	7.22
29	0.882	7.15	7.27
30	0.876	7.10	7.31
31	0.871	7.24	7.36
32	0.865	7.28	7.40
33	0.860	7.33	7.45
34	0.855	7.37	7.49
35	0.850	7.42	7.54
36	0.845	7.46	7.58
37	0.840	7.51	7.63
38	0.835	7.55	7.67
39	0.830	7.60	7.72
40	0.825	7.64	7.76
41	0.820	7.69	7.01
42	0.816	7.73	7.85

*Approximate figures at 15.6°C or 60°F

PRODUCT SPECIFIC GRAVITY RANGES.

PRODUCTS	Specific gravity	Barrels per tonne.
Crude Oils	0.80-0.97	8.0-6.6
Aviation gasolines	0.70-0.78	9.1-8.2
Motor gasolines	0.71-0.79	9.0-8.1
Kerosenes	0.78-0.84	8.2-7.6
Gas Oils	0.82-0.90	7.8-7.1
Diesel Oils	0.82-0.92	7.8-6.9
Lubricating Oils	0.85-0.95	7.5-6.7
Fuel Oils	0.92-0.99	6.9-6.5
Asphaltic bitumens	1.00-1.10	6.4-5.8

CRUDE OIL CONVERSIONS @

To Convert these into these.	Metric tons	Barrels	Kilo litres	1,000 Imp. Gallons	1,000 U.S. Gallons
1.	2.	3.	4.	5.	6.
Metric Tons	1	7.33	1.16	0.256	0.308
Barrels	0.136	1	0.159	0.035	0.042
Kilolitres	0.863	6.29	1	0.220	0.264
1,000 Imp.Gallons	3.91	28.6	4.55	1	1.201
1,000 U.S.Gallons.	3.25	23.8	3.79	0.833	1

@ = Based on World Average gravity (excluding Natural Gas liquids)

TO CONVERT ONE METRIC TONNE OF PETROLEUM PRODUCTS TO ONE TONNE OF OIL EQIVALENT MULTIPLY BY

PRODUCT	MULTIPLIES
L.P.G.	1.130
Naphtha	1.075
Aviation gasolines	1.070
Motor gasolines	1.070
Jet fuel	1.065
Kerosene	1.045
Gas/diesel	1.035
Residual Fuel Oils	0.985
Others	0.960

(x)

Average International Calorific Values of Different Fuels.

1.	Kcals/Kg. Meals/Tonne 2.	BTUS/Kg. 3.
A. Oil Equivalence:		
Average Crude Oil/NGLS(a)	10,300	40,870
United Nations	10,175	40,375
B. Oil Products:		
NGL	12,135	48,150
Motor Gasoline	11,135	44,190
Kerosene	10,638	42,210
Jet Fuel	11,790	46,790
Gas Oil	10,790	42,820
Fuel Oil	10,440	41,430
C. Coal Equivalence:		
Average Hard Coal(b)	7,000	27,775
D. I N D I A:		
Hard Coal	5,000	19,840
Lignite-Brown Coal	2,310	9,166
Firewood @	4,750	18,848
Charcoal @	6,900	27,379
		Kcals/Cu.metre
E. Natural Gas-Production:(Average)		
India		8,000-9,480
		9,209
F. Electricity:		
Output Basis(c)		860
Fuel Input basis(d)		2,500-2,700

(a) Represents average global factor for crude oil/NGL production. For a specific crude oil relevant convertion factor may have to be used.

(b) Factor used by United Nations to represent average calorific value of hard coals for purposes of standardising coal production to hard coal equivalent base.

(c) Calorific value of 1 kwh of electricity.

(d) Represents Kcals of hydro-carbon energies required to produce 1 kwh of electricity.

@ As per Report of Fuel Policy Committee 1974.

Conversion factor: 1 Kcal = 4.19 Kjoules.

(xi)

Coefficients used to convert from Original Units into standard Coal Equivalents.

Products	Hard Coal	Lignite Brown Coal	Fuel wood
1	2	3	4
A. PRIMARY SOLIDS			
1. Standard Factor	1.000	0.385	0.330
2. India	0.714	0.330	
B. OTHERS		Hydrocarbons	
1. Petroleum Crude		1.454	
2. Natural Gas liquids (wf. Av.)		1.542	
3. Gasolines		1.500	
4. Kerosene & Jet fuel		1.474	
5. Gas- Diesel oil		1.450	
6. Residual fuel oil		1.416	
7. Liquefied Petroleum gases		1.554	
8. Natural gasoline		1.532	
9. Condensate		1.512	
10. Other natural gas liquids		1.512	
11. Natural gas (in Terajouls)*		34.121	
12. Other gases (" " ")*		34.121	
13. Hydro, nuclear and geothermal electricity (in 1,000 kwh)		0.123	

* = The average calorific value of gas is measured in Kcal/m^3(st.) i.e. in Kcal per cubic metre of gas under standard conditions of 15^{0}c, 1,013.25 mbar, dry.

COAL REPLACEMENT AND EQUIVALENTS OF DIFFERENT FUELS

1. FUELS

Fuels	Original Unit	Unit Coal equivalent in million tonnes (mtce)	Coal replacement in Million Tonnes (mtcr)
6 1	2	3	4
Coal (coking 6640 Koal/kg., Non-coking coal used in steam generation 5000 (Koal/kg.)	1mt	1.0	1.0
Hard Coke	1 mt	1.3	1.3
Soft Coke	1 mt	1.5	1.3
Firewood (4750 Koal/kg.)	1 mt	0.95	0.95
Char Coal (6900 Koal/kg.)	1 mt	1.0	1.0

2. OIL PRODUCTS : 10,000 Koal/kg.

Products	Original Unit	Unit Coal equivalent million tonnes (mtce)	Coal replacement in m. tonnes (mtcr)
1	2	3	4
Black Products (i.e. fuel oil; F.C.; Refinery Fuel, LSHS, HHS).	1 mt	2.0	2.0
Kerosene & LPG	1 mt	2.0	8.0
HSDO & LDO	1 mt	2.0	9.0
Motor Spirit & Jet Fuel	1 mt	2.0	7.5
Natural Gas (9000Kcal /kg.)	10^9 x m^3	1.8	3.6
Electricity	10^9 kwh	1.0	1.0

m = Million

mt = Million Tonnes.

Source = Fuel Policy Committee - 1974

mtce = million tonnes of coal equivalent.

mtcr = million tonnes of coal replacement.

Approximate Calorific Equivalents
(Oil = 10,000 K Cal/kg.)

Items	Million Tonnes of Oil equals
1. Heat Units	= 40 million BTU = 397 million therms = 10,000 teracalories
2. Solid Fuels	= 1.5 million tonnes of Coal = 3.0 million tonnes of lignite.
3. Natural Gas (1 cub. ft. =1000 BTU)	= (1 cub metre = 9000 K cal). 1.111 thousand million cub metres = 39.2 thousand million cub. feet = 107 million cubic feet/day of a year
4. Electricity (1 Kwh = 3412 BTU) (1 KWh= 860 Kcal)	= 12 thousand million KWh =

Heat Units and Others Expressed in Terms of Million Tonnes of Oil

Items	Million tonnes of oil equals
1. Heat Units	
10 million million BTU	0.25
100 million therms	0.25
10,000 teracalories	1.00
2. Solid Fuels	
1 million tonnes of coal	0.67
1 million tonnes of lignite approximates to	0.33
3. Natural Gas	
1 thousand million cub. metres (BCM)	0.90
4. Town Gas	
1 thousand million cub. metres (BCM)	0.42
5. Electricity	
12 thousand million kWh	0.86

One million tonnes of oil produces about 4000 million units (kwh) of electricity in a modern power station.

Source : BP Statistical Review of World Energy.

EXCHANGE RATES : 1946- 1984.

(Rs. per U.S. Dollar)

Year	Calender Year					Financial Year	
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Average for the year	Year	Average for the year
1	2	3	4	5	6	7	8
1946	n.a.	n.a.	n.a.	3.30852	3.30852	1946-47	n.a.
1947	3.30852	3.30852	3.30852	3.30852	3.30852	1947-48	3.30852
1948	"	"	"	"	"	1948-49	"
1949	"	"	3.49275	4.76190	3.71792	1949-50	4.08127
1950	4.76190	4.76190	4.76190	4.76190	4.76190	1950-51	4.76190
1951	4.76190	4.76190	4.76190	4.76190	4.76190	1951-52	4.76190
1952	"	"	"	"	"	1952-53	4.76190
1953	"	"	"	"	"	1953-54	4.76190
1954	"	"	"	"	"	1954-55	4.76190
1955	"	"	"	"	"	1955-56	4.76190
1956	4.76190	4.76190	4.76190	4.76190	4.76190	1956-57	4.76190
1957	"	"	"	"	"	1957-58	4.76190
1958	"	"	"	"	"	1958-59	4.76190
1959	"	"	"	"	"	1959-60	4.76190
1960	"	"	"	"	"	1960-61	4.76190
1961	4.76190	4.76190	4.76190	4.76190	4.76190	1961-62	4.76190
1962	"	"	"	"	"	1962-63	4.76190
1963	"	"	"	"	"	1963-64	4.76190
1964	"	"	"	"	"	1964-65	4.76190
1965	"	"	"	"	"	1965-66	4.76190
1966	4.76190	5.51413 e	7.50000	7.50000	6.31901 e	1966-67	7.00353
1967	7.50000	7.50000	7.50000	7.50000	7.50000	1967-68	7.50000
1968	"	"	"	"	"	1968-69	7.50000
1969	"	"	"	"	"	1969-70	7.50000
1970	"	"	"	"	"	1970-71	7.50000

EXCHANGE RATES : 1946 - 1983.

(Rs. Per U.S. Dollar)

Year	Calender Year					Financial Year	
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	5th Qr. for the year	Year	Average for the year
1	2	3	4	5	6	7	8
1971	7.50000	7.50000	7.50000	7.50000	7.50000	1971-72	7.44950
1972	7.29800	7.29700	7.75900	8.02300	7.59400	1972-73	7.73025
1973	7.84200	7.49900	7.65100	7.97600	7.74200	1973-74	7.86275
1974	8.32500	7.91200	8.07300	8.09600	8.10200	1974-75	7.97550
1975	7.82100	8.05300	8.71600	8.91300	8.37600	1975-76	8.65325
1976	8.93100	9.06300	8.96700	8.88100	8.96000	1976-77	8.93850
1977	8.84300	8.81400	8.73300	8.56500	8.73900	1977-78	8.56250
1978	8.13800	8.46500	8.05100	8.11800	8.19300	1978-79	8.20625
1979	8.19100	8.17600	7.99800	8.13800	8.12600	1979-80	8.07625
1980	7.99300	7.92100	7.74700	7.79100	7.86300	1980-81	7.89278
1981	8.112	8.410	8.984	9.128	8.659	1981-82	7.92925
1982	9.195	9.354	9.570	9.702	9.455	1982-83	9.62850
1983	9.888	10.008	10.148	10.352	10.099	1983-84	10.31225
1984	10.741	10.972					

Notes : (1) A new for value of the Indian Re of 7.50 per U.S. Dollar was agreed upon with the Fund effective June 6,1966. Previously the year value was 4.7619 rupees per U.S. dollar from Sepetember 22, 1949 to June 5,1966 and 3.30852 rupees per U.S. Dollar from December 18,1946 to September 21, 1949.

(2) Exchange rates for the years 1970 and 1971 are based on 'Trade Coversion Factors'.

(3) Exchange rates for the years 1972 onwards are based on Par rates/market rates.

e = estimated

Source : International Financial Statistics.