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Secondary sector deals with refining, construction, and manufacturing and pertains to India's industry, Industrial Policy and various Industries.

We all know that India is world's 4th largest Economy (GDP-Purchasing Power Parity and 11th largest economy (GDP nominal) today. The pace of the development started post-liberalization (1991). Prior to that India was under the Social-Democratic based policies which were mainly characterized by extensive regulation, protectionism, public ownership, slow growth and pervasive corruption. The liberalization paved the way for the country to **become a market based economy**.

It is now more than 2 decades since India embarked on its journey towards a market economy. However, there are still many miles to go and interestingly, there is noticeable variability in the pace of change in different segments of Indian society.

Planned Underdevelopment by the British

We all are aware that the British followed a systematic policy of "**Planned Underdevelopment**" in India. The chief motive of the British to establish political control in India was mainly associated with the exploitation of economic and commercial conditions of the country.

- They wanted to establish a colonial market in this country for the British goods. British impact on the economic conditions of India was really devastating and harmful. Britain used the most complicated methods to exploit India's vast rich economic reserves of India.
- After a control of two hundred years the British completely shattered the economic set up of India. As a result, after the independence, the scenario of the country was that of an economically underdeveloped nation prevailing with hunger, poverty, low national income, etc.
- The policy of planned underdevelopment left wide gaps in our economy. On the eve of the independence our Industrial base was weak, there was much pressure on land, and the country was in a dilapidated state of economy. The problems of abject mass poverty, Shortage of food grains and poor healthcare are what we inherited from British.

Economic Policy: Gandhi v/s Nehru

The policy of the Congress Government led by Nehru was based upon the fact that **there must be industrial development at all costs**. Nehru wanted a country with Modern Large Scale Industries, a Large Army, a Strong Navy and Air Force and a socialist development in the country with "**touch' of capitalism**."

Gandhi, who was in favor of autonomous villages where Panchayats should perform the legislative, executive and Judicial functions, did not find any place in the government. The objection of Gandhi of developing large cities was rejected but Panchayati Raj with 'modifications' was accepted later.

A basic difference between Gandhi & Nehru's economic philosophies was that **Gandhi wanted village as an independent unit**, while Nehru wanted it as a **subordinate unit to a higher organization**. **Gandhi wanted a cottage based economy. Nehru dreamt of major Industries in India.**

Nehru is known to have realized the importance of the private sector but also containing their growth as "private enterprise on big scale leads to private monopolies". So, obviously Public Sector was given due importance in the Industrial Policies of India. But India was known for **lavish spending**. The result was a bad effect on the country which some experts call "**Nehru's Folly**". The path could be changed but was not changed. These impacts were:

- » India was not able to afford the huge investments required for the Big Industries. In 1947, the deposit of ` 3450 Crore of the country was spent lavishly and was turned into a debt in due course of time. This debt never came down and loans piled up.
- » Except the first plan, the growth in **agriculture was not satisfactory** and it was never above 2-3 % during Nehru Era.
- » The Huge Industries did not generate employments. The use of machines curtailed the human labour and it was against the "dream of Gandhi who wanted to make every village an independent unit. Ample Human Resource was never utilized in India promptly as in case of some war devastated countries like Japan.
- » Public sector soon came under the grip of corruption and red tape.
- » The disparity between the rich and poor was not removed and it kept increasing.
- » Imports could not be contained and there balance of trade was never in favor of India.

Types of Industries at the time of Independence

At the time of India's independence, Industries were grouped into three categories as follows:

- A. **Government Monopoly:** This category included armaments, railways, transport and some other industries.
- B. **Basic and Strategic Industries:** This category included industries such as Coal, Iron & Steel, Ship Building, Mineral Ores etc. They were also vested with the state.
- C. **Private Industry:** The rest of the industries which included small, medium and cottage industries were open to the private sector.

The first five year plan with major focus was on agriculture was launched in 1951-52 and it gave very good results in India's agricultural growth. The emphasis in the second Five Year plan was on heavy industries.

Industrial Policy Resolution 1948: India's First policy for Industrial development.

In 1948, immediately after Independence, Government of India introduced the **Industrial Policy Resolution 1948**.

In this policy document, the classification of Industries into the above three categories was neither touched nor altered. The policy document emphasized the approach to industrial growth and development.

The Industrial Policy Resolution 1948 was passed at a time when, our constitution was not adopted and there was no legal framework in place. The core philosophy of the document was to keep the industries under the exclusive ownership of **Government (Public Sector), Private sector and Joint sector**. However, the beginning of development of Indian Industries was made by this document. The constitution was adopted in 1950 and in March 1950, India's

planning commission was constituted. This was followed by an **Industrial (Department and Regulation) Act or IDR Act** of 1951.

IDR Act of 1951

» **IDR (Industrial (Department and Regulation) Act 1951** was the first act post independence which empowered the government of India to take necessary steps to regulate the pattern of Industrial development through licensing.

The IDR act paved the way for India's first comprehensive statement on the strategy for industrial development in India. In the **Avadi session of Indian National Congress in 1955** the Congress stated that object of the planning has to be "**Socialist Pattern**" and not absolute "**Socialism**". The Socialist pattern meant that India has to be a **mixed economy** where private & public sector would coexist. The ideas were getting crystallized and in 1955, pursuant with the "**Socialist Pattern**", Imperial Bank of India, which came into being in 1921, came under the public sector and became "**State Bank of India**" in **1955**. This was followed by; in **1956**, the merger of more than 200 insurance companies and provident societies and this was the **birth** of **Life Insurance Corporation of India**.

Foundation of State Trading Corporation of India Ltd

The Constitution of India vested the mineral rights and authority of mining laws with the **state governments**. The objective & interest of the government to boost the agricultural and industrial development led it to determine to earn the much needed foreign currency through the export of canalized mineral ores, as the country had huge deposits of minerals.

- ✓ In pursuant with this, the **State Trading Corporation of India Ltd.** was founded in 1956, as a wholly owned government subsidiary, to handle the export and import of selected commodities.
- ✓ Please note that the **State Trading Corporation was mainly established to deal with the communist countries, which preferred to deal with the government sector.**
- ✓ Apart from that, **State Trading Corporation was initially given monopoly in the trade of "Cement"**. India was importing the Cement and imported cement was costlier in India. The import of cement was discontinued after a few years.

In 1956, first comprehensive statement on the strategy for Industrial Development in India was introduced by the government as **Industrial Policy Resolution 1956**.

Industrial Policy Resolution – 1956

The Industrial Policy Resolution of 1956 was based upon the **Mahalanobis Model of growth**. This Model suggested that **there should be an emphasis on the heavy industries**, which can lead the Indian Economy to a long term higher growth path. The most important outcomes of the Industrial Policy Resolution - 1956 were:

1. Scope of the Public Sector in India got widened.
2. The Government's aim to achieve a socialistic pattern of growth was reiterated.
3. A clear Cut classification of industries was done in India for the first time.
4. All the industries of basic and strategic importance and the industries which had a nature of public utility of services and all those which required large scale investment were strictly kept under the Government sector.
5. Provision of Compulsory Licensing was cemented.
6. The policy paved the way of development of Public Sector in India.

The classification of the industries was altered for the first time with the Industrial Policy Resolution 1956. Now the **industries** were classified into **three categories** named as **Schedule A, Schedule B & Schedule C**.

- A. **Schedule A** referred to the industries in which **Central Government** kept the Monopoly.
- B. **Schedule B** referred to the industries in which **State Governments** were given the duty to take measures and;
- C. Whatever was left was put in **Schedule C** which was open to the **private enterprises**.

Schedule A:

This comprised 17 industrial areas which were strictly under the Central Government. The companies of this area were known as CPSE (central Public Sector Undertakings). The CPSU's later became popular as PSUs. The 17 areas were:

1. Arms and ammunition and allied items of defense equipment.
2. Atomic energy.
3. Iron and Steel.
4. Heavy castings and forgings of iron and steel.
5. Heavy plant and machinery required for iron and steel production, for mining, for machine tool manufacture and for such other basic industries as may be specified by the Central Government.
6. Heavy electrical plant including large hydraulic and steam turbines.
7. Coal and lignite.
8. Mineral oils.
9. Mining of iron ore, manganese ore, chrome-ore, gypsum, sulphur, gold and diamond.
10. Mining and processing of copper, lead, zinc, tin, molybdenum and wolfram.
11. Minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953.
12. Aircraft.
13. Air transport.
14. Railway Transport.
15. Ship Building.
16. Telephones and telephone cables telegraph and wireless apparatus (**excluding radio receiving sets**).
17. Generation and distribution of electricity.

Schedule B:

This comprised 12 industrial areas which were put to the State Governments to take measures and was left to the state government to follow up with the **private sector with provisions of compulsory licensing**. However, you must note that Schedule B **did not** give Monopoly to State Governments, akin to the monopoly given to centre in Schedule A.

This means that the industries in the Schedule B had to be **State owned but private sector was expected to supplement the efforts of the State**. States were expected to **facilitate and encourage development of these industries in the private sector**, in accordance with the programmes formulated under the Five Year Plans. The areas of Schedule B were:

1. All other minerals except 'minor minerals' as defined in Section 3 of the Minerals Concession Rules 1949.
2. Aluminum and other non-ferrous metals not included in Schedule A.
3. Machine tools.
4. Ferro-alloys and tool steels.
5. Basic and intermediate products required by chemical industries such as the manufacture of drugs, dye-stuffs and plastics.
6. Antibiotics and other essential drugs.
7. Fertilizers
8. Synthetic rubber.
9. Carbonization of coal.
10. Chemical pulp.
11. Road transport.
12. Sea transport.

Schedule C:

The Industrial areas which were left out of the Schedule A & B were left with the private sectors with provisions of licensing and subject to regulation under the **IDR Act**.

Some more features of Industrial Policy Resolution 1956:

- ✍ All the Schedule **B** and many of the Schedule **C** came under provisions of **compulsory licensing and thus Industrial Policy established "License Raj" In India**.
- ✍ Public sector for heavy industries was made the main vehicle for Industrial growth
- ✍ To tackle the regional disparity, PSUs were to be established in backward regions.
- ✍ Small Scale Industries and Agriculture sector was given priority in development.

Industrial Development during the First two Five Year Plans

During the first two five year plans the Industrial production in the country increased by around 40%. The credit goes largely to not only the public sector but also the private sector. During these two five year plans, the public sector in India suffered due to the over optimism in estimating the construction time and underestimation of costs of the projects. The result was that large number of projects in the Public sector fell behind the schedule. However, this does not mean that Public sector did not make any remarkable progress in this period. The following were remarkable achievements during the first 2 five year plans.

Foundation of Chittaranjan Locomotive Works

- » Chittaranjan Locomotive Works, located in the land of *Viswa Bharati*, near Kolkata, is one of the largest manufacturers of locomotives in the world.
- » It was founded in 1947 and was named after Chittaranjan Das(Deshbandhu), a Bengali Lawyer and Indian Independence activist who is best known for defending Aurobindo Ghosh on charges of involvement in the Alipore bomb case.

Sindri Fertilizers and Chemicals Limited

- ✍ The Sindri Fertilizers and Chemicals Limited came into being in late 1940s and production started in 1951. The support of UK and USA was vital to launch this project. The main produce was "Ammonium Sulphaite" and the company started producing 30 thousand tonnes of Ammonium Sulphaite annually.
- ✍ Please note that another company Hindustan Chemical and Fertilizers Limited was floated by the Government of India in July 1959. Both Hindustan Chemical and Fertilizers Limited and Sindri Fertilizers and Chemicals Limited were merged in 1961 and this merger gave birth to Fertilizers Corporation of India.

Steel Plants at Rourkela , Durgapur and Bhilai:

- ✍ The Rourkela Steel plant was set up in collaboration of German firms' viz. Krupp and Demag. It started in 1961.
- ✍ The Durgapur Steel Plant was launched with assistance of a consortium led by British Firms and it started in 1956.
- ✍ The Bhilai Steel Plant was set up with the technical assistance of Soviet Union in September 1967.
- ✍ So the correct order of their launching years is : Durgapur>Rourkela>Bhilai.

Foundation of Steel Authority of India Ltd

- ✍ Please note that a company Hindustan Steel Limited (HSL) was set up in 1954. HSL was initially designed to manage one plant that was coming up at Rourkela with the help of German Firms. For Bhilai and Durgapur Steel Plants, the preliminary work was done by the Iron and Steel Ministry. From April 1957, the supervision and control of these two steel plants were also transferred to Hindustan Steel Limited.
- ✍ Later in 1964, Bokaro Steel Limited was incorporated. Later the concept of creating one umbrella came up and 1973 with a capital of ₹ 2000 crore, Steel Authority of India Ltd was created.

Apart from the above Hindustan Machine Tools was started in collaboration with Swiss Companies to produce Machine Tools in India.

We can conclude that the Industrial Policy of 1948 and 1956 launched India on the track of Industrial Development and the scope of the PSU was expanded largely. This is evident with the epithet given to the PSU by Jawahar Lal Nehru as "Temples of India".

The impact of IDA Act on Industrial Licensing- License Raj

Since India had embarked upon the centrally planned industrialization, the government came out with the Industries (Development & Regulation) Act of 1951. The act had a prelude that the Union Government should take a control over the industries in the schedule A. The act introduced the system what was known as "License Raj". License Raj refers to

regulations and accompanying bureaucracy that were required to set up and run businesses in India between 1951 and 1991.

- ✍ Licensing was the key means to allocate the production targets set out in the five years plans to the firms.
- ✍ This system prevented the concentration of ownership of Industries in India and laid emphasis on Balanced Regional Developments.

But the Red Tape in the country imposed substantial administrative burden and there was no certainty that an application for a license would be approved within or in what timeframe.

- » More than one third applications were rejected which meant a loss of investments. This was a big hurdle in rapid industrialization.
- » This mess brought the license regime under the constant review and appraisals. A number of committees and commissions were set up.
- » The series of reforms finally culminated in **abolishment of industrial Licensing in 1991**. This series of reforms was initiated in the form of studies by some committees and commissions in the 1960s. Here we look at the features of some important committees and commissions that were established in those days.

Mahalanobis Committee: (report submitted 1964)

- » This committee is known as "**Distribution of Income and Levels of Living**" and it was set up in 1960 to find an answer to the question that **who was benefitted by the first and second five year plans**, as there was no substantial increase in the per capita income of the people.
- » There were other questions on the "**monopolistic tendencies**". The committee submitted its report in 1964 and it observed that "Planned Economy encouraged the process of concentration by facilitating and aiding the growth of Big Business. Further, it also observed that the big Government institutions such as IFC (Industrial Finance Corporation), LIC, National Industrial Development Corporation etc. **have aided to the Monopolistic growth**". The Mahalanobis committee also recommended that sooner the Government would set up necessary machinery for collection, examination and analysis of relevant data, easier would be for the government to combine the industrial development with social development.

Monopolies Inquiries Commission: (Submitted Report 1965)

- » The Mahalanobis committee recommendation was accepted by the government and under the Commissions of Inquiry Act 1952, a **Monopolies Inquiry Commission** was established in 1964. This commission was headed by **Justice K.C. Dasguta** and so also known as **Dasguta Commission**.
- » The major term of reference to this commission was to enquire into the extent and effect of **concentration of power in private hands** and prevalence of **monopolistic** activities and also to suggest necessary legislations in light of such inquiry.
- » The Dasguta Commission submitted its report in 1965 and it observed that "*there were dangers from concentrate economic powers and monopolistic practices and they exist in large measure at present or potentially*". So the commission recommended the government to avert or minimize these dangers.

Hazari Committee: (Submitted Report in 1967)

- » The Monopolies Inquiry Commission also reviewed the various aspects pertaining Industrial Licensing and observed that industrial licensing system enabled big business houses to **obtain disproportionately large share of licenses** which had led to pre-emption and foreclosure of capacity.
- » **Dr. R K Hazari** was appointed as a consultant in the Planning Commission to **review the working of the licensing system**. He submitted the report in 1967. The Hazari committee observed that

- Industrial Licensing has NOT been able to achieve the cherished goal of balanced regional development.
- It also observed that in most cases "First come, first serve" rule was followed, so there was no proper system of issuing licenses.
- The committee further observed that "once the license has been issued, there was no proper follow up".
- In overall the "License" was termed by the Hazari committee as a "passport" to an entrepreneur to conduct business in India.

Dutt Committee: (Submitted Report 1969)

The government of India had the reports of the Monopolies Inquiry Commission and Hazari Committee in hand by 1967. Subsequently, one more expert committee "**Industrial Licensing Policy Inquiry Committee**" was set up under the chairmanship of **Mr. Subimal Dutt** and it was famous as Dutt Committee. The major recommendation of the Dutt Committee was that larger industrial houses should be given licenses only for setting up industry in core and heavy investment sectors. This recommendation gave rise to necessity of reorientation of industrial licensing policy. Some more points on Dutt Committee:

- » Dutt Committee recommended setting up of a monopolies commission with necessary teeth to deal with the problems of concentration of economic power or product monopolies.
- » It also recommended the classification of industries into sectors such as Core sector, Non Core sector, reserved sector etc. The large industrial houses should be entered to the core sectors.
- » The committee observed that due to the license raj, a very strong nexus has developed between the Industrial houses, politicians and bureaucrats and there was a need to harmonize the social interest with private interest.

Please note that Dutt Committee had defined large business houses as those with assets of more than ₹ 350 million (₹ 35 Crore).

On the basis of recommendation of **Dutt Committee**, **MRTP Act** was enacted in 1969.

The Monopolies and Restrictive Trade Practices Act 1970

The Monopolies and Restrictive Trade Practices bill was introduced in the Rajya Sabha in 1967. The politicians did not want too many changes and the result was that the drastic changes were made by the Joint parliamentary committee. It was finally passed in the house in on 18 December 1969 and got president's assent on December 27, 1969, but was brought in force from June 1, 1970.

This act was later amended in 1984. The MRTP Act was enacted in an era when the Government was on a populist high, and the economy subjected to rampant nationalisations and the Licence Raj. The MRTPC's mandate was to enquire into the extent and effect of concentration of economic power in private hands. The **Statement of Objects & Reasons of the Act** which borrowed heavily from the **UK Restrictive Trade Practices Act, 1956**, provided that the law was intended to prevent concentration of economic power to the common detriment and to prohibit monopolistic and restrictive trade practices prejudicial to public interest. On a plain reading, the objectives were and are still meaningful in the current context. But you must note that the MRTP act has been laid to rest since September 2009. What we studying is of historical importance. The current act is **Competition Act 2002** and the Current body for regulation of the activities which were under the MRTP act are under Competition Commission of India. We shall study it later in this module. Lets look at the important features of this act:

The aims of this act were:

- » To ensure that the operation of the economic system does not result in the concentration of economic power in hands of few rich.
- » To provide for the control of monopolies, and
- » To prohibit monopolistic and restrictive trade practices.

MRTTP act was not applicable to :

- » Government Company and undertaking owned by Government.
- » Company established by a Central or State Act.
- » Trade Unions
- » Companies which have been taken over by the central Government.
- » Companies owned by registered Cooperative Societies.
- » Any financial institution.

Definition of a Monopolistic Trade Practice:

The act defined the Monopolistic Trade Practice as "Such practice indicates **misuse of one's power to abuse the market** in terms of production and sales of goods and services.

- » Firms involved in monopolistic trade practice tries to eliminate competition from the market.
- » Then they take advantage of their monopoly and charge unreasonably high prices.
- » They also deteriorate the product quality, limit technical development, prevent competition and adopt unfair trade practices"

Definition of Unfair Trade Practice:

The act defines **Unfair Trade Practice** as

- » False representation and misleading advertisement of goods and services.
- » Falsely representing second-hand goods as new.
- » Misleading representation regarding usefulness, need, quality, standard, style etc of goods and services.
- » False claims or representation regarding price of goods and services.
- » Giving false facts regarding sponsorship, affiliation etc. of goods and services.
- » Giving false guarantee or warranty on goods and services without adequate tests.

Definition of Restrictive Trade Practice:

- » The act defines Restrictive Trade Practice as "The traders, in order to maximize their profits and to gain power in the market, often indulge in activities that **tend to block the flow of capital into production**. Such traders also bring in conditions of delivery to affect the flow of supplies leading to unjustified costs."

Definition of MRTTP Company:

The firms with assets of ₹ 25 Crore or more were put under the obligation of taking permission from the government of India and they were called MRTTP companies. This upper limit of ₹ 25 Crore was known as MRTTP limit. It was later relaxed to ₹ 50 crore in 1980, ₹ 100 Crore in 1985 and in 1991 this limit was removed. **Now only companies having more than 25% market share were called Monopolies.**

Monopolies and Restrictive Trade Practices Commission

Monopolies and Restrictive Trade Practices Commission (MRTPC) was set up under section 5 of the Monopolies and Restrictive Trade Practices Act, 1969. MRTPC worked as an organ of Department of Company Affairs, Ministry of Company Affairs, Government of India as a quasi-judicial body. Major function of the MRTTP Commission were to enquire into and **take appropriate action** in respect of unfair trade practices and restrictive trade practices. In regard to monopolistic trade practices the Commission is empowered to inquire into such practices upon a reference made to it

by the Central Government & upon its own knowledge or information and submit its findings to Central Government for further action.

What is the current position of MRTP Act 1969?

From September 1, 2009, the Monopolies and Restrictive Trade Practices (MRTP) Act 1969 has been laid to rest, and the Commission will not accept fresh filings. The place has been taken by the Competition Act 2002. The act is still looking for some amendments.

New Industrial License Policy 1970

In the backdrop of the Dutt Committee report and establishment of MRTPC, the Government of India announced new Industrial Policy in 1970.

The New Industrial License Policy made another change in the classification of Industries of India. As per this new policy, Industries were divided into 4 parts, which were called as sectors:

- » **Core Sector:** This comprised of basic, critical and strategic industries such as atomic energy, cement, Iron, Steel etc. It was emphasized that the Core sector would be exclusively developed under the Public Sector. The industries required the assets of ₹ 5 Crore or more.
- » **Middle Sector:** These industries required the investment of ` 1 Crore to ` 5 crore.
- » **Non-Core Heavy Investment Sector** or Joint sector, which comprised of those core industries which required assets of ₹ 5 crore.
- » **Delicensed Sector'**, in which investment was less than Rs.1 Crore and was exempted from licensing requirements.

What we can analyse from the above classification into 4 categories is that, role of the large business houses was confined to the core, heavy and export oriented sectors. The small industries were deregulated and this was first major step towards freedom from license Raj. The New Industrial Policy was followed by Industrial Policy Statement of 1973.

Industry Policy Statement 1973:

Industry policy statement of 1973 used a new term "Core Industries". So far the Core Sector comprised the basic, critical and strategic industries such as atomic energy, cement, Iron, Steel etc, which would be exclusively developed under the Public Sector. But the Core Industries were now defined as the basic industries or infrastructure industries in which the private players were allowed to apply for licensing in some industries and for that they required ₹ 20 Crore assets or more. These Core Industries were:

1. Iron and Steel Industry
2. Cement,
3. Coal,
4. Crude Oil
5. Oil Refining
6. Electricity

In this policy some industries were reserved for small and medium players. The Public Private Partnership also was emphasized as a prototype and it was called "Joint Sector" in which a partnership between state, centre and private sector was allowed. Limited entry to MNCs (Multinational Companies) was given by this policy statement.

The decade of 1970s is important for historic study of the Industrial and economic development of India. In the previous decade government faced crunch of the Foreign Exchange and had to devalue the currency. The crunch of Foreign Exchange made the government legislate a Foreign Exchange Regulation Act 1973 (FERA).

Foreign Exchange Regulation Act 1973 (FERA)

FERA was enacted in September 1973 and it came in force from January 1, 1974. It was amended by the Foreign Exchange Regulation (Amendment) Act 1993 and later in 2000, was replaced by FEMA. FERA applied to all citizens of India, all over India. The idea was to regulate the foreign payments, regulate the dealings in Foreign Exchange & securities and conservation of Foreign exchange for the nation.

Important features of FERA are as follows:

1. RBI can authorize a person / company to **deal in foreign exchange**.
2. RBI can authorize the dealers to do transact the Foreign Currencies, subject to review and RBI was given power to revoke the authorization in case of non-compliance
3. RBI would authorize the persons as Money Changers who will convert the currency of one nation to currency of their nation at rates **"Determined by RBI"**
4. NO person, other than "authorized dealer" would enter in **any transaction of the foreign currency**.
5. For whatever purpose Foreign exchange was required, it was to be used only for that purpose. If he feels that he cannot use the currency of that particular purpose, he would **sell it to a authorized dealer** within 30 days.
6. No person in India, without "permission from RBI" shall **make payments to a person resident outside India** and receive any payment from a person from outside India.
7. No person shall draw issue or negotiate any bill of exchange in which a right to receive payment outside India is created.
8. No person shall make **any credit in an account of a person resident out of India**.
9. No person except authorized by RBI shall **send foreign currency out of India**.
10. A person who has right to receive the foreign exchange would have **not to delay the receipt of the foreign exchange**.

To sum up, in FERA **"anything and everything"** that has to do something with Foreign Exchange **was regulated**. The Experts called it a **"Draconian Act"** which hindered the growth and modernization of Indian Industries.

✍ The Important aspect of FEMA, in contrast with FERA is that it facilitates Trade, while that of FERA was that it "prevented" misuse. The focus was shifted from Control to Management.

Industrial Policy Statement 1977

Industrial Policy Statement 1977 was announced by the Janta Government. So, it did something reverse to the earlier statement of 1973. In this statement, the foreign investment in the **"unnecessary areas"** (means those which had not role to play in development of the country), was prohibited and this was a **complete NO to the foreign investment**.

- » This policy emphasized on **"Village Industries"** and the small and cottage industries were redefined.
- » It expanded the list of items reserved for exclusive production in the small scale sector from 180 to more than 500.
- » For the first time, this statement defined a **"tiny unit"** as a unit with investment in machinery and equipment up to **₹ 1 Lakh** and situated in towns or villages with a population of less than 50,000 (as per 1971 census).
- » The statement also provided for close interaction between industrial and agricultural sectors.
- » Highest priority was accorded to power generation and transmission.

This policy is also remembered for a very important provision. The statement stated that foreign companies that diluted their foreign equity up to 40 per cent under Foreign Exchange Regulation Act (FERA) 1973 were to be treated at par with the Indian companies. **The Industry Minister was George Fernandes.** Companies like Coca Cola and IBM did not comply with the provisions and George threw the Coke and IBM out of India.

Industrial Licensing Policy 1975 & further policies

In 1975, another Industrial Licensing Policy was issued. This and further licensing policies actually were a series of step-by-step liberalization of the licensing in India.

- » The **Industrial Licensing Policy 1975 delicensed 21 Industries** and permitted unlimited expansion beyond the licensed capacities.
- » So this way, the increased capacities by the industry houses, which were unauthorized, now got ratified by the government in the Industrial Licensing Policy 1975.

Later, **Industrial Licensing Policy 1980** came up. There was further liberalization in this policy. This mainly ratified the enhanced capacity of the Industrial houses in support of more and more production.

With some changes **Industrial Licensing Policy 1982** was introduced. In this policy some key industries were exempted from the provisions of MRTP Act. In this Policy, one important announcement was that "Foreign Investors now could raise the equity investment above the 40% as prescribed by FERA. (But this provision was only for those, where technology was used to manufacture goods for export).

The important outcome of this provision was that there was a positive confidence build up for the Foreign Investors. In the Industrial Licensing Policy 1982, the MRTP act was also modified a little so that the delays caused by "Red Tape" are removed.

Some more positive measures were introduced in the ILP 85, which was introduced in the tenure of Young and Tech Savvy Rajiv Gandhi.

Overall, by the end of 1980s some very important measures had been taken which are summarized below:

- » The changes were **in favor of the big houses** as some of them were made free of provisions of MRTP Act and FERA.
- » In Some Industries "Broad-banding" was introduced in order to encourage production. These industries were machine tools, paper, vehicles (two wheelers) etc.
- » The Broad-banding enabled the companies to produce any type of items covered as long as total production is not exceeding the licensed capacity.
- » In these Industrial Licensing Policies the Threshold asset limit for companies under the MRTP act was raised from ₹ 20 Crores to ₹ 100 Croes.
- » In the ILP 85, 27 more industries were exempted from the provisions of MRTP Act. In 1986 23 more industries were exempted.
- » Earlier, the Industrial Licensing Proposals above the limit of ₹ 20 Crore were to be cleared by the **Cabinet Committee on Economic Affairs**. This limit was increased to ₹ 50 Crore now.
- » The small scale industry in which the limit of investment was ₹20 Lakh was increased to ₹ 35 lakh now.
- » In 1986, the government decided that the Industrial Houses can now produce 10% more than the licensed capacity, provided this additional 10% is exported.
- » In 1988, the Non-MRTP and Non FERA companies were exempted from obtaining license for projects which involved investment in fixed assets up to ₹ 50 Crores, provided they are located in backward areas.

The Crisis of 1990s

The successive governments took measures and a process of slow liberalization was set off. It took India 4 decades to liberalize the economy in a proper way.

In early 1990s, India came under sudden Political Instability. In November 1989, Rajiv Gandhi was defeated and this was basically an end of long term "**Centrism**"¹ in Politics of the Country. VP Singh, who was also known as architect of Liberalization in 1980s became the Prime Minister, leading a minority coalition.

On 2 August 1990, Iraqi forces invaded and annexed Kuwait. Saddam Hussein, then President of Iraq, deposed the Amir of Kuwait, Jaber Al-Sabah, and installed Ali Hassan al-Majid as the new governor of Kuwait.

The **Iraqi occupation of Kuwait pushed** up the **Oil Prices** and 1.5 Lakhs of **Indians in Kuwait lost their jobs** as well as savings.

At home, Devi Lal was eager to replace VP Singh and VP Singh played the game of achieving short term election benefits. Important feature of this populist game were the "Mandal Issue" to woo the OBCs and peasantry class which in North India was more or less represented by Devi Lal. Another economically important feature was **waiving of agriculture loans in 1990**.

The peasants got rid of the debts but badly damaged the condition of the agriculture credit in the country. This waiver was financed by the government by **increasing the Budget Deficit**². The peasants paid nominal amounts and there was no substantial contribution on Government accounts. V P Singh government (Finance Minister was Madhu Dandwate) failed in this game of short term political gains.

Increase in the Oil Prices swept the Foreign Currency Reserves of the country. The NRIs withdrew the funds and in October 1990, flow of NRI deposits turned negative. The Credit rating got negative and India was on the verge of defaulting its international commitments.

There was an effort made by Chandrashekhar Government to stop this crisis, by asking the IMF for a loan of 33.3 billion rupees. So ultimately India was forced by circumstances to borrow against the security of the Gold Reserves. In 1991, the Chandrashekhar government was toppled by the Congress, partially due to a sympathy wave in the country, on account of assassination of Rajiv Gandhi.

In 1991, Currency was **devaluated** and this followed **partial convertibility of Rupee**.

The new government under P V Narasimha Rao (who before this appointment, was thinking to retire) and Finance Minister Dr. Manmohan Singh, presented an emergency budget in July 1991. In this budget following announcements were made:

1. The Budget was aimed at reducing the Budget Deficit by cutting the subsidies and raising the administered prices. Price of the fertilizers was increased by a whopping 30%.
2. The Budget announced privatization of 20% of selected PSU's and it was expected to raise ₹ 25 billion by this.
3. The tax rates were revised and this would generate additional ₹ 20 Billion.
4. **Rupee was devaluated** by 18% in two steps.
5. Government borrowed ₹ 22.2 billion from IMF in July & September 1991.

The result was

1. The negative flow in foreign remittances by NRIs contained.
2. The ₹ 25 billion Foreign exchange rose to ₹ 95 billion by the end of the year.

This was enough for the government to announce more measures and take the country to the path of liberalization.

¹ Political Philosophy of avoiding the extremes of left and right by taking a moderate position or course of action. Congress had a voting share of 45%, but always was able to get comfortable number of seats.

² Difference between current government spending and total current revenue from all types of taxes

Role of IMF during the crisis:

During the crisis, the financial support did not come from India without a cost. It had some tags of conditions such as restructuring the economy, devaluation of rupee and liberalization of the economy.

New Industrial Policy 1991

With an aim of "continuity with change" the New Industrial Policy of 1991 was introduced. This policy aimed at correcting the distortion and weakness of the Industrial Structure of the country that had developed since Nehru Era. This policy was a comprehensive document which was divided into 5 parts:

- A. Industrial Licensing Policy
- B. Foreign Investment
- C. Foreign Technology Agreements
- D. Public Sector
- E. MRTP Act

We discuss them briefly here:

A. Industrial Licensing Policy Liberalisation

This policy abolished the Industrial licensing for all projects except for a short list of industries related to security and strategic concerns, social reasons, hazardous chemicals and overriding environmental reasons, and items of elitist consumption. So, for all industries except mentioned below, Industrial Licensing was abolished.



1. Arms and ammunition and allied items of defense equipment, Defence aircraft and warships.
2. Atomic Energy.
3. Coal and Lignite.
4. Mineral oils.
5. Mining of Iron Ore, Manganese Ore, Chrome Ore, Gypsum, Sulphur, Gold And Diamond.
6. Mining of Copper, Lead, Zinc, Tin, Molybdenum And Wolfram.
7. Minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953.
8. Railway transport.

- ✗ Please note that in this policy, industries reserved for the small scale sector were continued to be so reserved.
- ✗ A provision was made that in cases where imported capital goods are required, automatic clearance is given, provided there is foreign exchange availability is ensured through foreign equity.
- ✗ The towns where the population was more than 10 Lakh (Metro Cities), there was now no need to seek a Government Approval except those which were placed under compulsory licensing or attracted local restrictions.
- ✗ The definition of Tiny Unit was changed and now a tiny unit was having an investment limit of Less than ₹ 5 Lakh. Please note that today, the units where investment in Plant & Machinery is up to ₹ 25 lakh is called a "Tiny Enterprise", irrespective of the location of the unit. This change was based upon the recommendation of Abid Hussain Committee.

Except the following 18 Industries, all were delicensed from the B & C Schedules of the Industrial Policy of 1956:

1. Coal and Lignite.
2. Petroleum (other than crude) and its distillation products.
3. Distillation and brewing of alcoholic drinks.
4. Sugar.
5. Animal fats and oils.
6. Cigars and cigarettes of tobacco and manufactured tobacco substitutes.
7. Asbestos and asbestos-based products.
8. Plywood, decorative veneers, and other wood based products such as particle board, medium density fibre board, block board.
9. Raw hides and skins, leather, chamois leather and patent leather.

10. Tanned or dressed furskins.
11. Motor cars.
12. Paper and Newsprint except bagasse-based units.
13. Electronic aerospace and defence equipment; All types.
14. Industrial explosives, including detonating fuse, safety fuse, gun powder, nitrocellulose and matches.
15. Hazardous chemicals.
16. Drugs and Pharmaceuticals (according to Drug Policy).
17. Entertainment electronics (VCRs, colour TVs, C.D. Players, Tape Recorders).
18. White Goods (Domestic Refrigerators, Domestic Dishwashing machines, Programmable Domestic Washing Machines, Microwave ovens, Air conditioners).

B. Investments: Globalisation

34 Industries were placed under the automatic approval route for direct foreign investment up to 51 percent foreign equity. It was promised that there will be no bottlenecks of any kind in this process provided that foreign equity covers the foreign exchange requirement for imported capital goods. A promise to carry out some amendments in Foreign Exchange Regulation Act (1973) was also made.

✎ In the Industrial Policy of 1991, the NRIs were allowed to 100% equity investments on non-repatriation basis in all activities except the negative list.

C. Foreign Technology Agreements

Automatic permission was given for foreign technology agreements in high priority industries upto a lump sum payment of Rs. 1 crore, 5% royalty for domestic sales and 8% for exports, subject to total payment of 8% of sales over a 10 year period from date of agreement or 7 years from commencement of production.

D. Public Sector Privatisation

A promise was made to review the portfolio of public sector investments with a view to focus the public sector on strategic, high-tech and essential infrastructure. This indicated a disinvestment of the public sector. The PSUs which were chronically sick and which are unlikely to be turned around were to be referred to the Board for Industrial and Financial Reconstruction (BIFR). It was promised that Boards of public sector companies would be made more professional and given greater powers.

E. MRTP Act

The policy statement said that the MRTP Act will be amended to remove the threshold limits of assets in respect of MRTP companies and dominant undertakings. This eliminates the requirement of prior approval of Central Government for establishment of new undertakings, expansion of undertakings, merger, amalgamation and takeover and appointment of Directors under certain circumstances.

✎ The MRTP Limit for MRTP companies was made ₹ 100 Crore.

The above reforms were introductory in nature and the series of reforms continued and are continuing even today.

Industrial Licensing Today

As we read above, the Industrial de-licensing was one of the major liberalisation policies in the nineties, unshackling the constraints placed on industrial investment earlier.

- At present, compulsory licensing is required for five industries dealing with manufacture of alcoholic drinks, tobacco and tobacco substitutes, electronic aerospace and defence equipment, industrial explosives and hazardous chemicals.
- Today, just 21 items are reserved exclusively for small-scale industry (SSI); a non-SSI unit wishing to manufacture these items requires an industrial licence, which is issued with an obligation to export half of its annual production.

- In these cases, the government issues Direct Industrial Licences (DIL) and Letters of Intent (LoI), which form a very small share of the total investment proposed in the country.

Though licences are not required for industrial investment in almost all cases now, it is mandatory for firms to file an **Industrial Entrepreneur Memorandum (IEM)** that notes the **intent of the proposed investment**, and **to inform the government once commercial production begins**.

If we were to evaluate the reform process in the Indian economy over the last decade or so, the results have been nothing short of dramatic. Those of us who have managed businesses in India before the 1990s realise this only too well. The abolition of industrial licensing, dismantling of price controls, dilution of reservations for small-scale industries and virtual abolition of the monopolies law, relaxation of restrictions on foreign investment, lowering of corporate and personal tax rates, removal of restrictions on managerial remuneration, etc. were very bold steps, all of which have enabled industry to blossom. Today's younger generation of business managers cannot even believe that we had such an array of restrictions and handicaps.

The reform process has released the entrepreneurial instincts in our country and many honest professionals have been able to set up their own enterprises. The removal of restrictions and abolition of licences have also resulted in a dramatic reduction in corruption and political patronage. Today's businessman does not have to make frequent visits to the various Bhavans in Delhi. Instead, he is free to travel abroad with adequate foreign exchange to expand his market reach.

Competition Act 2002

We have read in this module that, from September 1, 2009, the Monopolies and Restrictive Trade Practices (MRTP) Act 1969 has been laid to rest. With this, the MRTP Commission was slated to not accept fresh filings, after a period of 2 years of enactment of the Competition Act 2002. The act is valid through out India **except** the state of **Jammu & Kashmir**.

- 👉 The objectives of the Act are sought to be achieved through the **Competition Commission of India (CCI)**, which has been established by the Central Government with effect from 14th October 2003.
- 👉 CCI consists of a Chairperson and 6 Members **appointed by the Central Government**.
- 👉 It is the **duty of the Commission** to eliminate practices having adverse effect on competition, promote and sustain competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- 👉 The Commission is also required to **give opinion on competition issues** on a reference received from a **statutory authority** established under any law and to undertake **competition advocacy**, **create public awareness** and **impart training** on competition issues.

Please note there are two bodies viz. Competition Appellate Tribunal & Competition Commission of India. We need to discuss a little about both of them, after we discuss the basics about the act itself.

Triggers for the New Law:

- 👉 Competition Law for India was triggered by **Articles 38 and 39 of the Constitution of India**. These Articles are a part of the **Directive Principles of State Policy**. Pegging on the Directive Principles, the first Indian competition law was enacted in 1969 and was christened the Monopolies And Restrictive Trade Practices, 1969 (MRTP Act). **Articles 38 and 39** of the Constitution of India mandate that the State shall strive to promote the welfare of the people by securing and protecting as effectively, as it may, a social order in which justice social, economic and political shall inform all the institutions of the national life, and the State shall, in particular, direct its policy towards securing.

1. That the ownership and control of material resources of the community are so distributed as best to subserve the common good; and
2. That the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.

Background of the Act:

- » In October 1999, the NDA Government of India appointed a **High Level Committee on Competition Policy and Competition Law** to advise a **modern competition law** for the country in line with international developments and to suggest a legislative framework, which may entail a new law or appropriate amendments to the MRTP Act. The Committee presented its Competition Policy report to the Government in May 2000.
- » The draft competition law was drafted and presented to the Government in November 2000. After some refinements, following extensive consultations and discussions with all interested parties, the Parliament passed in December 2002 the new law, namely, the Competition Act, 2002.

Components of Competition Act

The Competition Act, 2002 has essentially four compartments:

1. Anti - Competition Agreements
2. Abuse of Dominance
3. Combinations Regulation
4. Competition Advocacy

The have been discussed briefly:

1. Anti Competition Agreements

- » We all know that the Firms enter into **horizontal and vertical agreements**, which may have the potential of **restricting competition**. Horizontal agreements are those among competitors and vertical agreements are those relating to an actual or potential relationship of purchasing or selling to each other.
- » Some of the horizontal agreements come under the definition of cartels. **Cartels are dangerous** for the competition. Vertical agreements are also pernicious, if they are between firms in a position of dominance.
- » The Competition Act 2002 covers all kinds of agreements under its scrutiny.

2. Abuse of Dominance

- » The section 4 of the act says that **no enterprise shall abuse its dominant position**.
- » Dominant position is the position of strength enjoyed by an enterprise in the relevant market which enables it to operate independently of competitive forces prevailing in the market or affects its competitors or consumers or the relevant market in its favour.
- » Dominant position is abused when an enterprise imposes **unfair** or **discriminatory** conditions in purchase or sale of goods or services or in the price in purchase or sale of goods or services.
- » The act has clarified that a situation of **monopoly per se is not against public policy** but, rather, the use of the monopoly status such that it operates to the detriment of potential and actual competitors.
- » Its worth note that the **Act does not prohibit or restrict enterprises from coming into dominance**. There is no control whatsoever to prevent enterprises from coming into or acquiring position of dominance.
- » All that the **Act prohibits is the abuse of that dominant position**. The Act therefore targets the abuse of dominance and not dominance per se. This is indeed a welcome step, a step towards a truly global and liberal economy.

3. The Act on Combinations Regulation

- » The Competition Act also is designed to regulate the operation and activities of **combinations**, a term, which contemplates acquisitions, mergers or amalgamations.
- » Thus, the operation of the Competition Act is **not confined to transactions strictly within the boundaries** of India but also such transactions involving entities existing and/or established overseas.

4. Competition Advocacy

- » In line with the High Level Committee's recommendation, the Act extends the mandate of the Competition Commission of India beyond merely enforcing the law (High Level Committee, 2000). Competition advocacy **creates a culture of competition**. There are many possible valuable roles for competition advocacy, depending on a country's legal and economic circumstances.
- » The Regulatory Authority under the Act, namely, Competition Commission of India (**CCI**), in terms of the advocacy provisions in the Act, is **enabled to participate** in the **formulation of the country's economic policies** and to participate in the reviewing of laws related to competition at the **instance** of the Central Government. The Central Government can make a reference to the CCI for its opinion on the possible effect of a policy under formulation or of an existing law related to competition. The Commission will therefore be assuming the role of competition advocate, acting pro-actively to bring about Government policies that lower barriers to entry, that promote deregulation and trade liberalisation and that promote competition in the market place.


Comparison of Competition Act 2002 & MRTP Act

The following table summarizes the comparison of the Competition Act 2002 & MRTP Act:

MRTP Act, 1969	Competition Act, 2002
Based on the pre-reforms scenario	Based on the post-reforms scenario
Based on size as a factor	Based on structure as a factor
Competition offences implicit or not defined	Competition offences explicit and defined
Complex in arrangement and language	Simple in arrangement and language and easily comprehensible
14 per se offences negating the principles of natural justice	4 per se offences and all the rest subjected to rule of reason.
Frowns upon dominance	Frowns upon abuse of dominance
Registration of agreements compulsory	No requirement of registration of agreements
No combinations regulation	Combinations regulated beyond a high threshold limit.
Competition Commission appointed by the Government	Competition Commission selected by a Collegium (search committee)
Very little administrative and financial autonomy for the Competition Commission	Relatively more autonomy for the Competition Commission
No competition advocacy role for the Competition Commission	Competition Commission has competition advocacy role
No penalties for offences	Penalties for offences
Reactive and rigid	Proactive and flexible
Unfair trade practices covered	Unfair trade practices omitted (consumer fora will deal with them)
Does not vest MRTP Commission to inquire into cartels of foreign origin in a direct manner.	Competition Law seeks to regulate them.
Concept of 'Group' Act had wider import and was unworkable	Concept has been simplified

Competition Commission of India & Competition Appellate Tribunal

Under the provisions of this Act the Competition Commission of India was established. Certain provisions of the Competition Act, 2002 were challenged in the Supreme Court and keeping in view the judgment of the Supreme court proposals for amendments to the Competition Act were placed before the Indian Parliament which were approved

during Monsoon Session, 2007. The amended provision of the Act provides for a dedicated institutional structure for dealing with Competition related issues. The structure includes the Competition Commission of India (CCI) and the Competition Appellate Tribunal (CAT) to deal with the appeals against the orders of the CCI. 

For Your Examination, you must note the following points:

- » Please note that the **Commission does not adjudicate on disputes**, but can pass cease and desist **orders**. Its orders can be appealed before a Competition Appellate Tribunal.
- » The Central Government has set up the Appellate Tribunal on 15th May, **2009** having its Headquarter at New Delhi.
- » **Competition Appellate Tribunal** is a **Statutory + Quasi-judicial** organization established under the provisions of the Competition Act, 2002. Under Competition Law, section 53D.(1)
- » The Chairperson of the Appellate Tribunal shall be a person, who is, or has been a **Judge of the Supreme Court or the Chief Justice of a High Court**.
- » Hon'ble **Dr. Justice Arijit Pasayat**, former Judge of Supreme Court, has been appointed as the First Chairperson of the Appellate Tribunal.
- » The Chairperson or a Member of the Appellate Tribunal shall hold office for a **term of five years** and shall be eligible for re-appointment. Provided that no Chairperson or other Member of the Appellate Tribunal shall hold office after he has attained the age of sixty-eight years or sixty-five years respectively.
- » Competition Appellate Tribunal is to **hear and dispose of appeals against any direction** issued or decision made or order passed by the Competition Commission of India.
- » It can **also adjudicate on claim for compensation** that may arise from the findings of the Competition Commission of India or the orders of the Appellate Tribunal in an appeal against any findings of the Competition Commission of India.
- » The Appellate Tribunal **shall not be bound by the procedure laid down in the Code of Civil Procedure, 1908** (5 of 1908), but shall be guided by the principles of natural justice and, subject to the other provisions of this Act and of any rules made by the Central Government.

Critical Analysis of the Competition Act 2002

If we need a proof to show how slow the government in India can be in framing and enforcing economic legislation, no example could be better than the Competition Act, 2002. The idea was mooted by the NDA Government, which thought that there should be a body that can prevent practices that had an adverse effect on competition, promote and sustain competition in markets, protect the interests of consumers and ensure freedom of trade carried on by all participants in markets. Such a body was long overdue, particularly after the economy opened up in the 1990s.

Thus, the Competition Act, 2002 received Parliament's approval and the President's assent in 2003. The NDA government even named its Commerce Secretary Dipak Chatterjee, (an IAS) as the chairman of the Competition Commission of India, and its Company Affairs Secretary Vinod Dhall as member. Within a few days of the constitution of the Commission, Dhall joined the new regulatory body and began preparatory work. Chatterjee was waiting for his tenure in the Commerce Ministry to get over (the all-important Cancun ministerial summit of the World Trade Organisation was being held at that time).

All seemed to be on course until questions were raised in the judiciary on certain provisions of the new legislation, over the status of its chairman, his selection process and the appellate mechanism. The main questions were:

1. Should the CCI chairman be treated as a person equivalent to a sitting High Court judge?
2. How should he be selected?

3. And what should be the appellate body that should hear petitions against orders issued by the Commission?

The act itself had suggested that the chairman of the Commission should be a person of ability, integrity and standing and who has been or is qualified to be a judge of a High Court. It was also stipulated that the chairperson and other members would be selected in the manner as may be prescribed. And there was no reference to the appellate mechanism.

But the act itself got entangled into the legal battle. The meaning of the challenges was that Dipak Chatterjee could not join the Commission as the chairman. Nor could the government appoint a new chairman till the issues raised by the judiciary were resolved. The Commission continued to function as a lame duck body with only one member (Vinod Dhall) in charge.

Then, the act was amended in 2007. This was a long time. Apart from the many other procedural changes, the amended act provided the following: (I can frame a confusing question on below three lines)

1. The chairperson and members shall be persons of ability, integrity and standing, but **need not be qualified** to be a judge of a High Court;
2. the process of selecting the chairperson and members was clearly outlined with a **selection committee headed** by the **Chief Justice of India** or his nominee to recommend their appointment and;
3. There was a provision for **creating an appellate tribunal**, which would be headed by a person who is or has been a **judge of the Supreme Court** or the **chief justice of a high court**.

We see that bowing to the judiciary, the Government got ready to create CAT in 2007. But there was no action in 2007 as well as 2008. The Commission's only serving member, Vinod Dhall, sought premature retirement in 2008 a few months before his five-year tenure came to an end. Thus, the Commission functioned without a single member for several months since Dhall's departure.

Then, Dhanendra Kumar was named the chairman of the Commission. He was also a retired IAS officer. Dipak Chatterjee, too, was an IAS officer. The judiciary was upset by the manner in which civil servants were being appointed in key regulatory positions that it felt rightfully belonged to its members, namely judges. The Competition Act was also suitably amended to address their grievances and it seemed the judiciary was satisfied by the changes in the statute. But even after the amendments, the outcome of another long-drawn process to select the chairman of the Commission is not dissimilar to the one initiated before the changes in the legislation were effected.

Today, we have both these bodies installed, yet there is a sort of war between many of the enacted laws. This law has been in **conflict with several laws which provide for sector-specific merger regulations**. The key conflict areas have been identified as telecom, banking, electricity and capital markets.

Out of them, electricity laws are probably the best example of the overlapping provisions. The Electricity Act 2003 and the Competition Act 2002, in their respective non-obstante clauses, have identical language which reads as follows:

"shall have effect notwithstanding anything in therewith contained in any other law for the time being in force."

The interesting point to note is that Electricity Act also addresses market domination, specifically empowering the regulator to issue appropriate directions to a Licensee or a generating Company in instances of any agreement in abuse of dominant position or entering into a combination likely to cause adverse effect on competition. Electricity Tribunals have been entertaining disputes on market domination — notably Tata Power Company's challenge of allocation of power distribution licenses against Reliance. While no means as exhaustive as the list provided in Sections 3 to 6 and the powers under Sections 27 to 36, but certainly adequate to resist the intervention of the Competition Commission ('CCI') in their jurisdiction.

Then, in telecom sector, the monopoly is addressed by TRAI. In Finance Sector, its SEBI that works on some similar lines. The scope of the Act and role of CCI is confined to anti-competition issues in interest of protection of consumers and freedom of trade. The preamble of the Act provides as such, and the laws can actually complement and supplement each other in most instances, provided there are mechanisms to contain forum shopping. However, as of now, the act seems to be another sheep in the flock.

Price is quantity of payment or compensation made by one party to another in return for goods or services. Prices are expressed in terms of money, but in barter trade prices are also expressed in terms of goods.

Prices & Various Price Indices

Generally when demands are in excess the prices go up, and when supply are in excess the prices come down. The price fluctuations indicate the general economic conditions of a particular country. To understand the pricing system, we should first know what an **index** is. We read in the financial newspapers about the **Wholesale Price Index going up and down**. For a student with no Economics background these terms are not so easy to understand and analyze.

To begin with, we start with a very simple example. We suppose that in 2007 Milk was Rs. 15 per litre. In 2012, milk is being sold at Rs. 30 per litre. This means that Milk has become Rs. 15 per litre costlier than its price in 2007. Here we came across two things:

- » Rs. 15 per litre in 2007 was our **base price** which we took as a reference, and Rs. 30 per liter is our **current price**.

To ascertain the price rise, we should have the first thing ready with us that is "**compared to which year**" the prices have risen.

Now, we know that milk is measured in litters. But cloth is measures in meters and Sugar is measured in Kilograms. So, isn't it cumbersome to deal with different measurement units to arrive at a simple figure which can give us the idea of price rise?

This problem is solved by the **Index numbers** or **Indices**.

- » The first thing is that prices in a particular year are studied **only with reference** to some previous years.
- » **Prices in the base year are taken as 100**. Prices in the current year are related to the base year price. When we compare the base price and current price, we can know the change in price level over the years. This level of price is called **Index of Price**.

Now, we again take the example of milk quoted above. Rs. 15 per litre is the base price. Rs. 30 per litre is current price. If we take Rs. 15 as 100 we find that the current price is 200. We can now say that the **Price Index of Milk has shot to 200 compared to 100 in 5 years**.

Now let's make this example a bit complicated. We assume that we have one commodity Potato and another commodity say Onion. We assume that both Potato and Onion were Rs. 10 per Kilogram in 2007. However, when today we go to the market to buy Potato and Onion, we find that Potato is being sold for Rs. 20 kilogram and Onion is being sold for Rs. 30 kilogram. We have to find out, how much the price index has gone up?

What we do here is that Rs. 10 per Kilogram is taken as the base price 100. We find that the current price index for Potato is 200 and Onion is 300. So we simply get an average and ascertain that the current price is 250.

But, what about different units of measurement such as Milk in litre, Potato in Kilogram and Cloth in meters?

- » The **Price index** is a **comparison** and **not a value**. If there is no base price, we cannot decide the price index. So, Price Index considers only the percentage changes in the prices and once a percentage change is ascertained the unit of measurement gets is relevance lost.

When different Goods are taken simultaneously, the percentage Change is taken as the average for all goods.

Index numbers show the **changes in the averages** and **not for individual commodities**.

We go to the market to buy the Milk, Potato or Onion for our own consumption. So we are the ultimate consumers of Milk, Potato and Onion. What we created in above examples was the **Consumer Price Index**. The Milk, Potato and Onion are the **Basket of the Commodities**.

If the objective of creating a price index is to study the impact of change in the value of money on consumers, the **Consumer Price Index** is constructed. They show the **impact of change of Purchasing power of money on Consumers**.

If we need to ascertain the impact of **change of Purchasing power of Money on Wholesalers**, we construct the **Wholesale Price Index**.

So, Price indices are constructed on the basis of an Objective. Different indices are created on the basis of different objectives.

Base Year

In the above example we compared prices of Milk, Onion and Potato from 2007 to 2012. 2007 was our base year. A base year is a reference year. Without the base year, we cannot determine the changes in the prices.

A **base year** is normally chosen **a year in which the prices were more or less stable**. This is because, too much price fluctuation in a particular year will affect the value ascertained on the base of the reference year. A normal financial year is taken as a Base Year.

Earlier **1993-94** was taken in India as a Base Year for WPI (Wholesale Price Index) to measure inflation. The **Abhijit Sen Committee** recommended a **new** Wholesale Price Index based upon the year 2004-05.

Are all goods and commodities included in the Index?

No, it is neither possible nor desirable to include each and every commodity / goods/ service of the market. Those goods are services are chosen which:

1. Represent the whole market
2. Widely Consumed

However, larger is the number of goods, more Representative is the index.

The Price Index is normally expressed by P. The value for the base year is 100. Value for the current year may be more or less than the Base Year. If, the Value of the Base year is P_0 and Value of the Current Year is P_1 and we are given P_{01} , then P_{01} is read as Price Index of Year 1 as compared to Year 0.

Weightage

A large number of goods and services are available in the market. **Wheat and Rice** are the most essential commodities required by everybody. Similarly salt is needed by everyone. However, fruits are less significant if we compare them to Wheat and Rice.

The price rise in Wheat and Rice is capable enough to topple a government but price rise in pomegranates and Mangoes may not be that much capable.

Accordingly, every commodity has to be assigned a Weight. **A weight shows the significance**. The more weightage shows that the commodity or a group of commodity is more significant. The index created using the weights or weightage is called **Weighted Index**. There are many methods of assigning weights. Fisher's method, Paasche's method and Laspyere's methods are most common. These methods are used as per the requirement of the study.

Similarly there are many methods to calculate the **weighted average**.

Advantages and Limitations of Index Numbers

Before we move ahead, let's understand some advantages and limitations of the Index Numbers.

Advantages:

1. Index provides a measurement of change in the price level and value for money. Various indices are used to correct the deflationary / inflationary.
2. They help to provide **knowledge of the change of standard of Living**. For example a person earning Rs. 1000 was significant in 60s and 70s and now they have no significance.
3. Cost of Living Index can be prepared to ascertain the adjustments in salaries and allowances.
4. They can be used as a guide in making Business Decisions.
5. Index numbers of Production show the changing level of agricultural and Industrial production.
6. Indices provide the real position of Economy.

Disadvantages:

1. They just provide a comparison i.e. arithmetic tendency of figures and may not be always true.
2. We cannot do international transaction.
3. The base year needs to be renewed with the changing time and consumption pattern.
4. Every purpose of study has a separate index to be prepared.
5. Retail prices are more important but retail price index is not easy to construct.

Construction of a Simple Price Index

We assume that we have 5 commodities viz. Moong Dal, Vegetable Oil, Potato, Wheat and Salt. The following table shows their prices in 2007 & 2012. (Rupees per Kilogram).

Commodity	Moong Dal	Vegetable Oil	Potato	Wheat	Salt
Price in 2007	50	40	10	5	2
Price in 2012	80	60	20	10	6

The Simple Price Index would be calculated as follows:

Commodity	Price in 2007 P_0	Price in 2012 P_1
Moong Dal	50	80
Vegetable Oil	40	60
Potato	10	20
Wheat	5	10
Salt	2	6
	$\Sigma P_0 = 107$	$\Sigma P_1 = 176$

$$P_{01} = \frac{\Sigma P_1}{\Sigma P_0} \times 100 = \frac{176}{107} \times 100 = 164.49$$

Construction of a Weightage Price Index

The above example is just a simple calculation which gives you an idea of a simple price index. However, in practice we use weighted average index number. Here, the above example is taken again. We assume that the commodities A, B, C, D & E are given weightage of 40,30,15,10 & 5 (total 100). The following table shows the details. **You have to focus how unit of measurement loses its significance.**

Commodity	Weight	2004 Prices	2005 Prices
A	40	Rs. 100 per quintal	Rs. 200 per quintal
B	30	Rs. 200 per litre	Rs. 800 per liter
C	15	Rs. 2 per kilogram	Rs. 16 per Kilogram
D	10	Rs. 8 per KG	Rs. 40 per Kilogram
E	5	Rs. 1 per Kg.	Rs. 6 per Kilogram

This can be easily calculated as follows:

We have to first add the total weightage given.

In the above example total weightage is $\sum W = 40+30+15+10+5 = 100$

Then we have to calculate simple price index of each commodity:

- A. For commodity A, the value of $P_{01} = \frac{200}{100} \times 100 = 200$
- B. For Commodity B, the value of $P_{01} = \frac{800}{200} \times 100 = 400$
- C. For commodity C, the value of $P_{01} = \frac{16}{2} \times 100 = 800$
- D. For Commodity D, the value of $P_{01} = \frac{40}{8} \times 100 = 500$
- E. For Commodity E, the value of $P_{01} = \frac{6}{1} \times 100 = 600$

Each of them is multiplied by their weights and it is denoted as RW:

- A. $RW = 200 \times 40 = 8000$
- B. $RW = 400 \times 30 = 12000$
- C. $RW = 800 \times 15 = 12000$
- D. $RW = 500 \times 10 = 5000$
- E. $RW = 600 \times 5 = 3000$

The value of $\sum RW = 8000 + 12000 + 12000 + 5000 + 3000 = 40000$

Now The Weighted Average Price Index is Calculated as follows:

$$P_{01} = \frac{\sum RW}{\sum W} = \frac{40000}{100} = 400$$

This is a simple method and the above examples are just to give you an insight into how, the weighted Average Price Index is calculated.

Then, there are numerous techniques to calculate the price indices. In weighted Aggregate method, the weight is assigned as per the quantity purchased.

Price Index in India

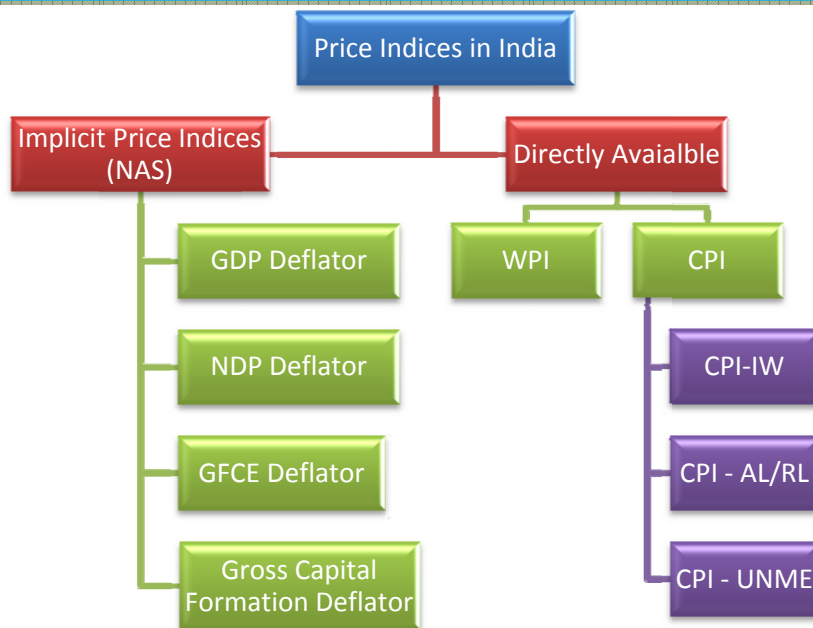
We now understand that Price Index is basically an indicator of the average price movement over time of a fixed basket of Goods and Services. The constitution of the basket of goods and services is done keeping into consideration the relative importance and consumption. There are 4 main series of price indices compiled at national level in India. They are as follows:

1. Consumer Price Index for Industrial Workers. (CPI-IW) .
2. Consumer Price Index for Agricultural Laborers / Rural Laborers (CPI-AL/ RL)
3. Consumer Price Index for Urban Non-manual Employees (CPI-UNME)
4. Whole Sale Price Index (WPI).

Apart from them there are **Implicit Price indices** derived from **National Accounts Statistics**. They are as follows:

1. GDP Deflator
2. NDP Deflator
3. GFCE (Government Final Consumption Expenditure) Deflator
4. PFCE (Private Final Consumption Expenditure) Deflator
5. Gross Capital Formation Deflator

The overall available Price Indices in India are shown in the following Graphic:



Out of the above, WPI is considered the **Headline Inflation**. This is just because it is available more frequently.

Availability of Indices

Up till now, WPI data was available weekly. The CPI data are available monthly. The GDP deflators are implicit data of NAS and they were available yearly, but now quarterly since 1996. WPI data was available on a weekly basis with a lag of two weeks till October 24, 2009. Now, the prices for two subgroups viz. Primary Articles and Fuel, Power, Light and Lubricants are available on weekly basis with a lag of 2 weeks, but overall WPI index is available on a monthly basis with a lag of a fortnight.

From February 1, 2012, the weekly wholesale price index-based inflation numbers have become history. The government discontinued the release of such data from, even as a Planning Commission official said it only on the insistence of the finance ministry and the Reserve Bank of India (RBI) that weekly numbers were brought out for so long. **The WPI numbers will be available on monthly basis now.**

In January 2012, the cabinet committee on economic affairs (CCEA) had approved a proposal to release only monthly WPI data. This was aimed at curbing speculative movement in prices and giving a holistic inflation picture.

Wholesale Price Index

WPI is a Single, National Index. It is released on monthly basis. The weights are assigned on the basis of Wholesale Transactions. The previous base year was 1993-94. On the basis of recommendations of Abhijit Sen Committee, the new base year is 2004-05. The number of items was 435 previously.

We all know that now, government has completely switched to the new series of the wholesale price index (WPI) to 2004-05 as the base year. **The new series has 676 items compared to the 435 commodities earlier**, while the number of quotations or sources for collating the price data is 5482 from 1918 previously. The new series has a different weight, in line with the changes in the economy. The weight of the primary articles category in the WPI is now 20.11 percent with 102 items and 509 quotations compared to 22.02 percent earlier, fuel and power has been 14.91 percent with 19 items and 72 quotations from 14.22 percent, while that of manufactured products is 64.97 percent against 63.74 percent. The following table summarizes this:

Major Change in the Weights in WPI New Series		
Items	Weights	
	New Series (base: 2004-05)	Old Series (base: 1993-94)
All Commodities	100.00	100.00
Primary Articles	20.12	22.03
Food Articles	14.34	15.40
Non-Food & Minerals	5.78	6.63
Fuel and Power	14.91	14.23
Manufactured Products	64.97	63.75
Food Products	9.97	11.54
Non-Food Products	55.00	52.21

Source: Economic Survey 2010-11

Implications of the New WPI:

- » The new wholesale price index (WPI) is a better reflection of changes in consumption pattern as it includes a wider range of consumer items like mineral water and flowers.
- » It is a better indicator of what the inflation rate is now. Inflation for August stood at 8.5 percent, according to the new WPI series with the base year of 2004-05, released by the government. As per the old series, which was based on 1993-94 prices, the inflation stood at 9.5 percent for the month.
- » It is desirable to change the base because over a period of time consumption (pattern) of consumers changes, so any sensible price index should get rebased.
- » Consumer items widely used by the middle class, like ice-cream, microwave ovens, washing machines, gold and silver are reflected in the new series of WPI inflation. Its inclusion would make the inflation rate more realistic and change in base would improve the accuracy and make the index less prone to fluctuations.

The WPI is the most frequently estimated measurement of price level in our Country. It is computed at aggregate level and also for groups, subgroups and major commodities. It has widest coverage of the commodities and **also includes even capital and intermediate goods**; it **does not cover the services and non tradable commodities**. WPI is used in India to **measure headline inflation**. It is used by the Reserve Bank of India, Planning Commission etc. for analyzing the macro-economic aggregates, forecasting variables, draw monetary policies etc.

Headline Inflation Versus Core Inflation

Manufacturing inflation, also known as core inflation, is essentially driven by demand and makes up the non-food basket of the wholesale price index. Core inflation is a measure of inflation that excludes items that face volatile price movement, notably food and energy. It is, therefore, a preferred tool for framing long-term policy. Core inflation is a widely used measure of the underlying trend or movement in the average consumer prices. It is often used as a complementary indicator to what is known as "headline" or consumer price index (CPI) inflation. Headline inflation refers to the rate of change in the CPI, a measure of the average price of a standard "basket" of goods and services consumed by a typically family. Headline inflation captures the changes in the cost of living based on the movements of the prices of items in the basket of commodities and services consumed by the household. The headline wholesale price index (WPI) inflation averaged 9.6 percent in 2010-11 as compared with 5.3 percent per annum in the previous decade. Similarly the average consumer price inflation, measured by the consumer price index for industrial workers (CPI-IW), was even higher at 10.5 percent in 2010-11 as compared with 5.9 percent per annum in the previous decade. The reserve bank of India has indicated that it will pause its rate tightening cycle if non-food manufacturing inflation stabilizes.

Consumer Price Index

In India, the CPI is not estimated at the overall level. There are only 4 groups of consumers for which CPI is available.

- » Please note that independent compilation of CPI for urban non manual employees (CPI-UNME) has also been discontinued and it is now implicitly linked to CPI IW.
- » The CPI data reflect the cost of living conditions for these consumer groups. They are mostly used to formulate social welfare programmes and policy measures. They are available Monthly with a time lag of 2 weeks to 1 month.

The major items covered are:

1. Food & beverages,
2. Tobacco, (e.g. Biri, Cigarette), Pan, Supari, Gutkha and other intoxicants.
3. Fuel and Light
4. Housing
5. Clothing, bedding, Footwear.
6. Miscellaneous.

Out of all the kinds of CPI, the **CPI-IW is most important**. This index estimates the cost of living for Industrial workers of the country. It is mainly used for **wage and dearness allowances of workers and employees**. It is also **broader than other CPI indices**. **In the organized sector CPI-IW is used as Cost of Living Index**.

Difference between WPI and CPI

Both the WPI and CPI-IW are very important measures of overall price level and inflation in our country. But, WPI is considered superior. WPI is computed on Pan India basis while CPI-IW is computed for specific centers and then aggregated. Coverage of Non-agro items is better in WPI. The **weightage to Industrial Products** is given a better coverage / weightage in **WPI**.

- » The major difference between WPI is their weighting pattern. **Food has a larger weighting pattern in CPI** which ranges from 46% in CPI-IW to 69% in CPI-AL. In WPI the food is having weightage of only 27%. We can say that **CPI is more sensitive to the changes in the Food items**.
- » Similarly the **Fuel group has higher weightage in WPI** (14.2%) in comparison to CPI (5.5-8.4%). This is the reason that WPI is more sensitive to the international Crude Oil price fluctuation in the International Markets.
- » **Services are NOT covered in WPI**. In CPIs they are covered to varied degrees. Consequently, CPIs are sensitive to the Price Inflation in the Service Sector.

GDP Deflator:

- » GDP deflator is a comprehensive measure of inflation, implicitly derived from the national accounts data as the **ratio of the GDP at Current prices to Constant Prices**. It was previously released yearly, but **now available on a quarterly basis** with a time lag of 2 months since 1996.

Who compiles the CPI /WPI data?

The first thing to be noted is that **CPIs** are compiled on the basis of the **standards** set by **International Labour Organization** for the member countries.

CPI-UNME had been compiled and Released by **CSO**, which comes under the Ministry of statistics and programme Implementation. Rest 2 viz. **CPI-IW** and **CPI-AL/RL** are compiled and released by **labour bureau**, Ministry of Labour.

WPI is compiled & released by **Ministry of Commerce & Industry** (Office of the Economic Adviser).

Composition of Consumer Price Index for Industrial Workers CPI-IW

As we know that CPIs are compiled on the basis of the standards set by International Labour Organization for the member countries. In this context, on the basis of the recommendations made by the International Labor Organization, the Second Commission on Labor and the National Statistical Commission Labor Bureau has shifted the **base of CPI-IW** from 1982 to **2001**.

It is considered to be a normal year judged by broad economic factors. The weighting Diagram for 1982 and 2001 are as follows:



Group	Base 1982	Base 2001
1. Food	57	46.19
2. Pan, Supari, Tobacco and Intoxicants	3.15	2.27
3. Fuel and Light	6.28	6.43
4. Housing	8.67	15.27
5. Clothing, Bedding and Footwear	8.54	6.58
6. Miscellaneous*	16.36	23.26
Total	100	100

*Miscellaneous group consists of medical care, education, transport and communications, recreation and amusement, personal care and effects, laundry, domestic services, etc

Producer Price Index

The revised WPI basket has not included the Producer Price Index. The PPI Index is also a desired index, which would cover the price changes faced by the producers of primary, intermediate and finished goods.

Index of Industrial Production (IIP)

Now, we know that the Wholesale Price Index (WPI) and Consumer Price Index (CPI), which tell us about the growth / decline of prices and used as a measure of inflation.

The Index of Industrial Production (IIP) is an abstract number or ratio which measures the growth of various sectors in the economy. In India, IIP is a representative figure which measures the **general level of Industrial activity** in the country. Being an abstract number, it does not so Volume of activity and only shows the magnitude which represents the status of production in the industrial sector for a given period of time as compared to a reference period of time.

- » IIP is released Monthly and this is partially due to the fact that the Annual Survey of Industries are released annually and a short term index is required for assessment of short term activities.
- » The IIP is released by Central Statistical Organization.
- » Please note that **first IIP was published in 1950** by **Office of Economic Advisor**, Ministry of Commerce. **So, First IIP was NOT released by CSO** because CSO did not exist at that time. **The base year in the First IIP was 1937.**
- » CSO was set up in 1951.

CSO & Office of Economic Advisor: A comparison

1. Please note that CSO comes under Ministry of Statistics and Programme Implementation. CSO is based in Delhi and some portion of Industrial Statistics work pertaining to Annual Survey of industries is carried out in Calcutta. Its activities are as follows:
 - National Income Accounting
2. Conduct of Annual Survey of Industries
3. Economic Censuses and its follow up surveys
4. Compilation of Index of Industrial Production
5. Consumer Price Indices for Urban Non-Manual Employees,
6. Human Development Statistics,
7. Gender Statistics
8. Imparting training in Official Statistics,
9. Five Year Plan work relating to Development of Statistics in the States and Union Territories

-: About this document:-

10. Dissemination of statistical information
11. Work relating to trade, energy, construction, and environment statistics,
12. Revision of National Industrial Classification, etc.

In Contrast, Office of the Economic Adviser (OEA) is an attached office of the **Ministry of Commerce & Industry**. It has the following functions:

1. Formulation of industrial policies and the effect of trade policies on them.
2. Analysis of macro-economic aggregates.
3. Examination of general economic issues.
4. **Recommendations** regarding rates of excise & customs duties on industrial products.
5. Compilation and publication of the weekly **Wholesale Price Index Numbers** in India.
6. Compilation and publication of **Hand Book of Industrial Policy and Statistics**.

Base Year for IIP

Please note that even prior to 1950, an **Interim Index of Industrial Production** was released from 1947 It was based upon 15 industries and base year 1937. It was discontinued in 1949. The base year was later shifted from time to time. The base year 1937 was shifted to 1946, 1951, 1956, 1960, 1970, 1980-81, 1993-94 and finally 2004-05.

The Base Year 2004-05 is the current Base year for IIP.

Please note that in 2008, economic think tank, **CMIE** had entered an agreement with Department of Industrial Policy and Promotion (DIPP) to compile the collect production data for compiling the new series of Index of Industrial Production (IIP), as a measure to update the fast becoming outdated IIP. However, nothing substantial was followed up later and still **CSO keeps releasing the data.**

Change in the base year and weightage:

The following table compares the weightage of various sector based and use based in the indices of 1993-94 and 2004-05.

Read from SGS-14 pg no. 14

Change in IIP Sector Weights			
	1993-94	2004-05	Change
Sector wise			
Mining	104.7	141.6	36.9
Manufacturing	793.6	755.3	38.3
Electricity	101.7	103.2	1.5
IIP	1000.0	1000.0	
Use based			
Basic Goods	355.7	456.8	101.1
Capital Goods	92.6	88.3	4.3
Intermediate Goods	265.1	156.9	108.2
Consumer Goods	286.6	298.08	11.48
Consumer Durables	53.7	84.6	30.9
Consumer Non Durables	233	213.5	19.5
IIP	1000	1000	
Source: CSO			

In Sector wise, we see **weight of manufacturing declining equalling the rise in weights of mining and electricity sub-sectors**. Hence, manufacturing sector is likely to impact IIP growth lesser than it used to impact earlier. Though its contribution in IIP still remains high at 76%.

In use-based classification, we see changes in all the categories. **The weight rises in basic goods and decline in capital and intermediate goods**. In consumer goods, we see rise in weight of consumer durables and declines in weight of non-consumer durable goods. This implies changes in basic goods would impact the overall IIP growth more than it was seen in previous time-series. Likewise, one would see lesser impact of intermediate goods compared to previous time-series.

The following table shows the weightage of the manufacturing sub sectors:

Appendix 1: Manufacturing Subsectors (Weights in %)

2004-05 series			1993-94 series		
1	Food Products & Beverages	72.76	1	Food Products	90.83
2	Tobacco Products	15.7	2	Beverages, Tobacco and related Products	23.82
3	Textiles	61.64	3	Cotton Textiles	55.18
4	Wearing apparel; dressing and dyeing of fur	27.82	4	Wool, silk and man made fibre textiles	22.58
5	Luggage, handbags, saddlery, harness & footwear; tanning and dressing of leather products	5.82	5	Jute and other veritable fibre textiles	5.9
6	Wood and products of wood & cork except furniture; articles of straw & plating materials	10.51	6	Textile products including wearing apparel	25.37
7	Paper and paper products	9.99	7	Wood and wood products (furniture & fixtures)	27.01
8	Publishing, printing & reproduction of recorded media	10.78	8	Paper, paper products, printing and allied industries	26.52
9	Coke, refined petroleum products & nuclear fuel	67.15	9	Leather and leather and fur products	11.39
10	Chemicals and chemical products	100.59	10	Basic Chemicals & Chemical Products (except products of Petroleum & Coal)	140.02
11	Rubber and plastics products	20.25	11	Rubber, Plastic, Petroleum and Coal Products	57.28
12	Other nonmetallic mineral products	43.14	12	NonMetallic Mineral Products	43.97
13	Basic metals	113.35	13	Basic Metal and Alloy Industries	74.53
14	Fabricated metal products, except machinery & equipment	30.85	14	Metal Products and Parts, except Machinery and Equipment	28.1
15	Machinery and equipment n.e.c.	37.63	15	Machinery and Equipment other than Transport equipment	95.65
16	Office, accounting & computing machinery	3.05	16	Transport Equipment and Parts	39.84
17	Electrical machinery & apparatus n.e.c.	19.8	17	Other Manufacturing Industries	25.59
18	Radio, TV and communication equipment & apparatus	9.89			
19	Medical, precision & optical instruments, watches and clocks	5.67			
20	Motor vehicles, trailers & semitrailers	40.64			
21	Other transport equipment	18.25			
22	Furniture; manufacturing n.e.c.	29.97			
	Manufacturing	755.3			793.6

India's Steel Industry

Steel is an Iron alloy which contains around **0.2% to 2.1% Carbon**. But ONLY Carbon is NOT the alloying material. The **other material** is Manganese, Chromium, Vanadium, Tungsten. **Carbon** works as a **hardening agent**. So, basically the impurity of Carbon in Iron stops the **dislocation of the Iron atoms in the lattice** from sliding past one another. The amount of this impurity is used to **control the hardness, ductility and tensile strength**.

- » The Steel which has Carbon as alloy is called "**Carbon Steel**". The Steel which has Non-carbon alloy is called "**Alloy Steel**".
- » The iron which was used in earlier times using techniques in crucible is called "**Crucible Steel**". In India, Konasamudram and Gathosahalli were the most important sources of Crucible Steel till 16th century.
- » The immediate product of the Iron alloy found in mines is "**Pig iron**". Pig Iron has a very high Carbon Content (3.5-4.5%). So it is Brittle, Non-malleable and used only in limited applications.
- » Iron alloy which has impurity **more than 2.1%** but less than the Pig Iron is called "**Cast Iron**". They are mostly brittle but there are **Malleable Cast Irons**. The Cast Iron because of more impurities has a **lower melting point**.
- » Historically cast Iron has been used in "**Bridge making**" all over the world. The famous "**Iron Bridge**" of England is **made up of Cast Iron**.
- » "**Wrought iron**" has very low carbon content. It is also known as "**Slag**". When it is bent to the point of breaking, it gives texture which resembles wood.
- » Wrought Iron was earlier known as "**Pure Iron**", but not now because; now the Iron, which has **less than 0.008% impurity** is considered to be commercially pure. The "Eiffel Tower" is made up of Wrought Iron.
- » Following table compares the Pig Iron, Carbon Steel and Wrought Iron.

Bengal Iron Works Company:

- » In 1870 a small plant was founded by **James Erskine** in the jungles of **Kulti** to make iron. This produced only "Cast Iron". Starting off as Bengal Iron Works Company, it became **Burrakar Iron Works in 1881** and was renamed as **Bengal Iron and Steel Company** in 1890. Later in 1926 the company again changed its name to **Bengal Iron Company Ltd.**

TISCO:

- » Today, TISCO is known as Tata Steel, which has grown to world's 7th largest Steel Company. In terms of domestic production, Tata Steel is largest company in India. Main plant of Tata Steel is located in Jamshedpur and registered office in Mumbai. TISCO was established by Jamsedji Nusserwanji Tata in 1907 (but Jamsedji had died before the project was completed (1904)). Jamshedpur was founded by Jamshedji Tata and it was recently declared the **7th cleanest city of India for the year 2010**. The name of the town where TISCO was founded by Jamshedji was given by **Lord Chelmsford in 1919**.

IISCO:

- » IISCO had set up an iron making plant at Burnpur and the **Bengal Iron Company** was merged with IISCO in 1936. In 1939, Steel Corporation of Bengal started producing steel at their plant at Burnpur which was amalgamated with IISCO in 1953. Following the enactment of the Public Sector Industries and Restructuring Act in 1978, the Government and the Financial Institutions having transferred all the Shares of the Company to the **Steel Authority of India Ltd**; IISCO became a **wholly owned subsidiary of SAIL** from March, 31, 1979.

Steel Plants at Rourkela , Durgapur and Bhilai:

- » The **Rourkela** Steel plant was set up in collaboration of German firms' viz. **Krupp and Demag**. It started in 1961.
- » The **Durgapur** Steel Plant was launched with assistance of a consortium led by **British Firms** and it started in 1956.
- » The **Bhilai** Steel Plant was set up with the technical assistance of Soviet Union in September 1967.
- » So the correct order of their launching years is : **Durgapur>Rourkela>Bhilai.>Bokaro**

Bokaro Steel Plant

- » The fourth integrated plant in the Public Sector **Bokaro** Steel Plant was set up in collaboration with the **Soviet** Union. It was originally incorporated as a limited company on 29th January 1964, and was later merged with SAIL, first as a subsidiary and then as a unit, through the Public Sector Iron & Steel Companies (Restructuring & Miscellaneous Provisions) Act 1978. The construction work started on 6th April 1968.

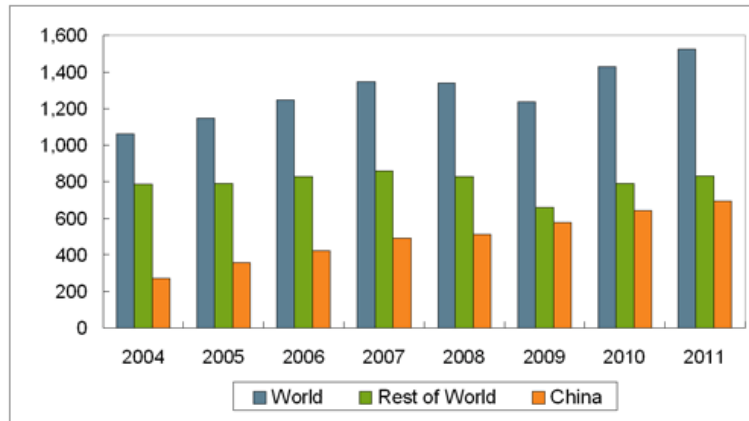
Other Plants:

- » During the fourth five year plan, new steel plants were started at Salem in Tamil Nadu, , Vijayanagar in Karnataka and Vishakhapatnam in Andhra **Pradesh**.

At present all these plants are under SAIL.

World Production of Steel

World crude steel production reached 1,527 megatonnes (Mt) for the year of 2011. This is an increase of 6.8% compared to 2010 and is a **record** for global crude steel production. **All the major steel-producing countries apart from Japan and Spain showed growth in 2011**. Growth was particularly robust in Turkey, South Korea and **Italy**. China is world's largest steel producer. The following compares world with China:



India is currently the **4th largest producer of crude steel in the world**. The following table shows the largest steel producers of the world in 2011.

Table : Top 10 steel-producing countries

Rank	Country	2011	2010	%2011/2010
1	China	695.5	638.7	8.9
2	Japan	107.6	109.6	-1.8
3	United States	86.2	80.5	7.1
4	India	72.2	68.3	5.7
5	Russia	68.7	66.9	2.7
6	South Korea	68.5	58.9	16.2
7	Germany	44.3	43.8	1.0
8	Ukraine	35.3	33.4	5.7
9	Brazil	35.2	32.9	6.8
10	Turkey	34.1	29.1	17.0

India's Steel Production

In 2011, India produced **72.2 mmt of Steel**. The Production of Steel in India has jumped in recent years. The following chart shows India's steel production in recent years. The above data has been sourced from World Steel Association. India maintained its position as the **fourth largest steel producer** in 2011, despite 5.7 per cent output growth as against the world average of 6.8 per cent. Recording an increase of 6.8 per cent in 2011 over 2010, global steel production hit a record 1,527 million tonnes. On the other hand, India produced 72.2 million tonnes steel last year over 68.3 million tonnes in the previous year.

It's worth note that in India, the Finished Steel Production during the 1950-51 was only **1 million metric ton**. The progress made by India's steel sector is shown in the following table.

Year	Steel Production
1950-51	1.0
1980-81	6.8
1990-91	9.6
2000-01	30.3
2007-08	55.1
2008-09	56.6
2009-10	68.3
2010-11	72.2
In MMT	

This shows a satisfactory growth in the steel production of the country. India became a Net Exporter of Steel in 2006-07, when for the first time Export of Steel surpassed the import of steel. The reasons for this growth were as follows:

- » India became self sufficient in setting up of new steel plants. After the three plants set up with Foreign Technical and Economic Assistance, India could set up the fourth public sector plant i.e. **Bokaro Steel Plant on its own.**
- » The **Mini Steel plants** emerged as India gave licenses to set up **electric arc furnace units.** These mini steel plants account for **one third** of steel production in the country. In India there are around **650 Mini Steel Plants.**
- » The series of reforms in the Iron and Steel Industry was helpful to provide a Boost to the industry. These reforms included:
 - Liberalization of export and import of steel
 - Abolishment of price and distribution control.
 - Reduction in import duties of Iron Ore.
 - India has home based large sources of Iron Ore so, it was used to increase the production of steel.

National Steel Policy - 2005

National Steel Policy - 2005 has the long term goal of having a modern and efficient steel industry of world standards in India. The focus is to achieve global competitiveness not only in terms of cost, quality and product-mix but also in terms of global benchmarks of efficiency and productivity.

- ✎ The Policy aims to achieve over **100 MMT of Steel per year by 2019-20.**
- ✎ This implies an annual growth of around 7.3% per year since 2004-5.

Is this aim Justifiable?

The above strategic goal is justified on the ground that steel consumption in the world, around 1000 mmt in 2004, is expected to grow at 3.0 percent per annum to reach 1,395 mmt in 2015, compared to 2 percent per annum in the past fifteen years. China will continue to have a dominant share of the world steel demand. At home, the Indian growth rate of steel production over the past fifteen years was 7.0 percent per annum. The projected growth rate of 7.3 percent per annum in India compares well with the projected national income growth rate of 7-8 percent per annum, given an income elasticity of steel consumption of around 1. (this is what Policy Document says)

Structure of Steel Industry in India:

The iron and steel industry in India is organized in **three categories** viz. main producers, other major producers and the secondary producers. In 2004-05, the main producers i.e. **SAIL, TISCO** and **RINL** had a combined capacity of around **50% of India's Total Steel Production Capacity and Production.** The other major producers comprising of **ESSAR, ISPAT** and **JVSL** account for around **20%** of the Total Steel production Capacity. The secondary sector is dispersed and consists of:

1. Backward linkage from about 120 sponge iron producers that use iron ore and non-coking coal.
2. About **650 mini blast furnaces**, electric arc furnaces, induction furnaces and energy optimizing furnaces that use iron ore, sponge iron and melting scrap to produce steel.

India's Iron & Steel Industry: SWOT Analysis

1. Availability of iron ore and coal in the country
2. Low labour wage rates
3. Abundance of quality manpower
4. Mature production base

5. Supportive Government Policies.

Weaknesses

1. Unscientific mining
2. Low productivity
3. Coking coal import dependence
4. Low R&D investments
5. High cost of debt
6. Inadequate infrastructure

Opportunities:

1. Unexplored rural market
2. Growing domestic demand
3. Exports
4. Consolidation

Threats

1. China becoming net exporter, so threat in export market
2. Protectionism in the West hinders the Growth of exports
3. Dumping by competitors.

Per Capita Consumption of Steel in India:

The present per capita consumption in the country is only around **47 kg (2008) against the world average of 190 kg and that of 400 kg in developed countries**, a study has been commissioned through the Joint Plant Commission (JPC) during the 2008, to estimate the per capita demand for iron and steel in the rural sector of India and to determine the factors those can contribute to its enhancement.

Containing Exports of Iron Ore

In India there is an **export duty imposed on iron ore**, so that it hinders the export of Iron which can be used for Steel production. Initially in 2007, an export duty of ₹ 50/- per ton was imposed on iron ore fines up to 62% Fe content and Rs.300/-per ton on all other varieties of iron ore. Subsequently, export duty was revised to 15% ad-valorem on all varieties of iron ore and thereafter to Nil export duty on iron ore fines and 5% ad-valorem export duty on iron ore lumps. The present rates of duty on iron ore exports w.e.f. 24.12.2009 are following:

1. Iron ore fines (all sorts) - 5% ad-valorem
2. Iron ore other than fines(including lumps & pellets) - 10% ad-valorem

READ SGS-15 page 14 onwards.

PSU's Under Ministry of Steel:

Following 11 Public Sector Undertakings are under the Ministry of Steel, Government of India.

1. Steel Authority of India Ltd (SAIL) : **New Delhi**
2. Rashtriya Ispat Nigam Ltd(RINL) : **Vishakhapatnam**
3. NMDC Ltd. : **Hyderabad**
4. Kudremukh Iron Ore Company Ltd (KIOCL) : **Bangalore**
5. MECON Ltd. : **Ranchi**
6. Manganese Ore (India) Ltd (MOIL) : **Nagpur**
7. MSTC Limited : **Kolkata**
8. Hindustan Steel Works Construction Ltd (HSCL) : **Kolkata**
9. Sponge Iron India Ltd (SIIL) : **Hyderabad**

10. Bharat Refractories Ltd (BRL): **Bokaro Steel City**

11. Ferro Scrap Nigam Ltd.(FSNL) : **Bhilai**

Apart from that the **Bird Group of Companies** is also a conglomerate under the full control of this Ministry. The Bird Group of Companies has the following companies:

1. Orissa Minerals Development Co. Ltd. (OMDC)
2. Bisra Stone Lime Co. Ltd. (BSLC)
3. Karanpura Development Company Ltd. (KDCL)
4. Scott & Saxby Ltd. (SSL)
5. Eastern Investment Ltd. (EIL)

Out of the above all except the EIL, are operating companies under the Bird Group. **EIL**, being an investment company is having a **major stake** in the equity shares of operating **companies under the Bird Group**.

Net worth of major Companies under Ministry of Steel:

The following graphic shows the Net worth of the major companies under ministry of steel:

PSU	Net worth as on 31.03.2004	Net worth as on 31.12.2009
SAIL	4659.00	32046
RINL	4852.00	12884
NMDC	1967.00	14052
MOIL	139.77	1491.37
MSTC	83.00	377.69
KIOCL	1389.16	1892.5
MECON	(-) 257.91	117.82

Steel Authority of India Ltd:

A company Hindustan Steel Limited (HSL) was set up in **1954**. HSL was initially designed to manage one plant that was coming up at **Rourkela** with the help of German Firms. For Bhilai and Durgapur Steel Plants, the preliminary work was done by the **Iron and Steel Ministry**. From April 1957, the supervision and control of these two steel plants were also transferred to Hindustan Steel Limited.

Later in 1964, Bokaro Steel Limited was incorporated. Later the concept of creating one umbrella came up and **1973 with a capital of ₹ 2000 crore, Steel Authority of India Ltd was created.**

Tagline: There's a little bit of SAIL in everybody's life.

Plants and Units:

SAIL has **five integrated steel plants** at

1. Bhilai (Chattisgarh),
2. Rourkela (Orissa),
3. Durgapur (West Bengal),
4. Bokaro (Jharkhand), and
5. Burnpur (West Bengal).

SAIL has **three special and alloy steels plants** viz.

1. Alloy Steels Plant at Durgapur (West Bengal),
2. Salem Steel Plant at Salem (Tamil Nadu)
3. Visvesvaraya Iron and Steel Plant at Bhadravati (Karnataka).

In addition to these, a Ferro Alloy producing plant at Chandrapur is owned by **Maharashtra Elektros melt Limited** which is a subsidiary of SAIL.

SAIL has seven central units viz.

1. Research and Development Centre for Iron and Steel (RDCIS),
2. Centre for Engineering and Technology (CET) and Management Training Institute (MTI), all located at Ranchi,
3. Central Coal Supply Organisation (CCSO) located at Dhanbad
4. Raw Materials Division (RMD) and Environment Management Division (EMD), located at Kolkata.

Maharashtra Elektros melt Ltd.: A Subsidiary of SAIL

Maharashtra Elektros melt Limited is situated in Chandrapur, Maharashtra, and is a major producer of ferro manganese and silico manganese for captive use of SAIL plants. The authorized and paid-up share capital of the company as on March 31, 2009 were Rs. 30 crore and Rs. 24 crore respectively. SAIL's holding is approximately 99.12% of the paid-up capital.

SAIL: A Maharatna

The Government of India has accorded the status of 'Maharatna' to Steel Authority of India Limited (SAIL) through a memorandum issued on 19th May 2010. Three other Central Public Sector Enterprises – Indian Oil Corporation Limited, NTPC Limited and Oil & Natural Gas Corporation Limited – have also received 'Maharatna' status.

The government currently owns 85.82% stake in SAIL. In April 2010, the government approved a 20 per cent disinvestment in Steel Authority of India Ltd that would fetch a total of Rs 16,000 crore. Following the two-tranche disinvestment, the government and the company would get Rs 8,000 crore each. However, the disinvestment did not take place and the government was looking for alternatives such as buyback for raising money in November 2011.

Rashtriya Ispat Nigam Ltd

RINL is the first shore based integrated steel plant in the country located at Visakhapatnam in Andhra Pradesh. The plant was commissioned in August 1992 with a capacity to produce 3 million tonne per annum (Mtpa) of liquid steel.

RINL has been awarded all the three international standards certificates, namely, ISO 9001:2000, ISO 14001:1996 and OHSAS 18001:1999. RINL is the first Indian steel plant to get the 'Capability Maturity Model Integrated (CMMI) - Level 3' certification issued by 'Software Engineering Institute (SEI) of Carnegie Mellon University', USA for implementation of IT systems in RINL. The company has emerged as a good corporate citizen and has contributed substantially for the development of the region.

Important Mines:

1. A dolomite mine and manganese mine at Cheepurupalli
2. A blast furnace grade limestone mine at Jaggayapeta.

NMDC Limited

NMDC was incorporated in 1958 as a Government of India fully owned public enterprise. NMDC is under the administrative control of the Ministry of Steel, Government of India. It has three fully mechanized mines viz.

1. Bailadila Deposit 14/11C
2. Bailadila Deposit -5, 10/11A - Both in Chhattisgarh
3. Donimalai Iron Ore Mines – Karnataka

⚡ Apart from the above please note that NMDC is the only organised producer of diamond in India from its Majhgawan mine at Panna, Madhya Pradesh.

It is a Navratna Company engaged in the business of developing and exploiting mineral resources of the country (other than coal, oil, natural gas and atomic minerals). Presently its activities are concentrated on mining of iron ore and diamonds

Manganese Ore (India) Limited

Manganese Ore (India) Limited (MOIL) was established in 1962. It is the largest producer of Manganese ore in India. At the time of inception, the Central Province Manganese Ore Co. Ltd. (CPMO) held 49% of shares and the remaining 51% were held in equal proportion by Government of India and the State Government of Madhya Pradesh and Maharashtra. Subsequently, in 1977, Government of India acquired the shares held by CPMO in MOIL and it became a wholly owned Govt. Company with effect from October, 1977. As on 31st March, 2009, the paid up capital of the Company was Rs. 28 crore, which has been increased to Rs. 168 crore as on 31.12.2009.

MSTC Ltd

MSTC Ltd. (formerly Metal Scrap Trade Corporation Ltd.) a Government of India enterprise, under Ministry of Steel was set up on 9th September 1964 as a canalizing agency for export of scrap from the country. With the passage of time, the company emerged as the **canalizing agency for the import of scrap** into the country. Import of scrap was decanalized by the government in 1991-92. Presently, the company undertakes trading activities, e-commerce, disposal of ferrous and non-ferrous scrap, surplus stores and other secondary arising generated mostly from Public Sector Undertakings and Govt. Departments, including Ministry of Defence. The Company also undertakes import of raw materials in bulk required by large industrial houses on back-to-back basis.

Ferro Scrap Nigam Ltd

FSNL is a wholly owned subsidiary of MSTC Ltd. with a paid up capital of Rs. 200 lakh. The Company undertakes the recovery and processing of scrap from slag and refuse dumps in the nine steel plants at Rourkela, Burnpur, Bhilai, Bokaro, Durgapur, Visakhapatnam, Dolvi, Duburi and Raigarh. The scrap recovered is returned to the steel plants.

KIOCL Ltd.

KIOCL Limited (formerly Kudremukh Iron Ore Company Limited), an 100% EOU, ISO 9001-2008, ISO 14001-2004 and ISI 18001-2002 Company was established in April, **1976** to meet the long term requirements of Iran. An Iron Ore Concentrate Plant of 7.5 million tonne capacity was set up at Kudremukh. **This project was to be financed in full by Iran. However, as Iran stopped further loan disbursements after paying US \$ 255 million, the project was completed as per schedule with the funds provided by Government of India.**

While the project was commissioned on schedule, consequent upon the political developments in Iran, they did not lift any quantity of Concentrate. As a diversification measure, the Government approved the construction of a 3 million tonne per year capacity **Pellet Plant in Mangalore** in May, 1981. The capacity of the Pellet Plant was increased to 3.5 million tonne with additions/modifications. The plant went into commercial production in 1987 and is now exporting **Iron Ore Pellets to China** and also to domestic units such as Ispat Industries Limited and SAL Steel Limited. Consequent upon the Hon'ble Supreme Court's verdict, Mining was stopped at Kudremukh with effect from 31.12.2005 and Pellet Plant is operated with **Hematite Iron Ore** purchased from NMDC.

Scheme for promotion of Research and Development in Iron & Steel sector

During the 11th Five Year Plan, a new scheme viz. "Scheme for promotion of Research and Development in Iron & Steel sector" has been approved with a budgetary provision of Rs. 118 crore for implementation. The **objective** of the scheme is to **develop path-breaking technologies in an environment friendly manner**. The scheme was approved by Ministry of Finance with the observation that the scheme may be initiated in the Financial Year 2009-10. The Working Group on Steel Industry set up by the Planning Commission for the 11th Five-Year Plan (2007-12) had projected a total demand of 70.34 MMT for finished steel and a total production of 80.23 MMT of crude steel by the end of the 11th Plan, that is, 2011-12. Both the 11th Plan projections and the NSP targets are likely to be considerably surpassed.

INSDAG

INSDAG refers to **Institute for Steel Development and Growth**. It is located in **Kolkata** and it takes the **Promoting, developing and propagating the proper and effective use of steel** and increasing the intensity of steel usage, particularly in the construction sector in rural and semi urban areas.

Steel Industry Private Sector

The private sector units consist of both major steel producers on one hand and relatively smaller and medium scale units such as Sponge iron plants, Mini Blast Furnace units, Electric Arc Furnaces, Induction Furnaces, Re-rolling Mills, Cold-rolling Mills and Coating units on the other. Some important points about the Private sector players in India:

Tata Steel

As per the data of World Steel Association, **Tata Steel is world's 7th largest Steel Company by production**. In 2009, the production of Tata Steel was 20.5 MMT (Including Corus and NatSteel).

Founded in 2009, Tata Steel is a **multinational** company. Recent acquisitions by Tata Steels such as Corus in 2007 and NatSteel of Singapore in 2004, reiterate the company's ambitious target of having a capacity of 100 mmt by 2015. In India alone, crude steel production of TATA Steel during the period April-December 2009-10 is **4.86 MMT** which is higher by 18.6% over the production of 4.105 MMT last year. The saleable steel production was at a higher level during the period April-December 2009-10 (3.717 MMT) compared to the corresponding period last year (3.310 MMT).

- ✓ Crude steel capacity as on March 31, 2009: 6.8 million tonne (Jamshedpur works)

Some Greenfield projects of Tata Steel:

- ✓ Sarai Kala (Jharkhand),
- ✓ Kalinganagar (Orissa)
- ✓ Bastar (Chhattisgarh).
- ✓ **Dhamra Port** is a Joint Venture between **Larsen & Toubro and Tata Steel and** it was recently under the controversies regarding the environment concerns as it is located near the Bhitarkanika Sanctuary, Orissa.

JSW Steel Limited:

Jindal South West (JSW) Steel is a part of one of the fastest growing business conglomerates JSW group with a strong presence in the core economic sector. It is being led by **Sajjan Jindal, who is also head of ASSOCHAM**. It started as a steel rolling mill in 1982 and became a multi business conglomerate worth US \$ 3.7 billion within a short span of time.

Jindal Steel and Power Ltd

Jindal Steel and Power Ltd. is led by Naveen Jindal. The Group has some other companies such as Jindal Power Ltd, Jindal Petroleum Ltd., Jindal Cement Ltd. and Jindal Steel Bolivia with a belief in the concept of self-sufficiency.

Chairperson is Savitri Jindal, who is currently one of the richest woman in India.

Essar Steel Ltd

Essar Steel Ltd., the Indian company of Essar Steel Holdings Limited, is the largest steel producer in Western India, with a current capacity of 4.6 MTPA at Hazira, **Gujarat**, and plans to increase this to 8.5 MTPA. The Indian operations also include an 8 MTPA beneficiation plant at Bailadila, Chattisgarh, which has the **world's largest slurry pipeline of 267 km** to transport beneficiated iron slurry to the pellet plant, and an 8 MTPA pellet complex at Visakhapatnam.

Ruia Brothers viz. Shashi Ruia and Ravi Ruia lead the Essar Group.

Ispat Industries Ltd. (IIL)

Ispat Industries Ltd. (IIL) has set up one of the largest integrated steel plants in the private sector in India at Dolvi in Raigad district, **Maharashtra**, with a capacity to manufacture 3 million tones per annum of Hot Rolled Steel Coils (HRC).

Bhushan Power & Steel Limited (BPSL)

Bhushan Power & Steel Limited (BPSL), formerly Bhushan Limited (BL), is a closely held 36-year-old steel manufacturing and processing company. Presently, the company has five plants in Chandigarh and Derabassi, one plant in Kolkata and is now implementing an integrated steel plant at Sambalpur in Orissa in phases with an ultimate capacity of 2.8 MTPA.

The company has three manufacturing units in the state of Uttar Pradesh (Sahibabad Unit), Maharashtra (Khopoli unit), and Orissa Plant (Meramandali unit) in India and sales network is across many countries.

India's Textile Industry

The Cotton/ Man-made fiber textile industry is the **largest organized industry** in the country in terms of employment and number of units.

Since time immemorial India has been the producer of cotton and the finest and most beautiful cotton fabrics. India is the earliest country in the world to domesticate cotton (Mehrgarh, which is now in Pakistan)

- » The **Mehrgarh fibers constitute the earliest known example of cotton** in the World and put the date of the first use of cotton in around 6000 BC.
- » Today India is **first** country in the world in terms of **cultivation** area and **second** in the world in terms of **production**, next to China.

World Cotton Production						
(Millions of 480 lb. bales)	2007/08	2008/09	2009/10	2010/11	2011/12 December	2011/12 January
China	37.0	36.7	32.0	30.5	33.5	33.5
India	24.0	22.6	23.0	25.4	27.5	27.0
United States	19.2	12.8	12.2	18.1	15.8	15.7
Pakistan	8.6	8.7	9.6	8.8	10.0	10.0
Brazil	7.4	5.5	5.5	9.0	9.0	9.0
Australia	0.6	1.5	1.8	4.2	5.0	5.0
Uzbekistan	5.4	4.6	3.9	4.1	4.2	4.2
Turkey	3.1	1.9	1.8	2.1	3.1	3.1
EU-27	1.7	1.2	1.1	1.1	1.6	1.6
African Franc Zone	2.3	2.2	2.1	2.1	1.5	1.5
Turkmenistan	1.4	1.6	1.5	1.8	1.4	1.4
Greece	1.6	1.2	0.9	0.9	1.4	1.4
Argentina	0.7	0.6	1.0	1.3	1.2	1.2
Mexico	0.6	0.6	0.5	0.7	1.2	1.2
Syria	1.1	1.1	1.0	0.7	0.9	0.9
Rest of World	6.7	5.7	4.8	5.4	7.6	7.6
World Total	119.7	107.3	101.7	115.3	123.4	122.8

Exports:

India is world's largest cotton **exporter** after United States. In 2009, India exported \$ 20939.8 million worth of Textile including Jute, Coir & Textile Handicrafts. The import of textile products was \$ 3499.4 million. The following table shows the latest figures:

World Cotton Exports						
(Millions of 480 lb. bales)	2007/08	2008/09	2009/10	2010/11	2011/12 December	2011/12 January
United States	13.6	13.3	12.0	14.4	11.3	11.0
India	7.5	2.4	6.6	5.1	6.0	6.0

Australia	1.2	1.2	2.1	2.5	4.0	4.0
Brazil	2.2	2.7	2.0	2.0	3.8	3.9
Uzbekistan	4.2	3.0	3.8	2.7	2.8	2.8
EU-27	1.6	1.0	1.1	1.0	1.3	1.3
African Franc Zone	1.7	1.5	1.4	1.3	1.2	1.2
Greece	1.3	0.8	0.9	0.8	1.0	1.0
Turkmenistan	0.9	0.8	1.2	1.1	0.9	0.9
Burkina	0.8	0.8	0.8	0.7	0.6	0.6
Mali	0.5	0.3	0.4	0.5	0.6	0.6
Pakistan	0.3	0.4	0.7	0.6	0.5	0.5
Tajikistan	0.5	0.4	0.5	0.4	0.4	0.4
Egypt	0.6	0.1	0.4	0.4	0.4	0.4
Zimbabwe	0.4	0.3	0.4	0.4	0.4	0.4
Rest of World	4.3	3.3	3.4	3.7	3.7	3.8
World Total	39.1	30.2	35.6	35.7	36.6	36.5

Extremely Varied Industry:

The Indian textiles industry is extremely varied, with the hand-spun and hand-woven sector at one end of the spectrum, and the capital intensive, sophisticated mill sector at the other. The decentralized **power looms/ hosiery** and **knitting sectors** form the largest section of the Textiles Sector. The **close linkage of the Industry to agriculture** and the ancient culture, and traditions of the country make the Indian textiles sector unique in comparison with the textiles industry of other countries.

Subsectors:

The major sub-sectors that comprise the textiles sector include:

1. Organized Cotton / Man-Made Fiber Textiles Mill Industry
2. Man-made Fibre / Filament Yarn Industry
3. Wool and Woolen Textiles Industry
4. Sericulture and Silk Textiles Industry
5. Handlooms, Handicrafts,
6. Jute and Jute Textiles Industry
7. Textiles Exports.

Production of Cloth:

In 1951-52 India produced around 4740 million square meters of cloth. It had a share of 3730 Million square Meter in Mill Sector and 1010 million square meters in the Non-mill sector (which includes power looms).

☞ This means that the share of the mill sector was 79% and share of the Decentralized sector (including Handlooms) was 21%.

☞ In 2008-09 India produced 57521 million square meters of cloth. Out of this only 1796 million square meter was from Mill Sector while 55725 million square meters was from the **Decentralized sector**.

☞ This indicates the **expansion of power loom and small scale power loom units**. The expansion of the industry is mainly because of rise of small scale players in the industry.

Cotton Production

Cotton is India's one of the principle crop in India. It plays a vital role in the Indian Economy by providing employment to substantial number of countrymen.

- ☞ Cotton provides direct employment to **60 Lakh farmers of the country** and provides indirect employment in cotton related industry to around **4-5 Crore People**.

Cotton is also one of the largest foreign exchange earner commodities of India.

- ☞ Apart from providing one of the basic necessities of life, the textile industry also plays a pivotal role through its **contribution to industrial output**, employment generation and the export earnings of the country. **It contributes about 14% to the industrial production, 4% to the GDP and 14.42% to the country's export earnings.**

Production Status:

- ☞ The following tables shows the Area, Production and productivity of cotton in India.

Area, Production and productivity of cotton in India			
Year	Area in lakh hectares	Production in lakh bales of 170 kgs	Yield kgs per hectare
2000-01	85.76	140.00	278
2001-02	87.30	158.00	308
2002-03	76.67	136.00	302
2003-04	76.30	179.00	399
2004-05	87.86	243.00	470
2005-06	86.77	244.00	478
2006-07	91.44	280.00	521
2007-08	94.14	307.00	554
2008-09	94.06	290.00	524
2009-10	103.10	305.00	503
2010-11	111.42	325.00	496
2011-12	121.91	356.00	496

Source: Cotton Advisory Board

Area under Cultivation

- ☞ India has the distinction of having the **largest area** under cotton cultivation at around 121 lakh hectares and constitutes around 25% of the total area under Cotton Cultivation in the world.
- ☞ In 2008-09, the area under cotton cultivation was 94 Lakh Hectares. Out of this 65% is rainfed area and 35% is irrigated area.

Export:

Cotton **production** is projected at **335** lakh bales for 2010-11 marketing season. The domestic industry **demand** is around **220** Lakh bales. Government of India had liberalized raw cotton exports since July 2001, dispensing with the system of allocation of cotton export quota in favor of different agencies and traders. Exports of cotton from the country are under **Open General License (OGL)** since July 2001. The quota fixed for 2010-11 is 55 Lakh bales and the export started from October 1, 2010. However, Agriculture Minister Sharad Pawar had made a statement on 22 September 2010 that there is a scope for increasing it to 75-80 lakh bales.

However, please note that **Cotton export are placed in restricted category** and permitted under license vide DGFT Notification no. 44/2009-14, dated 21.05.2010. An export duty of Rs. 2500 per tonne on raw cotton has been imposed vide Notification nos. 43/2010-Custom dated 9.4.2010.

India is a yarn surplus country, with domestic production exceeding domestic consumption. Details of Import and export of cotton yarn are as follows:

Item	2007-08	2008-09	2009-10 (Prov.)	2010-11 (Prov.) (Apr.-Oct)
Import	7.14	4.89	5.35	2.74
Export	664.14	555.77	589.02	438.04

Cotton Varieties of India

☞ India is the **only country in the world which grows all the 4 species of the cotton cultivated**. These species are

1. *Gossypium arboreum* (Asian Cotton)
2. *Gossypium herbaceum* (Asian cotton),
3. *G.barbadense* (Egyptian cotton)
4. *G. hirsutum* (American Upland cotton)

Please note that *Gossypium hirsutum* (Egyptian cotton) represents 90% of the hybrid cotton production in India and all the current Bt cotton hybrids are *G. hirsutum*.

Names of Some Popular Hybrid Varieties of Cotton:

☞ **Assam Comilla, Bengal Desi, Jayadhar, Marathwada & Khandesh , Jhurar, Bunny Brahma, Brahma, Bunny, Suvin**

Technology Mission on Cotton (TMC):

Technology Mission on Cotton is a scheme launched by Government of India on 21st February 2000. The idea was to increase the productivity, improvement in quality and reduction in the cost of production. It has 4 Mini missions viz. Mini Mission I , Mini Mission II , Mini Mission III , Mini Mission IV. The scheme had finished its tenure on 31st march 2007, but the Mini Mission III , Mini Mission IV were extended up to 31 March 2009 and later till 31 March 2010 in terms of target and completion of the ongoing projects.

1. Mini Mission I: Cotton research and technology generation. (Implementation by ICAR)
2. Mini Mission II :Transfer of technology and development. (Ministry of Agriculture)
3. Mini Mission III : Improvement of marketing infrastructure. (Ministry of Textiles)
4. Mini Mission IV: Modernization/ upgradation of factories. (Ministry of Textiles)

Fund Sharing in MMI & MMIV:

☞ Under MM-III 60% of the cost of development is borne by the Government of India and the balance by the Agricultural Produce Marketing Committee (APMC) / State Government concerned.

GOI assistance is limited to ₹ 1.50 crores for setting up of new yards and ₹ 0.90 crores for improvement of existing market yards. Under MM-IV, capital incentive @ 25% of the total cost of modernization / upgradation of Ginning and Pressing factory with a ceiling of Rs. 20 lakh per unit is borne by the GOI and the rest by the entrepreneur. Further, for installation of new bale press and HVI/MVI laboratories, additional incentive of Rs 7 lakh and Rs. 4 lakh respectively has also been allowed.

Importance of Cotton

☞ India's textile Industry is predominantly cotton based and 65% of the cloth production depending upon cotton.

Cotton Corporation of India

Cotton Corporation of India was established in 1970 under Companies Act 1956. It's a Government of India's corporate agency, engaged in diverse activities related to trade, procurement, and export of cotton. CCI is governed by Textile Policy 1985 issued by Ministry of Textiles, Government of India. The role assigned to the CCI under the Textile Policy of June 1985 was:

1. To undertake price support operations whenever the market prices of kapas touch the support prices announced by the government of India without any quantitative limit

2. To undertake commercial operations only at CCI 's own risk; and
3. To purchase cotton to fulfill export quotas given to CCI

CCI operates in the following states as of now.

Punjab, Haryana, Rajasthan, Gujarat, Maharastra, Madhya Pradesh, Andhra Pradesh, Karnataka , Tamil Nadu and Orissa.

Jute Industry of India

Jute Textile Industry is one of the major Industries in the Eastern India, **particularly in West Bengal.**

Employment

Jute supports around 40 Lakh farm families and provides direct employment to 2.6 Lakh Industrial Workers and 1.4 Lakh in the tertiary sector.

Labour Intensive Industry:

The production process in the Jute Industry goes through a variety of activities, which include cultivation of raw jute, processing of jute fibres, spinning, weaving, bleaching, dyeing, finishing and marketing of both, the raw jute and its finished products. So, **Jute Industry is labour intensive** and as such its **labour-output ratio is also high** in spite of various difficulties being faced by the industry. Capacity utilization of the industry is around 75 per cent.

Contribution to the Economy

Jute industry contributes to the export earnings in the range of Rs. 1,000 to Rs.1, 200 crore annually.

Production

The estimated raw jute productions during the jute year 2009-10 (July-June) is estimated to be between 85- 90 lakh bales (1 bale = 180 kg.). Following data shows the top Jute producing states of India.

Area, Production and Yield of Jute & Mesta during 2007-08 and 2008-09 in major Producing States										
State	Area	% to All India	2008-09			2007-08			Yield	Yield
			Production	% to All India	Yield	Area	% to All India	Production		
West Bengal	0.59	65.72	7.97	76.85	2422	0.62	64.58	8.29	73.95	2419
Bihar	0.15	16.75	1.22	11.77	1455	0.15	15.63	1.46	13.02	1710
Assam	0.07	7.26	0.67	6.51	1856	0.07	7.29	0.68	6.07	1893
Andhra Pradesh	0.04	4.11	0.30	2.85	1435	0.06	6.25	0.50	4.46	1582
Orissa	0.02	2.50	0.11	1.11	918	0.03	3.38	0.15	1.34	975
Meghalaya	0.01	0.93	0.05	0.53	1170	0.01	1.04	0.05	0.45	1176
Maharashtra	0.02	2.00	0.03	0.25	260	0.02	2.08	0.03	0.27	270
Others	0.01	0.73	0.02	0.15	@	0.00	0.00	0.05	0.45	@
All India	0.90	100.00	10.37	100.00	2071	0.96	100.00	11.21	100.00	2101

Area - Million Hectares, Production - Million Bales of 180 Kgs. Each, Yield - Kg./ Hectare
 @ - Since area/ production is low in individual states, yield rate is not worked out.
 Note: States have been arranged in descending order of percentage share of production during 2008-09
 Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

There are 33 odd districts spanning West Bengal, Orissa, Bihar and Assam, which account for 98.41 per cent area under jute cultivation, as well as 98.43 per cent of total raw jute production in the country.

☞ Nadia, Murshidabad, Purnea, Cooch Bihar, West Dinajpur, Jalpaiguri, North 24-Pargana, Hoogly and Malda districts in West Bengal account for 71 per cent of area under jute cultivation in India and 73.09 per cent of total raw jute production in the country

Jute as Paddy's Intercrop:

» Jute is an important cash crop, which is as an **intercrop before paddy** transplantation in most parts of the country. Paddy and jute are not competing crops as they are **not sown during the same period** on the same land. This has significant contribution to the farm income of a large section of rural households.

Number of Mills

There are **77 composite jute mills in India**, of which **60 jute mills are located in West Bengal**, 3 in Bihar, 3 in U.P., 7 in Andhra Pradesh and 1 each in Assam, Orissa, Tripura and Chhattisgarh. Ownership-wise division is:

1. 6 mills are under Government of India,
2. 1 mill (Tripura) is under State Government,
3. 2 mills (Assam & New Central) are in the co-operative sector,
4. 68 are in private sector.

National Jute Policy

The government of India announced its **First National Jute Policy** in April **2005** to facilitate the Sector to attain and sustain a preminent global standing in the manufacture and export of Jute products by enabling the Jute Industry to build world class state-of-the-art manufacturing capabilities, and strengthen research and development activities, through publicprivate initiative, and ensure remunerative prices to the farmers. The **National Jute Board Act, 2008** received the assent of the President on the February 2009 and was published in the Gazette of India on February 12, 2009. The Act provides for the **establishment of the National Jute Board** for the development of cultivation, manufacture and marketing of jute and jute products and for matters connected.

National Jute Board

The National Jute Board (NJB) is the **apex body for promotion of Indian Jute**. Set up under "National Jute Board Act, 2008", the Board is chaired by the Secretary, Ministry of Textiles, Government of India. The Board's prime objective is to **provide better marketing of jute products**, although it addresses itself to multi-dimensional activities.

The Headquarters of the National Jute Board are in **Kolkata**, with regional representations in Jute growing areas and in other areas for marketing of the Jute Products.

Please note that The **Jute Manufactures Development Council** was constituted as a statutory body in 1984 and now has been **merged** with the National Jute Board.

International Jute Study Group

The International Jute Study Group (IJSJG) is an intergovernmental body set up under the aegis of **UNCTAD** to function as the International Commodity Body (ICB) for Jute, Kenaf and other Allied Fibres. It succeeded the erstwhile International Jute Organisation (IJO), which entered into the liquidation mode in the year 2000. It formally entered into force on and from April 29, 2002. Since its inception, Three officers of the Government of India have been elected as Secretary General of the Organisation. Shri T. Nandakumar, was elected as its first Secretary-General in 2002 for three years. Subsequently Shri Sudripta Roy, was selected as Secretary General, for three years from September 6, 2007.

☞ Its headquarters are located at Dhaka, Bangladesh.

Jute Technology Mission (JTM)

Jute Technology Mission (JTM) was approved by the government of **India in 2006** and it has **4 mini Missions**. The Jute Technology Mission (JTM) will be executed during the XIth five year Plan with an overall outlay of ₹ 355.56 crore. The Objectives of the JTM are as follows:

1. To strengthen agricultural research and technology achievements
2. Development/extension of raw jute Ministry of and transfer of improved technology
3. To develop efficient market linkages Ministry of for raw jute
4. To modernize, technologically upgrade, improve productivity, Textiles diversify and develop human resource for the jute industry

Please note that **Mini Mission IV has got the largest allocation among the four mini missions i.e. ₹ 242.00 Crore.**

India's Sericulture Industry

India is **second** largest producer of silk in the World, after China.

Varieties:

Among the **four varieties of silk produced**, as in 2008- 09, the share of the 4 varieties is as follows:

1. **Mulberry accounts for 85%** (15610 MT),
2. Eri 11.1%(2038 MT),
3. Tasar 3.3%(603 MT)
4. Muga 0.6% (119 MT)

Employment:

Sericulture Provides gainful occupation to around 63 Lakh persons in rural and semi-urban areas in India.

Central Silk Board

Central Silk Board is a statutory body, under the administrative control of the Ministry of Textiles, Govt. of India.

Established in 1948, by an **Act** of Parliament, the CSB has been entrusted with the overall responsibility of developing silk industry

covering the full gamut of sericulture activities in the country from development of food plants to silk cocoons for production of silk yarn including formation of policies governing Import & Export of silk. CSB is **basically an R&D Organization**. One of the important activities of the CSB is undertaking, assisting and encouraging scientific, technological and economic research in the Silk Sector.

India's Important Silk Centers:

State	Silk Centers
Andhra Pradesh	Dharmavaram, Pochampalli, Venkatagiri, Narainpet
Assam	Sualkuchi
Bihar	Bhagalpur
Gujarat	Surat, Cambay
Jammu & Kashmir	Srinagar
Karnataka	Bangalore, Anekal, Ilkal, Molakalmuru, Melkote, Kollegal
Chattisgarh	Champa, Chanderi, Raigarh
Maharashtra	Paithan
Tamil Nadu	Kanchipuram, Arni, Salem, Kumbhakonam, Tanjavur
Uttar Pradesh	Varanasi
West Bengal	Bishnupur, Murshidabad, Birbhum

The Brocades of Banaras

Varanasi is famous for its finest **silk** Sarees and brocades. These Sarees are known for rich and intricately woven motifs of leaf, flowers, fruits, birds, etc. on a soft color background. They are enriched with intricate borders and heavily decorated pallus. The centre is also known for its gauzi silver and gold tissues, which are ultra light in weight and delicate.

☞ The **kinkab of Banaras** is legendary. It is a glittering weave of gold and silver threads.

☞ The pure silk with a touch of gold is called **bafta** and the finely woven brocade of variegated silk is known as **Amru**.

Ikats of Orissa: The tie and dye weaves of Orissa known as **ikats** employ the yarn resist method for both warp and weft with diffused effect. But the overall pattern is boldly articulated as in confident strikes of a brush. Both mulberry and tasar silks are used in the weaving of these ikats.

Patolas in Gujarat: Both warp and weft are dyed by dye resist method in a range of five or six traditional colors like red, indigo, blue, emerald green, black or yellow. The exact and highly skilled process ensures that when the fabric is woven, the design will appear precisely and create a magnificently colored and figured ground of great richness and beauty with birds, flowers, animals, dancers, etc. in a geometrically stylized perfection.

Bandhej:

In bandhej or bandhini, the finely woven fabric is knotted tightly and dyed to achieve a distinct design. The sarees, odhnis (veils) and turbans of these regions are a medley of brilliant colors. The bandhini of Kutch are famous for their fineness of the minutely tied knots, the magnificence of the colors and the perfect designs.

Tanchois of Gujarat

Tanchoi brocade was named after the three Parsi brothers called choi who learnt this art in China and introduced it to Surat. The choi brocade is usually a dark satin weave, purple or dark red in ground colour, embellished with motifs of flowers, creepers, birds all over design.

South India:

South India is the leading silk producing area of the country also known for its famous silk weaving enclaves like Kancheepuram, Dharmavaram, Arni, etc. Kancheepuram are renowned for their magnificent heavy silk sarees of bright colours with silver or gold zari works. Bangalore and Mysore are known for their excellent printed silks.

Catalytic Development Programme for Silk

Catalytic Development Programme is a **Centrally Sponsored Scheme** being implemented by **Central Silk Board, Bangalore** in collaboration with the respective State Sericulture Departments from IX Plan. The Catalytic Development Programme (CDP) is a unique and **effective tool for transfer of technologies in the field evolved by the research institutes**. The Central Silk Board had formulated a number of schemes/components under Catalytic Development Programme (CDP) and implemented during IX Plan to motivate States to increase productivity and quality besides providing market support. **This programme is continuing in the XIth Plan Period.**

The total outlay for implementation of the CDP during the XI Plan is pegged at ₹ 1476.24 crores of which CSB's share is ₹ 661.62 crores.

Location of Research and Development Institutes of Central Silk Board in India:

1. Central Sericultural Research & Training Institute, Mysore, Karnataka
2. Central Sericultural Research & Training Institute, Berhampore, West Bengal
3. Central Sericultural Research & Training Institute, Pampore, J & K
4. Central Silk Technological Research Institute, Bangalore, Karnataka
5. **Central Tasar Research & Training Institute, Ranchi, Jarkhand**
6. **Central Muga Eri Research & Training Institute, Ladoigarh, Jorhat, Assam**

7. Silkworm Seed Technological Laboratory, Kodathi, Bangalore, Karnataka

National Silkworm Seed Organisation, Bangalore

National Silkworm Seed Organisation is a separate entity under Central Silk Board, established in the year 1975 to supplement the efforts of State Governments in supplying high quality **Bivoltine** and **Multibivoltine** silkworm seeds to the farmers. It has a mandate to maintain, multiply and supply authorized silkworm stocks, production and supply of quality industrial silkworm seeds and transfer of technologies in the field to improve the productivity and quality of silk.

20 Silkworm Seed Production Centres (SSPCs) are functioning under NSSO in different States to support the industry.

Silk Mark Organization of India (SMOI)

"Silk Mark" Scheme was initiated in June 2004 by the Ministry of Textiles-Govt. of India with the aim of protection of the interests of the consumers and other stakeholders of the silk value-chain. **Silk Mark** is a **Quality Assurance Label** signifying that a product to which it is affixed is made of pure silk was launched by the Silk Mark Organisation of India (SMOI), a registered Society sponsored by the Central Silk Board under the Ministry of Textiles.

Since the launch of Silk Mark in June 2004, over 1300 members have joined the Organisation, of whom, more than 1,200 have become Authorized Users.

Indian Silk Export Promotion Council (ISEPC), Mumbai

The Indian Silk Export Promotion Council (ISEPC) was established by the Government of India in 1983 with the prime object of promoting and regulating the exports of natural silk goods and to promote India's image as a reliable supplier of high quality silk goods like fabrics, made-ups, readymade garments and machine made carpets. Today 2000 firms are members of the ISEPC and US \$ 500 million worth of silk goods are exported annually to more than 100 countries.

It releases monthly magazines known as the "Silk Net". The silk sample catalogues containing sample swatches of the full range of silks available in India brought out by the Council are available to potential buyer, importing textile agents and Indian Mission abroad.

India's Wool & Woolen Textiles Industry

Wool and Woolen Textiles Industry is a rural based, export oriented industry in which the organized sector, the decentralized sector, and the rural sector complement each other.

☞ India is 7th largest producer of wool and contributes 1.8% to total world production of wool.

Only Natural Fiber in which India is Deficient:

In India, the domestic produce is NOT adequate and the industry is dependent on imported raw material.

☞ **Wool** is the **only natural fiber** in which the country is **deficient**.

A small quantity of specialty fiber is obtained from Pashmina goats and Angora rabbits.

Production Status:

☞ Of the total production of raw wool only **5% is apparel grade**

☞ **Maximum amount of wool produced in India i.e. 85% is carpet grade.**

☞ 10% wool produced in India is coarse grade.

☞ With **44%** production of wool, **Rajasthan leads all states in India.**

☞ Rajasthan is followed by Jammu & Kashmir (13 percent), Karnataka (12 percent) Gujarat, Uttar Pradesh, Andhra Pradesh, Haryana (23 percent).

Number of Woolen Mills:

☞ There are **718 woolen units** in the organized sector, and a large number of units in the small scale sector.

☞ **Ludhiana alone accounts for 225-240 units in the decentralized hosiery and shawl sector.**

Industry Capacity

The installed capacity of the industry is about 6.04 lakh worsted spindles, and 4.37 lakh non-worsted spindles. Wool combing capacity is around 30 million kg, whereas, the synthetic fiber combing capacity is 3.57 million kg. There are approximately 7,228 power looms in this industry.

Schemes

In the XIth Five Year Plan period (2007-12), the Government is implementing the following Schemes for the holistic growth and development of Wool Sector:

1. Integrated Wool Improvement & Development Programme (IWIDP)
2. Quality Processing of Wool
3. Social Security Scheme.

The Schemes are being administered in the major wool producing States by the Central Wool Development Board (CWDB), Jodhpur, through respective State Government Organizations / NGOs, Societies, Cooperatives, etc.

Central Wool Development Board

The Central Wool Development Board (CWDB), Jodhpur, Rajasthan was set up under the Rajasthan Societies Registration Act, 1958 in July 1987, to administer the implementation of programmes and schemes in central sector for the promotion and development of wool and woollen industry in the country.

Integrated Wool Improvement and Development Programme (IWIDP)

The **Integrated Wool Improvement & Development Programme (IWIDP)**, the flagship Scheme of Wool Sector, is being implemented during the XIth Five Year Plan period at an estimated cost of ₹ 41 crore. The Scheme provides support to the Industry & Wool growers to qualitatively upgrade product and technology to enable them to get better returns for their products and get a larger share of the domestic and global market. The Programme has two main components: (i) Improvement of Wool Fiber and (ii) Human Resource Development and Marketing Activities.

Sheep & Wool Improvement Scheme (SWIS)

The Sheep & Wool Improvement Scheme was introduced during the Xth Five Year Plan period, as part of the Integrated Wool Improvement Programme (IWIP), to provide Health Care to sheep to improve their breed, to set up Multipurpose Extension Centres, provide marketing and support, product development Support and marketing assistance to the breeders. The scheme is continued in XIth five year plan.

Sheep Breeders Insurance Scheme

The Central Wool Development Board is implementing the Sheep Breeders Insurance Scheme during XIth Five Year Plan period. The basic objective of the Shepherd Insurance Scheme is to provide an enhanced insurance cover to Sheep breeders in the case of natural as well as accidental death. Out of the annual premium of Rs. 330, the contribution from GOI is Rs. 150, breeders Rs. 80, and Rs.100 is borne by LIC from its Social Security Funds. The benefits are Rs. 60, 000 on Natural death and Rs. 150,000 on Accidental Death.

Sheep Insurance Scheme:

India has the third largest sheep population in the world with 6.15 crore sheep. The annual wool production in the range of 45-48 million kg which is approximately 1.8% of total world wool production. The Central Wool Development Board is implementing the **Sheep Insurance Scheme** during XIth. In this scheme the price of a sheep is pegged Rs. 1200 and the insurance can be done by 3% + service tax viz. Rs. 44 per sheep.

India's Handloom Industry

As an economic activity and in terms of **employment generation**, the handloom sector occupies a place **second only to agriculture**. This sector is, however, is confronted with various problems, such as, obsolete technology, unorganized

production system, low productivity, inadequate working capital, conventional product range, weak marketing links leading to accumulation of stocks at various levels etc.

Production Status:

Production in the handloom sector recorded a figure of 6677 million sq. meters in the year 2008- 09, which is about 21.55% over the production figure of 5493 million sq. meters recorded in the year 2003-04.

Integrated Handlooms Development Scheme

The Integrated Handlooms Development Scheme (IHDS) has been launched with a view to **develop** holistically and comprehensively the **weavers' clusters** throughout the country. Under the scheme, clusters having about 300 - 500 looms under each, are taken up for development in a time frame of 3 years at an upper cost of ₹ 60.00 lakh per cluster. 403 Handloom clusters have been taken, up to December 2009.

Handloom Weavers' Comprehensive Welfare Scheme

Handloom Weavers' Comprehensive Welfare Scheme is a comprehensive scheme which has two components viz. Health Insurance Scheme and Mahatma Gandhi Bunkar Bima Yojana. Both of these schemes were working independently and now they have been **amalgamated**.

- 1. Health Insurance Scheme** The Health Insurance Scheme (HIS) is implemented through the ICICI Lombard General Insurance Company Ltd. The Total premium under the scheme for 2009- 10 is Rs.988.30/- including Service Tax. The Weaver + State Government's share is Rs.179.20 per annum by the weavers / State Govt. The Weaver's share is Rs. 50 per year minimum. The annual limit per family is Rs. 15,000/- out of which OPD cover is Rs. 7,500.
- 2. Mahatma Gandhi Bunkar Bima Yojana:** The Mahatma Gandhi Bunkar Bima Yojana (MGBBY) is being implemented through the Life Insurance Corporation of India. The annual premium is ₹ 330/- per member. The GOI funding is ₹ 150, Weaver's contribution is ₹ 80 and LIC's share is ₹ 100. The assured sum on Natural Death is ₹ 60,000 and accidental death / total disability is ₹ 1, 50,000. In 2008-09, 5.75 lakh weavers were enrolled in this scheme.

Handloom Mark



The Handloom Mark was launched by the Prime Minister of India on 28th June, 2006. The purpose of Handloom Mark is to serve as a guarantee to the buyer that the handloom product being purchased is a genuine hand-woven product and not a power loom or mill made product. Also, in the new Foreign Trade Policy, incentives to handloom products bearing Handloom Mark have been provided. The Textiles Committee is the Implementing Agency for promotion of Handloom Mark.

Handloom Marketing Complex

A world class Handloom Marketing Complex is under construction at Janpath, New Delhi to provide infrastructure support to handloom agencies.

Sant Kabir Award

Sant Kabir Award is been initiated as an award for **Handloom weavers** since 2009. This award involves a Tamrapatra and a financial assistance of Rs. 6.00 Lakh to a weaver who has created 10 innovative designs.

India's Handicrafts Industry

Handicrafts Sector plays a significant & important role in the country's economy. It provides **employment** to a vast segment of craftpersons in rural & semi urban areas and generates substantial **foreign exchange** for the country, while preserving its **cultural heritage**.

Handicrafts activity being a State subject, its development and promotion are the primary responsibility of every State Government. However, the Central Government is supplementing their efforts by implementing various developmental schemes.

Handicrafts under GI Tag:

Following is the updated list of Textile Handicrafts under the GI Tag in India. Author recommends to surf the web and find out more about the items.

Item	State
Pochampalli Ikat	Andhra Pradesh
Uppada Jamdani Sarees	Andhra Pradesh
Muga Silk	Assam
Sujini Embroidery Work of Bihar	Bihar
Champa Silk Saree and Fabrics	Chhattisgarh
Kutch Embroidery	Gujarat
Tangaliya Shawl	Gujarat
Kullu Shawl	Himachal Pradesh
Chamba Rumal	Himachal Pradesh
Kinnauri Shawl	Himachal Pradesh
Kani Shawl	Jammu & Kashmir
Mysore Silk	Karnataka
Kasuti Embroidery	Karnataka
Ilkal Sarees	Karnataka
Navalgund Durries	Karnataka
Molakalmuru Sarees	Karnataka
Sandur Lambani Embroidery	Karnataka
Aranmula Kannadi	Kerala
Balaramapuram Sarees and Fine Cotton Fabrics	Kerala
Kasaragod Sarees	Kerala
Kuthampully Sarees	Kerala
Chanderi Fabric	Madhya Pradesh
Solapur Chaddar	Maharashtra
Solapur Terry Towel	Maharashtra
Paithani Sarees and Fabrics	Maharashtra
Kotpad Handloom fabric	Orissa
Orissa Ikat	Orissa
Kota Doria	Rajasthan
Kota Doria (Logo)	Rajasthan
Salem Fabric	Tamil Nadu
Kancheepuram Silk	Tamil Nadu
Salem Silk known as Salem Venpattu	Tamil Nadu
Kovai Cora Cotton	Tamil Nadu
Arani Silk	Tamil Nadu
Banaras Brocades and Sarees	Uttar Pradesh
Hand made Carpet of Bhadohi	Uttar Pradesh
Santipore Saree	West Bengal

Indian Institutes of Handloom Technology (IIHTS)

In India , there are **5 Indian Institutes of Handloom Technology (IIHTs)** which provide qualified and trained manpower to the Handloom Sector and undertake experimental and research programmes on all aspects of the handloom industry. These are

1. IIHT Varanasi,
2. IIHT Salem,
3. IIHT Guwahati,
4. IIHT Jodhpur
5. IIHT Bargarh, Orissa.

Weavers' Service Centres (WSCS)

At present, 25 Weavers' Service Centres (WSCs) are located across the country.

Crafts Museum

The **National Handicrafts and Handlooms Museum** popularly known as **Crafts Museum** is located at Pragati Maidan, **New Delhi**. The Museum has a collection of over 32,000 artifacts consisting of Metal Icon, Lamps, Incense Burners, Ritual accessories, items of everyday life, Wood carvings, Painted wood and Paper Mache, Dolls, Toys, Puppets, Masks, Folk and tribal paintings and sculptures, Terracotta, Folk & Tribal jewellery and an entire section of traditional Indian textiles.

Handloom Export Promotion Council (HEPC)

The Handloom Export Promotion Council (HEPC) was set up in the year 1965 with prime objective of promoting exports of Hand-woven products of cotton as well as silk and readymade garments.

Handloom Export Zone (HEZ)

In order to create a supply hub for the manufacture of identified export products, HEPC has conceived a novel project of its kind with a market linkage known as "Handloom Export Zone". Handloom Export Zone (HEZ) is **currently under implementation** at various handloom clusters at Nagercoil, Kancheepuram district, Thiruvannamalai, Virudhunagar and Thiruvalluvar district in Tamilnadu only.

Statutory Bodies for promotion of textiles

There are **5 statutory** bodies under the ministry of Textiles. They are as follows:

1. National Jute Board

The National Jute Board (NJB) is the apex body for promotion of Indian Jute. Set up under "National Jute Board Act, 2008", the Board is chaired by the Secretary, **Ministry of Textiles**, Government of India. The Board's prime objective is to provide better marketing of jute products, although it addresses itself to multi-dimensional activities.

The Headquarters of the National Jute Board are in Kolkata, with regional representations in Jute growing areas and in other areas for marketing of the Jute Products.

Please note that **The Jute Manufactures Development Council** was constituted as a statutory body in 1984 and now has been merged with the **National Jute Board**.

2. The Central Silk Board (CSB), Bangalore

Central Silk Board was constituted by an Act of Parliament in 1948 with the objective of **promoting the growth** and development of **Sericulture** in the country. The programs are formulated by state governments and Central Silk Board supplements the efforts of the States by providing necessary support for research and development, and extension and training through its countrywide network of centers.

3. Textiles Committee, Mumbai

The Textiles Committee was established on July, 1964 under the Textiles Committee Act, 1963, with the objective of **ensuring the quality of textiles** from both the internal and export markets. Its functions include the promotion of textiles, textiles exports, research in technical and economic fields, establishing standards for textiles and textiles machinery, setting up of laboratories, and data collection located throughout the country.

4. Commissioner of Payments (COP), New Delhi

COP is a statutory authority, set up under Section 17(1) of the Sick Textiles Undertakings (Nationalisation) Act, 1974, Section 15(1) of the Swadeshi Cotton Mills Company Ltd. (Acquisition and Transfer of Undertakings) Act, 1986, and also under Section 17(1) of the

Textiles Undertakings (Nationalisation) Act, 1995. The Commissioner of Payments disburses the amount placed at his disposal to the owners of each textiles undertaking nationalized by these acts.

5. The National Institute of Fashion Technology (NIFT), New Delhi

Please note that this body was set up in 1986 as an autonomous society in collaboration with the Fashion Institute of Technology (FIT), New York and was upgraded to a Statutory Society by National Institute of Fashion Technology Act, 2006 in June 2006. This act empowered the NIFT to award degrees to its students from 2007 onwards. The President of India is the Visitor of the Institute. The Institute has pioneered the evolution of the fashion business education across the country through centres at New Delhi, Bangalore, Chennai, Gandhinagar, Hyderabad, Kolkata, Mumbai, Kannur, Patna, Shillong, Kangra, Bhopal and Rae Bareli. (13 centers in India)

Export Promotion Councils

1. Apparel Export Promotion Council (AEPC), New Delhi

The headquarters of the Apparel Export Promotion Council (AEPC) are located in New Delhi. It was established in 1978 to promote exports of readymade garments from India. The Council has 8 Regional Offices at New Delhi, Jaipur (Rajasthan), Ludhiana (Punjab), Mumbai (Maharashtra), Chennai and Tirupur (Tamilnadu), Bangalore (Karnataka) and Kolkata (West Bengal).

2. The Cotton Textiles Export Promotion Council (Texprocil), Mumbai

Texprocil was incorporated in 1954 with the pressing objectives of export promotion of cotton textiles. It makes suggestions for strengthening the export efforts and also to provide data for monitoring exports.

3. The Synthetic & Rayon Textiles Export Promotion Council (SRTEPC), Mumbai

The SRTEPC was incorporated in 1954 with basic objectives to establish, promote and operate maintain and increase the export of synthetic and/or cellulosic yarn, etc.

Scheme of Integrated Textile Park

India's textile industry has its inherent advantages, but there are infrastructure bottlenecks. To address this problem, the Scheme of Integrated Textile Park was approved in July 2005 to create new textile parks of International Standards at potential growth centers. As of March 2010, 40 textiles parks projects have been sanctioned under the Scheme for Integrated Textiles Park (SITP).

1. Andhra Pradesh 5
2. Gujarat 7
3. Maharashtra 9
4. Tamil Nadu 7
5. Rajasthan 6
6. Punjab 3
7. West Bengal 1
8. Karnataka 1
9. Madhya Pradesh 1

Full List is available on this LINK

<http://pib.nic.in/release/release.asp?relid=58735>

Technology Up-gradation Fund Scheme

- » Technology Up-gradation Fund Scheme has been launched by Government of India to provide encouragement to textile industrial units for taking up technology up-gradation and to modernize their production facilities. The scheme envisages 5% interest reimbursement (4 percentage for spinning industry) of the normal interest charged by the bank on the loans availed by the units from the bank for undertaking technology up-gradation/modernization.

- » New units set up with technology as per guidelines of the scheme would also be eligible for the above benefit, or, 15% Credit Linked Capital Subsidy for Small Scale Sector and 20% for Power-loom Sector, or, 5% interest reimbursement plus 10% capital subsidy for specified processing machinery, technical textiles machinery, garmenting machinery and for CAD, CAM, Design Studio, etc. The scheme also provides 25% capital subsidy on purchase of new machinery and equipments for the pre-loom and post-loom operations, handlooms/up-gradations of handlooms and testing and quality control equipments for handloom production units. The promoters contribution is minimum 20% of the project cost. The amount of loan is need based. This scheme is valid till 31.3.2012.
- » Please note that the restructured TUFS (technology upgradation fund scheme) that came into effect from this April 1, 2011 has failed to encourage the industry. This might have been a due to a complete dry up of international demand.

National Fibre Policy

The National Fibre Policy is expected to see the light of day with the roll-out of the 12th FYP (Five-Year Plan). The policy is, basically, an outline on the way to go as far as the rates of growth are concerned within the industry across the board. The Government would see to try to achieve fibre neutrality in the long run; so there is this question of taxes, duties and indirect taxes which any department would hope for and place as an enabling condition. The policy framework is ready, and now it is only on the budgetary allocation to this ministry we will be able to realise certain goals of fresh investments, projects and programmes. It has both a short-term and long-term plan that we have aligned with the five-year plan. We have surpassed some of the targets really in terms of growth rates.

Cement Industry of India

Cement Industry is one of the largest industries of the world and occupies predominant place as one of the basic industries for development and its employment generation capacity. Cement ranks next to steel in construction material and so is the basis of all modern construction.

☞ **John Smeaton**, who is also known as "father of civil engineering" and credited for design of many bridges, canals, harbors etc. was the first proclaimed civil engineer and pioneered the use of 'hydraulic lime', which led to discovery of modern cement.

☞ The common cement or Portland cement was prepared and Patented by **Joseph Aspdin** in 1824.

☞ In the later part of 19th century, cement production was taken up by many countries many decades after the first patent was taken by Aspdin in England.

☞ India entered into the Cement Era in 1914, when the Indian Cement Company Ltd. started manufacturing Cement in Porbandar in Gujarat.

However, even before that a small cement factory was established in Madras in 1904 by a company named South India Industrial Ltd.

Indian Cement Company Ltd produced only one type of cement which was designed by the British standard committee as "Artificial Portland Cement". This company marketed its product in Mumbai, Karachi, Madras and other parts and became a financial success.

At that time India had to import cement from England. The price of the imported cement was higher. Some other factors such as increase in domestic demand, reduction in supply from abroad (due to war), availability of Indian Capital, ample raw material, Cheap labour, support of the government etc. made it a leading industry in India in a short period of time.

☞ In January 1915, a cement unit was started at Katni in Madhya Pradesh

- ☞ In December 1916, another unit at Lakheri in Rajasthan was started.
- During the First World War period, cement production in these three important factories was taken under control of the government and later the control was lifted once the war was over. After the war, 6 more units were launched in India.
- In 1924, India's cement production was 267000 tons. However, initially this increased production could not reduce the imports and the industry suffered a rate war. This led to closure of many indigenous units. The Indian companies which were away from ports or commercial centers faced the locational disadvantage.
- The above incidents led to the industry stakeholder approach to the government for some kind of protection. The British government constituted a Tariff board and this board recommended protection of the indigenous industry against the dumping of the imported cement. It recommended raising of the customs duty to 41% which was around 15% at that time, but this recommendation was not accepted by the government.
- ☞ In 1925, first association of the cement manufacturers was formed as "**Cement Manufacturers Association**".
- ☞ It was followed by "Concrete Association of India" in 1927.
- ☞ In 1930 "Cement Marketing Company of India" was started and this was followed by a quota system on the basis of installed capacity of the factories.
- ☞ In 1936, all the cement companies except one i.e. Sonevalley Portland Cement Company agreed and formed **Associated Cement Companies Ltd. (ACC)**. This was the most important even in the history of cement industry in India. Many more companies were established in the following years.
- ☞ Before partition India had 24 factories, out of which India retained 19 factories, which annual production of 2.1 million tons. Pakistan faced a problem at the supply side as it had problem of disposal of the cement produced and India faced a problem in demand side as production fell to 2.1 million tons from 2.7 million tons.
- ☞ After Independence, the partition of the country had a bad impact on the cement industry.
- ☞ In 1948, the government adopted the **Cement Expansion Scheme** which envisaged new factories to increase the production. New factories were established at Bagalkot, Jaipur, Orissa, Travancore etc.
- ☞ In 1950-51, there were 22 operating units with an installed capacity of 3.3 million tons.
- ☞ Cement industry was given a great importance in all the initial five year plans. The target of the first five year plan was to raise the installed capacity to 5.4 million tons which was achieved. The industry has grown to manifold since then.

Performance of the Indian Cement Industry:

The following table shows the Installed Capacity and production of Cement in India since 1950-51:

Year	Installed Capacity	Production
1950-51	3.3	2.7
1970-71	17.3	14.3
1990-91	64.0	48.8
2003-04	151.7	123.5
2007-08	184.2	178.5
2008-09	230.27	187.6
Million Tons, Source: Ministry of Commerce		

India is the **second largest manufacturer** of cement in the world. The modern Indian cement plants are the **state-of-the-art plants and are comparable to the best in the world**. The cement industry comprises of 156 large cement plants with an installed capacity of 233.94 million tonnes and more than 350 operating mini cement plants with an estimated

capacity of 11.10 million tonnes per annum, make a total installed capacity of 245.04 million tonnes as on 31-12-2009.

There are a few large cement plants that are owned by the Central and the State Governments.

Per Capita Consumption:

Per capita consumption in India continues to be low at 143 kg, as compared to other countries such as China (1,014 kg) and Japan (524 kg). There is a significant potential for growth. (Economic Survey 2010)

Problems of Indian Cement Industry

6 industries in India have been identified as energy-intensive industries. They are Aluminum, cement, fertilizer, iron and steel, glass, and paper. Together they account for 17% of manufacturing value of output (VO) and for 39% of all fuels consumed in the manufacturing sector. So, most problems of the cement industry are related to "power". They are as follows:

1. Drastic cut in the electricity
2. Shortage of Coal
3. Inadequate availability of wagons for transport
4. Limited availability of furnace oil.

Verities of Cement:

Indian cement industry produces 13 different varieties of cement employing three different process types. Amongst the varieties, Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC) and Portland Slag Cement (PSC) constitute the major shares accounting for almost 99% in total production. Ordinary Portland cement is most commonly used in India. It holds a share of about 70% in total production. PPC production accounts for about 18% of total cement production while PSC assumes a share of only 11%.

Generally, the two varieties, PSC and OPC, can be used for same purposes, while PPC cannot be used for prestressed and high strength concrete, as used in bridges and airports.

Dry Process v/s Wet Process:

Cement is produced using the wet, the semi-dry, and the dry processes. In 1960, the wet process accounted for 90% of the production. It has now decreased to around 10%. The dry process accounts for around 90% of India's cement production. The semi-dry process never played an important role in Indian cement production. Its share in total installed cement capacity has been small over time. It currently accounts for 2% of total production.

Leading producer & Consumer States

Andhra Pradesh, Rajasthan, Karnataka, Madhya Pradesh, Gujarat and Kerala are largest cement producing states in India. Maharashtra is largest consumer state of Cement.

☞ Andhra Pradesh with a production of 37.52 million tons in 2008-09 which is 17.12 % of all India Production is largest Cement producing State in India.

☞ Rajasthan with 34.82 million ton production in 2008-09 which is 15.89% of all India Production.

Major Players

ACC is India's largest cement producer with an installed capacity of 18640 tons and production of 18000 tons. The other largest players are Gujarat Ambuja, Ultratech, Grasim, India Cements, JK Group, Jaypee Group, Century, Madras Cements, Birla Corp.

Cement Clusters

There are 7 cement clusters in India. They are as follows:

1. Satna (Madhya Pradesh),
2. Chandrapur (North Andhra Pradesh and Maharashtra),

3. Gulbarga (North Karnataka and East AP),
4. Chanderia (South Rajasthan + Jawad & Neemuch in MP),
5. Bilaspur (Chattisgarh),
6. Yerraguntla (South AP),
7. Nalgonda (Central AP).

With a total capacity of 75.23 mtpa they together account for 49% of the total installed capacity of India.

Government Control & FDI

Since independence, the direct or indirect intervention of the government kept the industry under strict government control. Direct intervention was by controlling the production capacity and distribution of cement, while indirect intervention took the form of price control.

The basic purpose of the price and distribution control system on cement was to ensure the fair prices to producers and consumers all over the country, thus **reducing regional imbalances**. In 1977, higher prices were allowed for cement produced by new plants or major expansions of existing plants. In 1979, a three tier price system was introduced. In 1982, partial control was introduced by the government. A levy quota of 66.6% for sales to government and small house builders was imposed on existing units while for new and sick units a lower quota at 50% was established. Levy cement was fixed uniformly for OPC and slightly lower for PPC. The balance of 33.4% could be sold in the free open market to general consumers.

In 1989, industry was considered to be prepared for free market competition and all price and distribution controls were withdrawn. The cement sector was liberalized and today **100 per cent FDI is permitted in the cement industry**.

National Council for Cement and Building Materials

National Council for Cement and Building Materials (NCCBM) is a cooperative research organization registered as a Society under the Societies Registration Act, 1860. The Council provides scientific, technological and industrial services support to the cement, related building materials and construction industries and carries on its activities through its units located at **Ballabgarh, Hyderabad and Ahmedabad**.

NCB's activities are channelized through the following six

1. Programme Centres:
2. Cement Research and Independent Testing
3. Mining, Environment, Plant Engineering and
4. Operation
5. Construction Development and Research
6. Industrial Information Services
7. Continuing Education Services
8. Quality Management, Standards and Calibration
9. Services

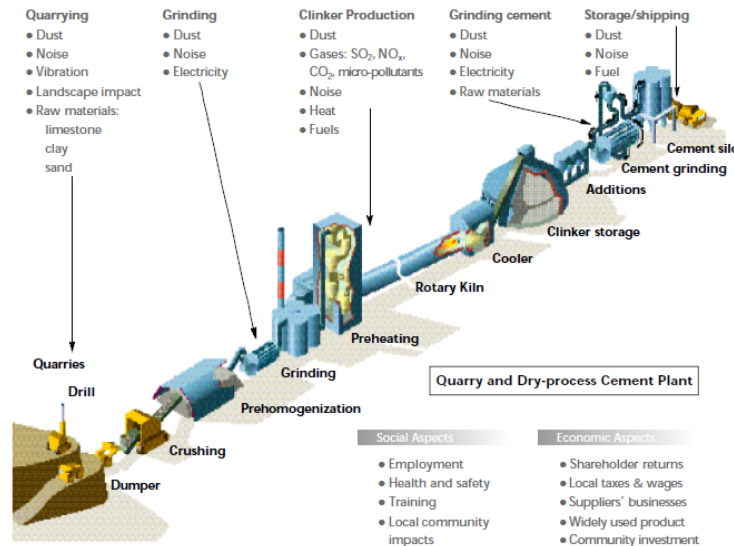
Environment Concerns of cement

Cement manufacture is an **energy intensive process**. Consuming energy from fossil fuels such as oil and coal creates carbon dioxide (CO₂), the most important Greenhouse Gas (GHG) causing climate change. CO₂ was approximately 69% of the total emissions of green-house gases on a weight basis in 1990. In addition, the chemical process of making clinker produces CO₂. These two factors mean that the cement industry produces 5% of global man-made CO₂ emissions, of which 50% is from the chemical process, and 40% from burning fuel. The remainder is split between

electricity and transport uses. In response to international concerns about climate change, governments across the world are considering and imposing taxes on industry energy use and GHG emissions (for example, the UK's Climate Change Levy).

The cement making process involves a lot of pollution and recently been under the criticism for environment concerns.

The following graphic represents some of the environment concerns of the cement production:



Cement Sustainability Initiative

The Cement Sustainability Initiative is the joint contribution of **ten major cement companies** of the world which is working with World Business Council for Sustainable Development for the sustainable development in the cement industry.

The companies are :

1. CEMEX
2. Cimpor
3. HeidelbergCement
4. Holcim
5. Italcementi
6. Lafarge
7. RMC
8. Siam Cement Group
9. Taiheiyo Cement
10. Votorantim

It has identified six key areas where we believe that the Cement Sustainability Initiative can make a significant contribution to achieving a more sustainable society, and where there are significant environmental and social benefits to be gained through collaborative action.

The six areas are:

1. Climate protection
2. Fuels and raw materials
3. Employee health and safety
4. Emissions reduction
5. Local impacts

6. Internal business processes

These form the basis of this Agenda for Action, which sets out the work program for the Cement Sustainability Initiative over the next five years

✍ **Shree Cement was the first Indian company to join the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD), Switzerland.**

Concrete Roads

The cement industry is pushing for increased use of cement in highway and road construction. The Ministry of Road Transport and Highways has planned to invest US\$ 354 billion in road infrastructure by 2012. Housing, infrastructure projects and the nascent trend of concrete roads would continue to accelerate the consumption of cement.

In India around 40% of total road length is surfaced and much of this is of questionable quality. 2 per cent of total road length in the country is made of concrete, the rest is made largely of bitumen. The Concrete roads have a life cycle of 50 years and also help save 15% in fuel consumption.

Eco-cement

Eco-cement incorporates reactive **magnesia** rather than CaCO₂ used in conventional cement. It has the property of **absorbing the sequestering CO₂ from** the atmosphere and is recyclable. The main problem of this cement is commercialization, as the industry is reserved for its use.

White cement

White Portland cement is made from raw materials containing **little or no iron or manganese**, the substances that give conventional cement its gray color. So the secret of the White cement is its raw material. Apart from that only **whitest chalk is used together with light colored sand** in production of white cement.

✍ Please note that **White cement used usually 40% higher energy** than the normal grey cement and this contributes to the **high price of white cement.**