

CHAPTER-III

INDO-SOVIET ECONOMIC COOPERATION UPTO 1985

Historical Background

Trade and Economic relations between India and the Soviet Union date back to time immemorial . The Volga-Caspoan trade route that connected ancient Rus with Central Asia and Northern was established in the 10th -11th centuries. As early as the 18th century, the first Russian historian V.N.Tatishchev wrote about the trade with India in ancient times. Tatishchev wrote that trade routes linked the Volga area with Northern India via Transcaucasia and Central Asia . Indian pepper, ginger , sandal wood, homespun fabrics and other goods were well known in ancient Russia. Indian gold coins of 14th century were found in the Volga area. Not far from Baku, the capital city of Azerbaijan , there is a historical monument- a fire worshipper's temple founded more than 500 years ago by Indian merchants who came here to trade with the local people . After the disintegration of the Golden Horde, Kazan and especially Astrakhan became important trade centres in the Volga area. Astrakhan had ties with Northern India . Afanasy Nikitin, a trader , visited India during 1471 to 1474.

Both countries tried to establish trade, cultural and diplomatic relations in the 16th-18th centuries . The first Indian envoy came to see Grand Prince Vasili III in 1533, with a proposal from Babur to carry on mutual trade and other exchange. But when India's envoy reached Russia, Babur died and this relationship could not be developed . In 1567, attempts were made to trade with India via the Persian city of Hormuz to which a special mission from Moscow merchants was sent . The Russian-Persian treaty of 1595 provided for trade with India through Persian territory . Indian researcher P.Kemp¹ has mentioned that a few Russian traders stayed in India during the 1580s, Russian merchant Leonty Yudin lived in Bukhara and India for nine years in the 1590's, also some Indian merchants came to Russia. One Bengali silk trader, at that time , made an unsuccessful voyage to Russia .In 17th century , trade between these two countries got a formal shape as the Russian Government encouraged the search for a convenient route to India for further expansion of trade.

Ultimately, Caravan trade routes were created through which cotton fabrics, silk spices and indigo were brought from India. Again 614 pieces of malachite were brought from Russia to Emperor Shahjahan to build a mausoleum for his wife Mumtaz.² The Russian government tried to establish diplomatic and trade relations with the Moghul. So, Tsar Alexei Mikhailovich sent several missions to India between 1646 and late 17th century. The most successful mission was headed by Semyon Malenky in 1696 when permission was granted for trade. Among the early Russian Tsars who were originally interested in developing trade with India was Peter. I. Being instructed by him the Vice-admiral Wilster visited India to sign a trade agreement with the Moghul ruler. On the one hand, the Russians purchased goods from the Indian traders, on the other, they were interested in purchasing commodities of Indian origin from the European market. So, the Russian Ambassador to the Hague, B.I. Kurakin, purchased Indian cloth in Holland for his government and sent it to Petersburg. The Tsarist government showed courtesy by granting the Indian traders a temporary citizenship while their staying at Astrakhan. The chief magistrate of Astrakhan granted them the same rights and duties as enjoyed by the Russian merchants.³

In the 18th century, Tsar Peter the Great attempted to expand trade with India. As a result, Indian merchants were permitted to trade not only in Astrakhan but also in Moscow and other cities. In 1812, Indian merchants donated 10000 roubles in gold to the Russian army fighting against Napoleon.⁴ But still there was no breakthrough in Indo-Russian trade relations. After the downfall of the Moghul, the British captured India. The British prevented from establishing a mutual sympathy between the people of India and Russia thus prevented trade relation between the two countries. Ultimately the two countries came closer by various factors discussed in earlier chapters.

The Soviet Republic established trade relations with India in 1921-22 after the Great October Revolution. In 1923-24, the Indo-Soviet trade turnover stood at 2.5 million roubles; and in 1927-28 it became 152 million roubles. In spite of certain success, Indo-Soviet trade in the pre-war years and during World War II became brisk. While commenting on this situation, Mr. Viktor Senin, the then USSR trade representative in India, said⁵, "The main obstacle was India's colonial dependence on British imperialism. The British colonial authorities put every obstacle they could in the way of Soviet-Indian

trade which explains why it wanted to 8.7 million roubles in 1937 despite good prerequisites for its growth due to considerable Soviet achievements in industry and agriculture . " In 1926, an amount of 7,000 tons of sugar was sent to India from the USSR . Then timber, paper , medicines, and industrial equipments were exported to India. In June,1925, Indian trader Rasul Gulam visited Moscow and in 1928, Swaraji , the owner of a commercial firm in Calcutta also visited Moscow. In the same year, Jawaharlal Neheru came out in support of direct Indo-Soviet trade links. In 1925, Soviet oil products for the first time, reached the Indian market.

In 1929-30, 34% of the kerosene imported by India came from the Soviet Union . Two Indian companies , the Western India Oil Distributing Company and National Petroleum Company were founded in 1932 for marketing Soviet oil products . They received the backing of Indian financial circles in Mumbai, Chennai and other cities. In 1930s, Soviet textiles gained momentum in India . Reporting on the appearance of Soviet cotton print in Delhi, the Times of India noted on October 17,1932 that its quality was not inferior to the articles available in Delhi while its prices successfully competed with those of Lancashire and Japanese textile. Calcutta Weekly Capital' commented on 4th Aug 1932 after the introduction of the First Five-Year Plan in the USSR, new impetus was grown among the Indian producers and businessmen to establish direct trade contacts with the Soviet Union. The patriotic press raised the question of expanding trade ties between India and the USSR. "Soviet Russia", the 'Bombay chronicle'⁶said on July 3,1935, "could become one of the best buyers of Indian goods and herself supply India with a number of manufactured articles. Interested organisation in India, will see how rapidly the trade relations will develop to the benefit of both neighbouring countries". Later on, in 1940, British efforts resulted in the actual cessation of Soviet-Indian trade, and ultimately it reduced to zero. Again , after some years trade relations between these two countries resumed. India began to supply manganese, chromium ore, jute, foodstuffs and medicines to the USSR. The sharp increase in trade during the war resulted in the establishment of the USSR Trade Delegation in Calcutta in 1943.

ECONOMIC COOPERATION

In the economic development of a country, economic and trade relations with other countries play an important role, so a multilateral relations were developed since independence both with capitalist and socialist countries. These relations are not a one-way traffic, because all the countries have a direct bearing on their internal economic policies. Being based on the mutual understanding, economic relations between the two countries can be cemented. In this respect, the state of the economy of the two countries and their respective stages of development are to be taken into account. These relations are generally subordinated to the long-term objectives of the participating countries.

The winning of political independence by India was one of the most important factors that created conditions more favourable for the development of wide-scale cooperation between India and the USSR. "There are considerable differences", said M. Alexandrov and O. Mayev⁷, "in the aid rendered to India by the USSR and other socialist countries on the one hand and the capitalist countries on the other..... One of the principle aims of the assistance rendered by the capitalist states is the consolidation and expansion of the position of their private capital in India. Being a socialist state the Soviet Union does not strive to have any property in India and therefore has no need in using the mechanism of foreign aid for its protection and expansion." But this does not necessarily mean that the USSR was not interested in rendering assistance to India. The main motive of their help was to make the developing countries free from economic dependence on world imperialism. From the very beginning, Soviet economic assistance to India was designed to strengthen India's political and economic independence so that India could play a constructive role worthy of its long traditions, size, population and resources in the international arena⁸.

Immediately after Independence, mainly two factors were responsible for deepening of friendship and cooperation between India and the Soviet Union. First, the basic agenda of the ruling class of newly independent India was the material transformation of India. Secondly, the material transformation of India was linked with the strengthening of national sovereignty. With a view to achieving these two interrelated goals, the Indian ruling classes sought cooperation of the Soviet Union. Moreover, India's relation with the Soviet Union before its independence created a sensation in the Indian patriotic masses

which would not have allowed the then ruling classes of India to convert the country to neo-colonial penetration and exploitation. C.P. Bhambhri⁹ mentioned some facts by which it can be understood how the Indo-Soviet Cooperation had helped and facilitated the development of self-reliant capitalism in India. First, beginning with 1953, there was no looking back to Indo-Soviet Economic Cooperation . Second, The Soviet cooperation facilitated India in the development of heavy and basic industries. Third, the rupee-barter trade between India and the Soviet Union was on the way of flourishing . Fourth, the Soviet cooperation was extended to India in the field of training of scientists and development of crucial areas of technology in the fields of steel, coal and oil exploration . Fifth , the foreign credits extended by the Soviet Union to India were at a nominal rate of interest of 2.5 per cent and these credits were repayable by India in its own currency. This type of credit could be extended up to 12 years . On the other hand , the majority of the U.S.A. Loans used to carry 4 to 5 per cent interest . The repayment of the Soviet credits began after the completion of the deliveries of machinery necessary for the commissioning of a project.. That is , in actual practice, the repayment period was spread over 15 to 20 years ,including a grace period of 3 to 4 years.

The Soviet credits were repayable in Indian rupees, not in hard currency. This had three-fold advantages for the Indian economy . First, it was possible on the part our country to save foreign reserves, other wise India would have to spend hard currency for the purchase of crude oil and other petroleum products. Secondly, rupee trade worked as fillip for the Indian export to the Soviet market which was assured and stable in nature. Thirdly, it helped India build her industrial base in basic as well as heavy industry. One Indian writer¹⁰ mentioned some distinguishing features of the Indo-Soviet economic cooperation : First , it was geared entirely to ensure the success of India's Five Year Plans for national development and growth . Secondly, it had been forth-coming mainly for helping India build its basic industry in the public sector. Thirdly, it involved mutually beneficial provisions on trade , mode of payment, low rates of interest, supply of plants and equipments, transfer of technology, training of specialists, development of technological institutes, setting up of consultancy services etc.

Mr.V.D.Chopra¹¹ had shown the qualitative difference between the aid given by the Soviet Union and by the countries of different state of economy with the help of

some statistics. He was of the opinion that the production capacities of the public sectors built by India with the help of the Soviet Union are comparable with the industrial potential of a number of developed countries. Another important aspect of the Indo-Soviet economic cooperation was that the Soviet-aided projects in India were conceived and implemented in a manner that they were economically linked together and became mutually beneficial, supplementary enterprises. This was the motive force behind all the Soviet credits to India. Another aspect of the economic cooperation was the Soviet-aided projects had always tried to utilise India's natural resources. And these natural resources were utilised in such a manner that there should be a steady decline both in the import of capital goods and dependence on the Soviet exports. Bhilai Steel Plant was an example of this phenomenon¹². During the construction of the first phase of the plant, the Indian deliveries accounted for 10 per cent of the machinery, 23 per cent of the metal structures, and 7 per cent of the refractory material while raising the capacity of the plant 23 per cent of the machinery, 43 per cent of the metal structures and 64 per cent of the refractory material used were Indian. Later on, expansion was made with almost 100 per cent Indian materials.

Victor L. Korneev¹³ is of the opinion that the most important feature of Indo-Soviet economic cooperation is that it was spearheaded towards solving the major problems at all stages of development. The Indo-Soviet economic cooperation had an important role to help reach the programme of growth of India's economy to the target. The reason for the success of Indo-Soviet economic cooperation was that it had helped India to acquire easy terms and conditions, modern technology for the development of basic capital and technologically intensive branches of economy. The new technology was introduced not only during the setting up of Indo-Soviet projects but also during its running. M.A. Kiselyov¹⁴, then Head of the department of Trade with Asian Countries, Ministry of Foreign Trade, remarked, "Trade and economic ties are an important constituent of the USSR-India traditional friendly relations. In the postwar period when the obtaining of political independence had opened for India the possibility of establishing direct trade and economic ties between the two countries, the Soviet Union, following the Leninist course for assisting the people's national liberation movement and guided by the principles of friendship and mutual aid, began to assist India in advancement of its economic dependence". Construction of large industrial enterprises in India with Soviet assistance played a decisive role in

advancing and strengthening the state sectors and raising the country's general economic potential . For this , India was able to be one of the first ten largest countries in the total volume of industrial production from a backward country from the industrial point of view. According to the terms and conditions of the agreements signed between these two countries on economic cooperation, India received long-term credits from the USSR in easy terms by which India repaid through its own goods. India was fortunate enough of having not only machinery and equipment required for the country's industrialisation but she got a reliable market to sell her finished products. In this process, India saved hard currency as it had to pay off the credits by goods .

The greatest significance of India's trade and economic cooperation with the Soviet Union lies in the fact that it gave India an opportunity to overcome its colonial legacy at a crucial period of its history, when the country was asserting its policy of non-alignment and economic independence¹⁵. Viktor Litvinenko¹⁶ remarked in 1981, "The development of mutually profitable economic and technical cooperation between the Soviet Union and independent India for more than a quarter of a century is a striking illustration of Lenin's foreign economic policy towards developing nations in action".

Immediately after independence, the first and foremost task of India was to formulate its long -term development strategy like other newly liberated countries. Within a very short time, India needed to construct major capital intensive industries. And this required considerable funds for the purchase of foreign equipment. Indo-Soviet cooperation met up this demand. All the big enterprises in the steel, nonferrous metals, oil extracting and refining, coal power , mechanical engineering , instrument making and other kind of industries were built in India with the help of the Soviet Union. On the twenty-fifth anniversary of Indo-Soviet economic cooperation in February 1980, India's former Prime Minister Indira Gandhi, in her message of greetings, emphasised that the foundations of Indo-Soviet cooperation had been laid down by Jawaharlal Nehru during his visit to the Soviet Union. Indo-soviet economic and technical cooperation has helped India fulfill a number of important socio-economic challenges such as employment generation programme and training personnel. The large industrial complexes constructed with the Soviet help were integrated horizontally and vertically. As a result of that , more than 1000 ancillary

enterprises were able to give employment opportunity to thousand of Indian workers. According to Viktor Litvinenko¹⁷, an important feature of the Indo-Soviet economic and technical cooperation was the constant desire of both countries to make it stable and long-term. Mutual interest in extended economic intercourse underlined this desire which had led to the drafting of a Long-Term Programme of Economic, Trade, Scientific and Technological Cooperation signed in March, 1979.

Though India became an independent country in 1947, "nevertheless one wonders why it took six years to conclude the first trade agreement between the USSR and India and nearly eight years to sign the first economic accord"¹⁸ after independence. The causes were discussed in the earlier chapter. J.A.Naik wrote¹⁹. "A real start in Indo-Soviet economic transactions was effected by the death of Stalin." The era of economic cooperation between the Soviet Union and India was heralded with the signing of 'Indo-Soviet Steel Agreement' on February 2, 1953: At the very outset, the text of the Agreement wrote²⁰, "With the common intension of establishing an integrated iron and steel works in India and for collaboration towards that end, the Government of India and the Government of the Union of Soviet Socialist Republic have entered into the following agreement". Total agreements was enumerated in twenty-four Articles. In the Joint Communiqué on Economic Relations issued on 13th December, 1955, Jawaharlal Nehru, N.A. Bulganin and N.A.Khrushchev, the then Chairman of the Council of the Minister of the USSR and member of the Presidium of the Supreme Council of the USSR respectively, categorically expressed their desire to strengthen the economic relation between these two countries.

The second Industrial Policy of India was passed in the parliament in April, 1956. This industrial policy statement clarifying the role of state in the economic development, singled out 17 industries to be developed exclusively by the State. In the way of implementation of this policy the Soviet Union came forward. The Second Soviet credit to the tune of Rs. 937.46 million, was finalised on November 9, 1957 for the construction of the Heavy Machine Building Plant at Ranchi, the coal Mining Machinery Plant and the Ophthalmic Glass Works at Durgapur, a coal Mining Complex at Korba, Madhya Pradesh and Thermal power Station at Neyveli, Tamil Nadu. The Soviet authority announced their third credit to India on May 29, 1959, which was amounting to Rs. 149.99 million. This was

given mainly for the construction of the Antibiotics Plant, a Synthetic Drug Plant at Rishikesh, U.P. and Surgical Instruments Plant near Chennai. The fourth credit to India was finalised on September 12, 1959 for raising capacity of the Villai Iron and Steel Plant from 1 million tonnes to 2.5 million tonnes of the Neyveli Thermal Power Station from 250 MW to 400 MW, of the Heavy Machine-Building Plant at Ranchi from 45000 tonnes to 80000 tonnes, of the coal mining plant at Durgapur, from 30,000 tonnes to 45000 tonnes and of the Korba Thermal Power Station by 200 MW. The total amount of credit was Rs. 2812.4 million. A part of the credit was also used for settling up of Precision Instruments Plant at Kotah, a 250 MW Thermal Power at Obra near Mirzapur (U.P.), a Heavy Electrical equipment Plant at Hardwar and Oil Refinery at Barauni in Bihar. For the development of this Barauni Oil Refinery, the Soviet Union gave her fifth credit amounting to Rs 187.5 million on 28th September, 1959. On February, 21, 1961, the Sixth Soviet credit amounting to Rs. 937.46 million was given for the construction of a hydro power unit at Bhakra Dam, an oil refinery at Koyali, Gujarat and a coal washing at Kathara, Bihar.

The seventh Soviet credit agreement was signed on January 25, 1965 which was known as Indo-Soviet Agreement on Bokaro. This credit agreement having 18 Articles was made for the construction of Bokaro Steel Plant with a capacity of 1.5 to 2.00 million tonnes of steel per year with provision for expansion of the capacity to 4 million tonnes per year. For this purpose the Soviet Union advanced to India over Rs 1666.67 million at 2.5 per cent interest rate per annum. The eighth Soviet credit agreement was signed on December 10, 1966 by which the Soviet Union made an advance amounting Rs. 2500 million to India. It was for the construction of an aluminium smelter with an annual capacity of 100,000 tonnes, for the expansion of Bhilai plant from 2.5 million tonnes, for the development of Dalli iron ore mines etc.

In the early 1970s, the Soviet aided factories accounted for 30 per cent of steel production, 85 per cent of the manufacture of heavy equipment, 60 per cent of the heavy equipment for the power industry, 25 percent of aluminium and 80 percent of the oil produced in India²¹. Indira Gandhi became highly impressed by the Soviet role in the economic development of India and welcoming Kosygin in January 1968 in function held in his honour, she said,²² "The pattern of this economic cooperation, consisting of credits,

material and technical assistance, and increasing stress on trade, has pioneered a new trend in international economic relations".

In the development of economic relationship between the two countries, the Indo-Soviet Treaty of Peace, Friendship and Cooperation signed in 1971 occupied an important position. This Treaty gave a fillip to the further expansion of economic cooperation between these two countries, particularly in the fields of space research , utilisation of nuclear energy for peaceful purposes, production cooperation between the industrial enterprises of both the countries. The Soviet Union became the major supplier of machinery , equipment and sophisticated raw materials needed by the Indian industries. Article VI of the Treaty stated that the Soviet Union and India attached great importance to economic , scientific and technical ties. It further stated that they would strengthen and extend all round cooperation in these spheres and promote cooperation in the fields of trade, transport and communication on principles of equality and mutual advantages²³. Victor L. Korneev ²⁴ wrote in an article , "The successful development of Indo-Soviet Economic Cooperation is in the national interest of our countries on the basis of the Treaty of Peace, Friendship and Cooperation signed in August ,1971 shows that relations between our two countries to a great extent contribute to the strengthening of Indian economy in its most vital sectors and areas." As a follow up action of the Treaty, an Indo-Soviet Joint Commission for Economic Trade and Scientific and Technical Cooperation was setup in 1972. This was India's first joint commission with any foreign country.

Between 1972 and 1977 , two historic visits took place. Leonid Brezhnev visited India in November, 1973, and Indira Gandhi went to the Soviet Union in July 1976 . During Brezhnev's visit some important documents were signed between these two countries among which one long-term agreement for 15 years for further development of economic and trade cooperation between the two countries in November 1973. Kuldeep Nayar²⁵ remarked on this long term agreement, "There is no doubt that the economic treaty will help India in many fields but 15 years is a long period and may make the country too dependent on the Soviet Union". One protocol was also signed for the implementation of this agreement. Another important result of Indira-Brezhnev talks was the signing of an agreement between the USSR State Planning Committee and India's Planning Commission

envisaging the exchange of experience and know-how in economic forecasting, the methodology of planning and other fields. A distinctive feature of this agreement was that it took into account both the socialist character of the Soviet economy and the systematic development of the Indian economy which included a large public sector²⁶. The second session of the Joint Commission was held in Moscow in September 1974 where the policies were chalked out to achieve practical realisation of the documents signed in November 1973. Upto March 1974, the total authorised aggregate external assistance from the USSR to India amounted to Rs. 1033 crores in which grants accounted for Rs. 12 crores. Of this authorised amount Rs. 718 crores (including loans and grants) were utilised towards industrialisation and other developmental activities in the Indian economy²⁷. Rest of the amount was spent for other purposes.

In the mid-seventies, one Soviet delegation visited India in order to evolve a five year plan for 1976-80. The discussion with this delegation in New Delhi emphasised on two basic questions. "The first was, " V.D.Chopra wrote²⁸, "whether the two sides could agree upon a mutually advantageous division of labour to expand economic cooperation. The second was whether arrangements could be devised for a net transfer of resources from the Soviet to assist the diversification of economy so that India could meet the challenge posed by the steeply rising prices of petroleum and by inflation in the west". The idea was to make optimum use of the capacities and resources of the two countries to meet each other's need through advance planning . A group of Indian experts was of the opinion that integration to this extent might push India into the pale of socialist community. Some people commented that this would not allow the political options of the country beyond a certain limit which would create a misunderstanding in the west. Some people directly opposed it , because according to them India would not be able to derive expected economic benefits from such arrangements due to the limited range of goods and technology that the Soviet Union could offer.

Indo-Soviet economic cooperation had to face several snags in 1975-76. It was remarked in the 'Economic and Political Weekly' that the economic relation between the two countries reached a virtual stalemate in that period, as a result, new initiatives were required²⁹. With this aim , a high-powered group was constituted which included the then

Minister of Industry, T.A.Pai; then Planning Commission Chief P.N.Haksar, and then Commerce Minister D.P.Chattopadhyay. According to its first meeting's decision, the surplus capacities in the Soviet-aided projects were used to produce items which could be required in the Soviet economy. At the same time, the Soviets evolved the concept of 'Compensation' in production cooperation. According to this concept, whenever a joint production unit was set up, production from it should be shared by the partners, the contribution by either side being paid for in this way. But India was reluctant in accepting this concept, because this was mainly practised by multinational companies, especially in the field of oil.

In the same year the Gosplan and the Planning Commission jointly located 15-16 specific areas for cooperation. The high-powered group prepared the detailed blueprints of these projects. And in order to work out these projects, some aims and principles were underlined. These were optimum use of natural resources, capital, skills and technology of countries; rational use of the international division of labour and exchange of goods and services on world prices. But India had never shown intensive desire to implement such principles because of some problems³⁰.

Out of 16 areas identified, the Soviet side offered assistance in the production of mica, on the condition that in exchange of Soviet assistance, a part of the product would be sent to the Soviet Union. But the government of India accepted this proposal, provided the project encompassed fabricated mica. The Soviet side, based on the same condition, came forward for setting up production units for caustic soda, fluorspar, fluorine chemicals, and nonferrous metals. The Soviet proposal for the setting up of a caustic soda plant in India made her react in such a way that the Soviet contributions, could be repayed through the supply of finished products from such unit by taking a long-term period, as the entire investment of equipment and services was recovered in a very short term period. India also proposed that, in addition to caustic soda, the plant should produce chlorine and hydrochloric acid as a by-product. On compensation basis, India offered to set up a pulp and paper plant in the USSR by supplying a complete plant with a capacity of upto 200 tonnes per day. The Indian side placed a proposal for setting cotton unit in the USSR and offered equipment to modernise and renovate machinery. The Soviet Union did agree to consider the proposal, but when the Indian side suggested a similar conversion deal for woolen textile, the Soviet

side politely turned it down³¹.

The ninth Soviet credit agreement was signed on April 27, 1977, according to which the Soviet Union had given advance Rs.208.25 crores. The 10th Soviet credit agreement was signed in December 1980 giving advance Rs.520 crores to India. All these credits were meant either for building key sectors of economy or for completing the projects of the Five Year Plans and specially steel, coal, oil and power generation received higher priority. And these are the industries that gave a new dimension to India's industrial structure. In the mid-seventies, India and the Soviet Union decided to start joint ventures in third countries for which a group of experts from the Soviet Union headed by Industry Minister Goldkin visited India to identify the areas of collaboration. In this period, India enjoyed trade surplus with the Soviet Union. And the Soviet and Indian planners started discussing 'methods and principles of production cooperation between the two countries'. These were significant for two reasons³²: first, the Soviet Union assisted India in constructing the core sector in the Indian economy and therefore India's need was incorporated in its own plan. Secondly, the Soviet purchases were growing substantially under the trade plan and the turnover was expected to be doubled by 1980. This clearly indicated that India had to make provision for the Soviet needs in its economic plans.

In March 1979, former Soviet Prime Minister Alexei Kosygin visited India. During his visit, a Long-Term Programme in Economic Trade and Scientific and Technical Cooperation for 10-15 years was worked out and signed. This Programme covered a wide spectrum of India's economic sectors, viz. Ferrous and nonferrous metallurgy, machine building, oil, coal and agriculture. The most significant development that occurred in 1979, for the first time in the history of the relationship between these two countries was between the Federation of the Indian Chamber of Commerce and Industries and the Soviet Chamber of Commerce and Industry for cooperation in India's private sector. This fact gave a new thrust and dimension to Indo-Soviet economic cooperation.

Former General Secretary of the CPSU and Chairman of the Presidium of the Supreme Soviet of the USSR, late L.I. Brezhnev visited India in December 1980. This visit had three distinctive features:³³ first, this visit was instrumental in the further enhancement of Indo-Soviet cooperation especially in strengthening India's defence

capabilities. Secondly, the Soviet leaders recognised the fact that India had emerged as a great power in Asia and was engaged in the consolidation of country's independence , sovereignty and unity. Thirdly, the economic gain of the visit marked yet another important milestone of Indo-Soviet economic cooperation. Three distinct areas were identified for the extension of the economic cooperation between the two countries. First was the energy sector and second was the Soviet credit in the field of metallurgy and third was the boost to Indo-Soviet trade. During Brezhnev visit on December 10, 1980 , one agreement was signed between the heads of these two countries which increased both the scope of economic and technical cooperation and the volume of trade between India and the Soviet Union. Questions related to the implementation of the above-mentioned Soviet-Indian agreement were reviewed at the sixth meeting of the Soviet-Indian Intergovernmental Commission on economic, scientific and technical cooperation held in New Delhi in January 1981. In the report to the 26th Soviet Communist Party Congress, L.I. Brezhnev pointed out that the negotiations in New Delhi with Indira Gandhi and other Indian leaders had significantly advanced the whole package of Indo-Soviet relations³⁴.

The Indo-soviet Agreement on Economic and Technical Cooperation of 1980 undertook the following projects: the Mukunda open-cast mine, the Nigahi open-cast mine, the Djandjra coal mine and number of other projects. The agreement provides for the further expansion of the Bhilai and Bokaro iron steel works, construction of a steel plant in Visakhapatnam. For developing production cooperation between the Soviet organisations and the Soviet-aided projects at Durgapur , Hardwar and Ranchi, India and the Soviet Union signed a protocol on December 9, 1983, at the conclusion of the eighth session of the Joint Soviet-Indian Intergovernmental commission on Economic, Scientific and Technical Cooperation . A protocol was also signed on cooperation in science and technology between the USSR and India for the period 1984-87. This long-term plan envisaged cooperation in different fields of advanced technology. Speaking on the occasion, Mr. Narasimha Rao, the then External Affairs Minister of India said,³⁵ " with the signing of the protocol, we have brought to a successful conclusion yet another extremely fruitful meeting of this valuable forum between our countries, the Indo-Soviet Joint Commission". " I am confident," he said , " that our officers and experts, engineers and technologists will now work for the implementation of the guidelines contained in this protocol, taking us one step further in

strengthening and expanding our economic cooperation.

A number of agreements were signed between the two countries during the visit of Rajiv Gandhi to the USSR in May, 1985 and during the visit of Mikhail Gorbachev to India in November 1986 and during the visit of Nikolai Ryzkov to India in November 1987. All the agreements opened up new prospects for the further development of trade and economic cooperation between the two countries. The major projects under the agreements were Tehri Hydraulic power complex, the Kahalgaon thermal electric power station, Karnal oil refinery, coal pits in Sitanala, Kapuria, Mahal, Parbatpur and Kharkharee-Dharmaband, open-cut collieries at Kumari, Mohar and Khadia. A special Intergovernmental Agreements on the development of new forms of economic cooperation was signed between these two countries in November 1987. This agreement was signed in order to promote the development of Industrial cooperation and specialisation, the establishment of direct ties between their industries and organisations and the creation of joint enterprises in industry, trade and the services sphere.

During Rajiv's visit to the USSR in May, 1985, two significant agreements were signed. With the first, the Soviet Union provided credit to India amounting to one billion roubles, and the other agreement outlined the perspective of Indo-soviet cooperation until the end of the century. But due to the disintegration of the Soviet Union in August, 1991, this agreement has become meaningless. Similar attempt was made in the tenth session of the Indo-Soviet Joint Commission held in New Delhi in April 1986 by preparing a new Long-term Programme of Economic, Trade and Scientific and Technological Cooperation for the rest of this century.

From the very beginning of the planning era till the end of September 1985, the Soviet Union rendered financial assistance of Rs. 2731 crores - a little less than half of this, that is Rs. 1143 crores were sanctioned in the first six months of 1985-86. The year-wise details of the assistance authorised and assistance utilised are given in the following table³⁶.

TABLE - I
SOVIET FINANCIAL ASSISTANCE TO INDIA

<i>Year/Period</i>	<i>Authorisation</i>	<i>Utilisation</i> (Rs. crores)
Up to the end of Third Plan	494.6	287.1
Three annual Plans (1966-69)	254.0	141.9
Fourth Plan (1969-74)	---	274.4
1974-75	---	148.9
1975-76	---	26.9
1976-77	208.3	25.7
1978-79	---	21.6
1979-80	---	34.0
1980-81	485.7	32.9
1981-82	---	22.6
1982-83	---	40.0
1983-84	144.6	74.7
1984-85	---	108.0
1985-86 (April-September)	1143.4	130.0
TOTAL	2730.0	1395.0
As percent of total assistance to India from all countries	6.1	4.0

Source: Apte, Vinod(1986).

Indo-Soviet Economic and technical cooperation was criticised by a number of persons and groups. While criticising Indo-Soviet Treaty of Friendship, Satya Biswas³⁷ said that the stronghold of Russian social-imperialism was increased in the name of cooperation over neo-colonial India. He mentioned the following Russian grip in 1971 over various industrial sectors of the Indian economy:

TABLE - II

SOVIET GRIP OVER INDIAN INDUSTRIAL SECTOR

	<i>Of the Total production</i>
Steel	30%
Oil refining	35%
Electric power	20%
Electric equipment	60%
Heavy machines	80%

With these, 75% of the total production of electricity generating installations, 80% of the total production of the oil extraction and exploration industry were controlled by the Soviet Union . At least 70% of the total defence equipment was from the USSR. Other criticism levelled against the Indo-Soviet cooperation was by R.Mukherjee³⁸ regarding the costs of Bokaro steel plant. According to him , the costs of the Bokaro steel plant were higher than that of the original estimates and hence it had engendered incursion of extra social cost and wastage. The original estimates of the USA and USSR were Rs. 714.78 crores and Rs 1027.38 crores respectively, and the estimated total project costs of Bokaro stage-I after the devaluation by the USA and USSR were Rs. 423.46 crores and Rs. 540 crores respectively. If a comparative study is made between the estimates of the two countries regarding annual capacity, then the picture will be clear. For the first stage, estimates of the USA and the USSR were Rs. 2479 and Rs 2860 and for the third stage these became Rs. 1477 and Rs. 1735 crores respectively. Even a Calcutta concern of international reputation , M.N. DASTUR & CO. came to the conclusion that the costs of the Soviet projects were too high, According to Dastur's report, "from the time in early December , 1965 when these estimates became known, they have been generally considered high, even after taking into account the increase in import duties and escalation of equipment and construction costs during the last two or three years. It is also known that steel plants designed to produce flat products with facilities comparable to Bokaro are under construction or have been completed during the past few years in Britain, France , Italy and Japan at less than one-half of the estimated costs of Bokaro"³⁹. It is further noted that the USA calculated the costs for the Bokaro plant in detail unlike the USSR which left out many items. Asha L. Dattar⁴⁰ remarked, " Interest rates charged on a loan are not very meaningful parse. When a credit is tied to a

project and to the country of origin the advantage gained from a concessional interest rate can easily be wiped out by the higher prices charged for equipment provided". Soviet aid had a peculiar nature of its own. The Indian Consortium Bank Staff Working Paper on Aid and Debt 1974 said⁴¹, "aid from non-consortium sources- particularly the USSR and Eastern Europe, but also from Switzerland - has been somewhat sporadic in its commitment and utilisation and with a few exceptions has usually been on quite hard terms."

Another attack from pseudo-Leninist angle has been launched on Indo-Soviet economic cooperation by Maoists⁴². They were of the opinion that Soviet economic help was another form of 'export of capital' and since it can be defined as a characteristic feature of imperialism, so it can be concluded that the Soviet Union was an imperialist country. It is argued that export of capital since the days of Lenin has connotationally, another meaning what is known as 'the export of social relation'. So with the Soviet economic aid, capitalism crept on Indian scenario. Santosh Mehrotra and Patrick Clawson wrote⁴³, " the Soviet government justifies the financing of capital goods exports by saying that these exports help the Third World countries' industrialisation. Industrialisation is not however , a classless process. In countries dominated by capitalist ruling classes such as India - 'industrialisation' means nothing more or less than capital accumulation. It is simply farcical to maintain as the Soviet government does that the expansion of the ' public sector ' reflects the growth of socialism Soviet financed industrialisation serves infact, to expand capitalist relations of production: Soviet built factories expand wage-labour employment at the expense of pre-capitalist modes of production"

B.S.Minhas⁴⁴ said in the first national convention of Giants International on 'Economic Trends in India', "We are running all over the world for foreign aid, for keeping together what we have , not for new projects. We do this in the name of self-reliance and in this double-talk and double-think , we run the danger of becoming perpetually dependent on foreigners, the benevolent ones and malevolent sharks. We should not mortgage our freedom in the name of self-reliance in the Sixth Plan".

The basic features of Soviet aid to India are as follows:

(i) Unlike western countries assistance, the Soviet aid was not a "private like investment". So, the USSR did not take out investment funds in the form of profit and

head office expenses.

(ii) Long-term aid was provided by the Soviet which was inter-linked with India's development planning.

(iii) The major portion of Soviet economic assistance was earmarked for the establishment of capital goods industries in the public sector.

(iv) The selection of Soviet aided projects was entirely at the discretion of Indian government.

(v) Soviet credits to India used to carry 2.5 per cent rate of interest and this rate of interest was only charged only for the utilised portion of the credit.

(vi) The mode of repayment of the Soviet credit was easier as India was permitted to repay this loan through exports of goods on mutually agreed basis.

For the special relation with the Soviet Union, India became the largest recipient of Soviet aid among developing countries. Generally this aid in the form of loan carrying 2.5 per cent rate of interest was given for a period of 12 years, but the 9th, 10th, 11th and 12th credits were sanctioned in 1976-77, 80-81, 83-84 and 85-86 respectively were for a period of 20 years with a grace period of 3 years; and 13th credit sanctioned in November, 1986 was for 17 years.

⁴⁵
Mr. R.K. Sharma did a comparative analysis of USSR aid with other aid giver to India, by measuring the grant element in aid. He applied the following formula:

$$S = \left\{ \frac{1}{q} \right\} \left\{ i e^{-iqG} - e^{-qT} / q(T-G) \right\}$$

S= grant element as a percentage of face value

i= interest rate on the loan

q= discount rate

G= grace period, and

T= maturity period

Here, grant element depends on the rate of discount, maturity period and the grace period. When discount rate is high and maturity period and grace period is also long then grant element in aid will be high. Sharma has chosen 22 countries as the aid givers to India and he has measured grant element in each of them which are shown in the following Table

TABLE-III

GRANT AND LOAN ELEMENT IN FOREIGN AID TO INDIA

(from 1949-70)

(Rate of discount=6 per cent)

<i>Country/ Institution</i>	<i>Number of loans</i>	<i>Loans in million rupees</i>	<i>Grant element</i>	<i>Loan element</i>
			<i>in percent of total</i>	
IDA	25	8,457.20	78.19	21.81
Belgium	4	96.05	42.04	57.96
Canada	26	2,375.10	36.57	63.43
USA	58	11,167.30	35.14	64.86
UK	57	6,903.00	23.99	76.01
W. Germany	48	4,513.90	21.33	78.67
Sweden	4	178.35	21.27	78.73
U.S.S.R.	8	1,021.10	16.77	83.23
France	4	351.67	16.40	83.60
Czechoslovakia	2	962.00	16.39	83.61
Bulgaria	2	95.65	15.92	84.08
Netherland	15	690.60	15.68	84.32
Poland	3	568.50	15.20	84.80
Yugoslavia	2	884.80	13.47	86.54
Denmark	2	55.00	13.46	86.54
Rumania	2	237.50	12.37	87.63
Austria	9	202.80	11.50	88.50
Hungary	2	212.50	11.34	88.66
IBRD	33	7,857.90	3.49	96.51
Japan	13	2,790.80	3.40	96.60
Switzerland	5	360.20	2.98	97.20
Italy	9	1,548.75	0.52	99.48

Source : Indian Economic Journal, October-December, 1973. & Goel M.S. :

Indo-USSR Trade and Economic Relations; Deep & Deep. New Delhi.

It can be concluded from the above Table that U.S.S.R. economic aid to India is costlier than other important aid givers; because higher grant element in a loan may help a country to repay its loan more easily. Only 8 credits were given by USSR whereas USA advanced 58 credits. USSR's rank 8th in the list of grant element having only 16.77 per cent. But U.S. aid carried 35.14 per cent grant element which is more than double as compared to what USSR loans contained.

But from the point of view of the mode of repayment of various loans, the picture becomes reverse. India had to repay the loans in own currency, specially when India had been facing acute balance of payment deficit. Moreover, the rupees funds generated by USSR in her RBI account is used for importing goods from India.

S.S Gill⁴⁶ conducted one study in which he wanted to show that whatever concessions were given by western countries having higher grant element was offset by the outflows of funds from India to these countries. During 1966-67 to 1969-70; western countries advanced Rs. 856.91 crores, shown in Table-III. During the same period, amount transferred to western countries amounted to nearly Rs. 841.20 crores. According to our R.B.I. study⁴⁷, during 1964-65 to 1969-70, nearly, 1,261.82 crores of rupees went outside the country as profit remittances, royalties etc.

From lender's point of view, M.J. Sebastian⁴⁸ had shown that India derived benefits by drawing on Soviet loan. On the other hand, from recipients point of view, A.L. Datar⁴⁹ tried to establish that the USSR and other East European countries provided costlier aid to India. M.S. Goel⁵⁰ concluded that U.S.S.R. did not provide an assistance which may be termed as "cheap". In this context, the end use of the aid can be considered. In case of P.L. 480 assistance, which was termed as grant; it was observed that after effects of this grant was damaging. The U.S.S.R. aid was tied aid in the sense that it was tied to particular projects and country of the origin. It is a general belief that tied aid from whatever source it come tends to leave the receiving country at loss⁵¹. J. Bhagwati says, "source tying will generally impose costs inclusive of 'monopolistic' pricing by suppliers"⁵² According to A.L. Datar, USSR aid was an expensive aid. According to her, "of course, firms in the western donor countries may collude and quote one price and this in fact has been the

general practice in case of tied credits, but atleast it may be possible to exercise in equipment produced by different firms. Even this possibility is ruled out in the case of East European credits, since there is no competition within the country.⁵³ But Mr. J.K. Tandon⁵⁴ was of the opinion that USSR tied aid was not expensive to India as claimed by A.L. Datar. In support of his opinion, he had shown that the estimated cost of the Bhilai Steel Plant was lower than that of the other two plants. This is shown in the following Table:-

TABLE-IV

ESTIMATES OF COST FOR THE THREE STEEL PLANTS IN INDIA

(in Rs. Crores)

<i>Plant</i>	<i>Coke ovens</i>	<i>Blast furnaces</i>	<i>Rolling mills</i>	<i>Total cost including others</i>	<i>Foreign Exchange content</i>
Bhilai	10.78	10.46	42.37	131.00	78.00
Rourkela	17.05	15.29	72.36	170.00	92.00
Durgapur	18.88	18.34	32.53	137.54	122.00

Source: Tandon, J.K. Indo-German Economic Relation, New Delhi, 1978. P-39

The foreign exchange content was also the lowest in the case of Bhilai Steel Plant. The Soviet Union extended its cooperation to a number sectors in Indian economy. Detailed discussion of all the sectors is not possible for obvious reasons. Only, steel, oil and heavy machinery will be discussed in this paper.

STEEL

The use of iron and casting metal are found in the writings of ancient Indian history. The Qutub Minar in New Delhi is believed to be 1600 years old but it is still shining like new and rustless. This clearly proves that India has a rich metallurgical tradition. But steelcraft was almost nil in the same time. However, between 1907 and 1930 three steel works were set up in the country. At the dawn of independence, these three mills accounted for a total annual output of merely 900,000 tons of finished steel⁵⁵. Before independence, the British

like other sectors, was not willing to develop modern metal making industries in India ; Naturally India had to depend on import of metal. In order to build an independent national economy, huge amounts ferrous metals, pig iron, steel and rolled stock were required. But acute shortage of these items created serious obstacle. During the first Five-Year Plan period, India's import of steel jumped from 178,000 tons in 1951 to 904,000 tonnes in 1955. Naturally, a big portion of India's hard currency were to be spent for this purpose. In this situation India's need for steel factory under public sector evoked a very negative response on the part of the USA and Great Britain . Not only that, exports from these countries made a preliminary estimates of India's demand for iron and steel in the future in late 1940s and early 1950s in which they concluded that it would be inexpedient for India to construct big iron and steel factory and to incur a good amount of money for it , Subsequently, this was proved to be a wrong estimate.

Ultimately, Indian government approached the Soviet Union with a request for assistance in the construction of a big iron and steel plant. The Soviet government came forward for the required help; and in 1954, they sent a group of experts for preparing projects report, on the basis of which Bhilai Steel Plant was proposed to be constructed in 1955- a token of first Indo-Soviet economic cooperation. The Soviet Union agreed to render a credit of Rs 647.4 million on easy terms . On 7th June 1955, first Indo -Soviet working group arrived at Durg--a small railway station in Madhya Pradesh and it was 12 km. away from Bhilai. Bhilai was chosen because of the close proximity of rich iron ore deposits within 90 km. "This was the beginning ", said Vinod Mehta⁵⁶ " of a long enduring friendship'. S. Mohan Kumarmangalam⁵⁷ former Minister of steel and Mines , said in 1972, "There can be no doubt that it is in steel that we have had the most substantial aid from the Soviet Union and also probably the most decisive assistance in what is a crucial sector of the Indian economy"

The most interesting fact is that the moment the Soviet Union signed accord with India for the construction of Bhilai plant, western nations were alarmed by this Soviet aid, and particularly by its attractive terms. And without making any further delay, Britain and West Germany offered to help India in the construction of steel plant. Mr.S.S.Khera, the then cabinet secretary, who negotiated the steel agreements wrote,⁵⁸ "Soon after the Bhilai agreement was concluded between India and the USSR, the Germans came forward with a

strong recommendation to increase the capacity of Rourkela the British also came forward with an offer to set up one million tonne steel works at Durgapur ". Ultimately, the government of India decided to set up three steel plants of one million capacity each in Bhilai, Durgapur and Rourkela in collaboration with the USSR, Britain and West Germany respectively. V. K. R. V. Rao, a former Indian cabinet minister said ⁵⁹, " If there had been no Bhilai, there would have been no Rourkela or Durgapur". There was a competition among the three plants . Menon and Morozov⁶⁰ wrote, "the first spade of earth was turned at the construction site of May 1956 and the first bucket of concrete was poured in June 1957. Soon the work gathered momentum, and Bhilai was marching ahead of the other two plants ...Though the construction of the Rourkela plant began a year before that of the Bhilai project, the first portion of pig iron was produced by both plants in February 1959 with a difference of only two days. The first section of the Bhilai plant was completed in 1961 and in 1962 it reached the rated capacity of one million tonnes, while the Durgapur plant could reach its rated capacity only in 1964 and Rourkela plant in 1965".

With the help of the USSR, in June 8, 1959, a Technical School of Metallurgy was established in Bhilai at a cost of over Rs. 40 lakhs. It used to train 1420 technical persons annually. Commenting on this, Dr. Padma Desai said ⁶¹, "On the Indian scene, the Soviets have best record in training Indian personnel and of systematically transferring responsibility to them ". Later on, for the expansion of Bhilai's capacity the Soviet Union came forward several times. Even before the completion of the first section of the Bhilai plant, the USSR and India signed two more agreements on September 12, 1959 and on February 12, 1960- on the expansion of the plant output to 2.5 million tonnes a year. Again for this expansion of the plant to reach a capacity of 4 million tonnes, a protocol signed between these two countries in April, 1972. Another protocol signed in February 1975 by which it increased its capacity further. For the first time, Bhilai's products were exported to Japan in 1959-60. In 1967-69, Bhilai's role in export market became important as it covered 30 countries. By 1985, Bhilai had given the country over 45 million tonnes of pig iron 40 million tonne of steel and 32 million tonnes of rolled products.

The Bokaro Steel Plant situated in mineral-rich province Bihar, is destined to be the largest unit in the ferrous metallurgy sector. Though the USA wanted to construct Bokaro plant and expressed her desire to control the plant for ten years, but Nehru vividly

declared that Bokaro plant would be a state owned plant, and on January 25, 1965, an agreement was signed between the Soviet Union and India for the construction of the Bokaro Steel Plant. Initially, the annual capacity of this plant was 1.7 million tonnes ; subsequently it was raised to 4 million tonnes in stages. Indira Gandhi, the then Prime Minister of India, laid the foundation stone on April 6, 1968 . The USSR gave the most advanced and sophisticated knowhow to Bokaro. Bokaro was

the first steel plant in India ,where the basic oxygen convertor process for the production of steel was employed. The expansion programme in Bokaro plant was carried out in accordance with Indo -Soviet protocol signed in February 1970 and the long term economic agreement of November 29 1973. In June 1985 the Soviet organisation finished the construction works of expanded units. Regarding two Soviet- aided steel plants at Bhilai and Bokaro , Indira Gandhi said⁶² in the course of her address over the Soviet Central Television on September 22, 1981, " It is the Soviet that selflessly helped in the establishment of India's heavy industry. Bhilai and Bokaro are symbols of the cooperation of our peoples. The spectrum of Indo-Soviet economic cooperation is constantly expanding".

In the late 60s, one coast-based steel plant was proposed to be established at Vishakhapatnam. Accordingly, in 1971, the late Prime Minister Indira Gandhi laid the foundation stone. But after a gap of five years, in 1976, the detailed project report was prepared. And on March ,10,1979, another long -term agreement was signed by the USSR and India for the cooperation in metallurgy. Specifically, on June 12, 1979, an agreement to build the plant was concluded. The construction works of the Visakhapatnam was launched on February 1, 1982. Another steel plant, at Arkonam, Tamil Nadu was constructed with Soviet assistance. It started production in 1972.

On June 13,1983, a colour documentary was shown at the Information Department of the USSR Embassy in New Delhi which depicted in dependent India's industrialisation and quest for economic self-reliance. Speaking on the occasion, Mr. U.G. Mordasov⁶³, Deputy Trade Representative of the USSR in India, said that at Bhilai, Bokaro, Hardware and Neyveli, Soviet equipment could be compared to 'radiantly shining lamps 'which were standing as 'sentinels of India's economic independence'. This documentary gave vivid glimpses of what Mr.Mordasov called the 'unique saga' of India's industrialisation, and the role of the Soviet Union in "building bridges into India's tomorrow! He said⁶⁴,

"There is no doubt that the success of Soviet-Indian cooperation in economic and technical spheres owes a great deal to complete mutual understanding of each other's national interests and objectives. In this regard, a big role was played by visits and meetings between leaders of our two countries.

Indo-Soviet cooperation in this sector is not only confined in the construction or the expansion of plants, but the Soviet Union also came forward in developing research design facilities.

It directly participated in the creation of Metallurgical and Engineering Consultants (MECON) in 1959. The MECON has become a major consultancy firm not only in India but also in the world, and it had got a number of contracts abroad. The MECON maintained a close relation with Soviet Metallurgical Design Institutes. The Research and Development Centre, Ranchi (R&DC) under the Steel Authority of India was set up in 1972 by the help of the Soviet Union.

In nonferrous metallurgical sector, the first major public sector aluminium plant under Bharat Aluminium Company (BALCO) was built at Korba with Soviet assistance in 1965. In November, 1968, the USSR and India came to an agreement for setting up an aluminium smelter and downstream fabrication facilities at Korba. The detailed project for Korba was approved by the government of India in 1971. During 1975-78, the smelter complex was built. The production of hot rolled items began in December 1980. The whole complex was inaugurated in February 1982. Indira Gandhi, in her message to Korba authorities on the commissioning of the cold rolling mill and the complex in February 1982, said ⁶⁵ "The commissioning of the smelter at Korba in 1975 was a step towards national self sufficiency. The Soviet Union has given significant technical and financial assistance for the Korba complex. I am glad that Bharat Aluminium Company Limited is commissioning its Cold Rolling Mill, the last section of the Korba complex. This marks a further milestone in the long and fruitful era of Indo-Soviet cooperation " Mr. P. E. Lomako⁶⁶ former Minister of Nonferrous Metallurgy of the USSR, who was the chief guest at the inauguration of the complex, spoke of India's progress in industrial development and of the contribution of the Soviet Union as a sincere friend. He hoped that India would become a powerful industrial and modern nation as Jawaharlal Nehru had dreamed.

Before independence, India's power sector was extremely backward with a generating capacity of 1.2 million kw. In 1951, India's power generation capacity went up at 2.3 million kw. But for a fast developing newly free nation, sufficient power was essential. Jawaharlal Nehru⁶⁷ wrote, " I should imagine that there are two tests of the progress of a nation; how much iron and steel and how much power it is producing ". Naturally, in building up her electric power potential India not only relied on her own resources and capacities but she got assistance of the Soviet Union. On November 9, 1957, an intergovernmental agreement was signed on cooperation in the construction of the Neyveli-thermal power station, which was the first power plant in India based on lignite. In June 1964, the five units of the 250 MW capacity plant were commissioned. After Neyveli plant, the Soviet union provided assistance for setting up ten more power plants. The following list shows some of the Soviet aided power plants in India.

TABL - V
SOVIET AIDED POWER PLANTS IN INDIA

<i>Name</i>	<i>Capacity</i>	<i>Place</i>	<i>Time of Commissioning</i>
1. Hirakud Hydro-power Station	25	Orissa	1964
2. Mettur Hydro-Power Station	224	TamilNadu	1966
3. Harduaganj Thermal Power Stn.	100	Uttar Pradesh	1968
4. Neyveli Thermal Power Station	600	TamilNadu	1969
5. Korba Thermal power Station	200	Madhya Pradesh	1969
6. Bhakra Hydro-power Station	600	Punjab	1969
7. Obra Thermal Power Station	250	Uttar Pradesh	1971
8. Patrau Thermal Power Station	400	Bihar	1971
9. Lower Sileru HydroPower Station	230	Andra Pradesh	1976
10. Balimela Hydro-Power Station	402	Orrissa	1976
11. Linganayaki Hydro Power Station	40	Karnataka	1976

In December, 1980, an agreement was signed between the two countries on the construction of another big thermal power station in Madhya Pradesh- the Vindhyachal

plant with a power generation capacity of 3000 MW. India built another power station with Russian collaboration in pursuit of an agreement signed on May 22, 1985 during the visit of Rajiv Gandhi to the USSR. This is Kahalgaon plant in Bihar. The biggest of its kind in the whole of South and South-West Asia, Soviet-assisted power plant is Tehri Hydro-power complex in Uttar Pradesh with a capacity of 2,400 MW. This is the product of an agreement signed on November 27, 1986, while Mikhail Gorbachev visited India and a General Agreement signed in Moscow in June 1987.

Oil

Immediately after independence, India's oil production was too low to cover only 7 to 8 percent of the total yearly demand. India had only one developed oil field in Digboi, Assam; operated by the English Assam oil company - a subsidiary of Burmah Shell which was a big international oil monopoly in India. India had to wait for eight long years from 1947 to 1955 to get rid of the oil monopolies. Indo-Soviet cooperation made it possible to break western monopoly in the industry. Mr. K.D. Malaviya,⁶⁸ the then Minister of natural Resources said on the floor of the parliament on May 25, 1956, "There can be no freedom for the country's economy or its defence unless the oil industry is owned and controlled by the state". At Jawaharlal Nehru's initiative, the Oil and Natural Gas Commission (ONGC) was set up, which alarmed the overseas monopolies. However, the Indian government approached the USSR for aid in order to explore new oil fields. The Soviet Union extended its helping hand and sent a group of experts led by famous Soviet oil expert Prof. N.A. Kalinin. The Indo-Soviet Joint efforts soon produced most encouraging results. The first well in Cambay yielded oil on September 4, 1958. On May 13, 1960 oil was obtained from the well of Ankleshwar. After Ankleshwar, a good number of discoveries were there, among them kalol, Nawagam, Kosamba, Kadi, Dholka, Kathana, Lakwa, Mehasanam and other areas of Gujarat, Rudrasagar etc. The commercial exploitation of newly-discovered fields marked the next important stage in Indo-Soviet cooperation and by this India's national oil industry was engendered. Andrei Muravyov⁶⁹ remarked, "Created virtually a new, India's oil industry started producing black gold as early as 1961". Soviet help in case of oil industry was really comprehensive. The Soviet Union not only provided credit, but they also rendered technical knowhow, efficient personnel for exploration drilling, extraction, refining, marketing, personnel of training etc. A delegation of Soviet oil specialists headed by S. Orudzhev,

First Deputy Minister Oil Industry of the erstwhile USSR visited Indian oil regions in February 1968, and they submitted a report "Recommendations on the basis of Problems in the Development of oil industry under the Public sector of India"; the ONGC in collaboration with Soviet experts carried out off-shore exploration drilling for the first time in 1969-70. In 1973, a team of Soviet scientists under Prof. Nikolai Kalinin conducted an additional survey in order to have a more exact estimate of the reserves of oil and natural gas. It was that team of experts who pronounced that India's geological reserves of carbohydrates could fully meet its domestic requirements. The prospects of more new oil extracting areas were discovered by a group of Soviet specialists under Prof. V. Markevich in 1974-76. A protocol was signed in January, 1974 after a Ministerial talks in which it was decided to increase oil output in the public sector and commercial development of new oil fields. A Drilling Technology Research Institute and the Institute of Reservoir Development were established at Dehra Dun and Ahmedabad respectively with Soviet help. The Long-Term Programme of Economic, Trade and Scientific and Technical Cooperation was signed on March 14, 1979. And another agreement on Economic and Technical Cooperation was signed on December 10, 1980. These two agreements gave a boost to Indo-Soviet cooperation in the oil industry. Again in 1981, a protocol was signed between the two countries for the exploration of hydrocarbons in West Bengal. In 1984, a permanent Working group was set up under the Indo-Soviet Joint Commission with a view to promoting cooperation in the oil industry. The first and second meetings of the working group were held in January and September of 1984 respectively.

The Soviet Union helped India in constructing oil refineries. Though first oil refinery of India in Assam was constructed with the help of Romania, the second oil refinery assisted by the Soviet Union was set up in Koyali, Gujrat. On July 20, 1973, the USSR and India signed a protocol for the construction of another public refinery at Mathura, UP. Its marked capacity was six million tonnes of crude oil processing a year -one of the biggest refineries in the country. Mr. I. V. Arkhipov, first Deputy Chairman of the USSR council of Ministers, who was present at the inauguration of the Mathura refinery, said ⁷⁰ that the Mathura refinery was a step forward in India's efforts to equip itself with the requisite knowhow in oil. He added ⁷¹, " the cooperation between India and the USSR, is successfully developing in all aspects. It has benefited millions and harmed none. Our friendship has contributed to the

easing of tension and the promotion of the complimentary interest". It was commented in the 'East European Trade ⁷², that the six million-tonne Mathura Refinery of the Indian oil Corporation Ltd. now on full stream. It would meet the increased demand of high speed diesel, kerosene and liquified petroleum gas in the northern region since its commissioning. Specialists from the Soviet Union had participated in the designing construction and the commissioning of the refinery. Since its inception in February 1983, Mathura has become a profit making enterprise. Its main products are motor vehicle petrol, aircraft, turbine-fuel, kerosene, diesel fuel, boiler fuel, bromine, sulphur, liquified gas and raw materials for fertilisers. A big portion of the modern equipments employed by the Mathura refinery was supplied by the Soviet Union.

The Mathura refinery was designed by Emma Grossman - a Soviet woman, who is specialist in designing. She hailed from All Union Research and Design Institute of Oil-processing and Petro-Chemical Industry of the USSR.

The total project cost of the Mathura refinery was Rs. 250 crores, out of which the contribution of the USSR was RS 20.67 crores. In the industrial sector, oil industry consumed a sizable amount of Soviet aid which was utilised for building oil refineries and in exploration of oil in India. It was viewed that the cost and benefit of Soviet aid in this field also did not appear to be much assuring and realistic in comparison with other countries ⁷³. This can be seen from the following table:

TABLE-VI
COMPRATIVE COSTS OF OIL REFINARIES MADE BY DIFFERENT
COUNTIRES

<i>Location</i>	<i>Collaboration</i>	<i>Planned capacity</i> <i>(in million tonnes)</i>	<i>Costs</i> <i>(in million of dollars)</i>
Gauhati	Rumania	0.75	32
Barauni	Soviet Union	2.00	76
Koyali	Soviet Union	2.00	60
Cochin	Phillips(USA)	2.50	34
Madras	Various Western Firms	2.50	21-25

The above data clearly show that the Soviet aided refinery projects involved much higher cost in relation to the work costs of other concerns.

HEAVY MACHINERY

After independence, there was no indigenous production of heavy machinery or equipment in India. The Soviet cooperation in the field of engineering industry ushered in a new era in the way of industrialisation of India. Jawaharlal Nehru, the first Prime Minister of India visited the Ural Engineering Works in Sverdlovsk in 1955 with a cherished desire of setting up a 'plant of plants'. This tour resulted an intergovernmental agreement between India and the Soviet Union on cooperation in the construction of a heavy machine-building plant at Ranchi on November 9, 1957. The construction of the heavy Machine Building Plant in Ranchi began in 1961 and completed in 1968. The leading Soviet Institute GIPROTYAZHAMASH designed the plant. The Production Amalgamation 'Uralsmash' supplied nearly 45,000 tonnes of modern technical equipment and other materials. The total equipments of the plants were supplied by 82 different Soviet engineering works. More than 250 Indian specialists were trained at leading Engineering Works in the USSR.

The Ural Machine Building Plant at Ranchi produces mainly equipments for the iron and steel industry. Its 80,000 tonnes capacity is divided as follows⁷⁴:

Coke Oven equipment	7,700 tonnes	9.6%
Blast furnace equipment	5,500 tonnes	6.9%
Steel melting equipment	7,000 ,,	8.8%
Crushing & grinding equipment.	3,150 ,,	3.9%
Crane equipment	6,570 ,,	8.2%
Rolling equipment	34,500 ,,	43.1%
Spare parts for Metallurgical equipment	1,080,,	1.4%
Mining equipment	8,00 ,,	1.1%
Forging equipment	1,360 ,,	1.7%
Excavators	4,500 ,,	6.2%
Oil drilling equipment	5,500 ,,	6.8%
Other equipment	1,810 ,,	2.3%
Total	80,000	100%

It was decided in the second meeting of the Indo-Soviet Commission in 1973 to establish a design institute for metallurgical equipment. Mr. I. V. Arkhipov, first Deputy Chairman of the USSR Council of Ministers, inaugurated the Institute on November 16, 1976. In spite of its limited manpower, the Institute began to develop new equipments for all sectors of the HMBP.

In 1983, India and the Soviet Union signed an agreement for cooperation between the Heavy Engineering Corporation at Ranchi and the Uralmash Manufacturing Association in Sverdlovsk; the Mining and Allied Machinery Corporation at Durgapur and the production association Donetskgormash at Donetsk; the Bharat Heavy Electricals Limited and the production association Leningrad Metalicheski Zavod, Kharkov Turbinny Zavod and Elektrosila (Leningrad). At the 9th meeting of the Intergovernmental Soviet Indian Commission held in April, 1985, it was decided to set up a working group for industrial cooperation and engineering and it held its first meeting in January 1986.

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