General Knowledge Today

Industries-1: Food Processing Industry

Integrated IAS General Studies:2016-17
Last Updated: February 15, 2016
Published by: GKTODAY.IN

Contents

Model Questions

1. In recent times, the demand for Packaged Food has been increasing consistently. Discuss the reasons evaluating how this can be used to strengthen the farm sector in India.
2. Throw light on the functions and importance of food processing while differentiating the primary, secondary and tertiary processing.
3. Explain the Upstream /Downstream Industries and Forward / Backward Linkages with reference to Food Processing Industry.
4. Throw light on the hub and spoke architecture of a Mega Food Park examining its forward and backward linkages.
5. To what extent, the Mega Food Park Scheme is able to link farm produce to the market? Critically examine the key issues incidental thereto.
6. Examine the rationality of the proposed National Food Grid in context with seasonal spike of food prices in the country.
7. Examine the role played by CFTRI and FSSAI in Food Security and Food Safety in India.

Food Processing Industry Basics

India produces more fruits & vegetables in comparison to food grains. With 268.9 Million Tonnes of horticultural production in 2012-13, India is second largest horticultural producer after China. At the same time, India is disappointingly ahead in loss of vegetables and fruits. As per APEDA (Agricultural and Processed Food Products Export Development Authority), India loses Rs. 13,000 to 15,000 Crore every year on waste of fruits and vegetables. The key reason for higher wastage of fruits and vegetables is non-availability facilities of temperature controlled storages. Only 2% of the perishable produce has that facility.

Drivers of Increasing Demand for Packaged Food

- In recent years, there is a surge in demand for fruits & vegetables as a result of a shift in consumption pattern; mainly due to rising incomes; hectic urban lifestyle and changing preferences.
- The health and value seeking urban consumers look for wholesome, nutritious and convenient solutions in packaged food. Due to this, the health and wellness has emerged as a new ingredient in processed food industry. This is partially because health conscious consumers prefer food products with lower carbohydrate content and with low cholesterol edible oils. This leads to rising demand of zero-percent trans-fat snacks and biscuits, slim milk, whole wheat products, etc.
- The enhanced packaging is also able to change consumers purchasing behaviour because of

two reasons. Firstly, the packaging has increased shelf life of the processed food. Secondly, the consumers are able to compare the value offerings and choose best option before buying.

The farmers also shifting production towards horticultural crops to cash in on growing demand of packaged food. This leads to change on cropping pattern in some parts of the country whereby staple crops are grown with vegetables.

Types of Food Processing

Food processing encompasses all the steps that food goes through from the time it is harvested to the time it arrives on consumer's plate. According to FAO (Food and Agriculture Organization), processed foods can be classified into three types viz. Primary, Secondary and Tertiary.

- The **primary processing** includes basic cleaning, grading and packaging as in case of fruits and vegetables.
- **Secondary processing** includes alteration of the basic product to a stage just before the final preparation as in case of milling of paddy to rice.
- **Tertiary processing** leads to a high value-added ready-to eat food like bakery products, instant foods, health drinks, etc.

Functions of Food Processing

Traditional food processing had two functions: to make food more digestible and to preserve food during times of scarcity as most crops are seasonal. By processing food, it can be customized to suit the nutritional requirements of groups such as the elderly, pregnant women, infants, young children and athletes. Modern food processing has three major aims:

- To make food safe (microbiologically, chemically).
- To provide products of the highest quality (flavor, color, texture)
- To make food into forms that are convenient (ease of use)

Global Food Processing Industry

The global processed food industry is estimated to be valued around USD 3.4 trillion and accounts for three-fourth of the global food sales. The global food industry is ever changing and evolving. However, health, convenience and value continue to be the key value propositions in this industry.

However, only 6 percent of processed foods are traded across borders compared to 16 percent of major bulk agricultural commodities. The United States and European Union together account for over 60 percent of total retail processed food sales in the world.

Trade liberalization policies through multi-lateral and regional trade agreements have led to a rapid growth in food processing. In the Asian region, Japan is the largest food processing market, but India and China are likely to grow at a faster rate in the next decade.

Food Processing Industry in India

The size of India's food processing industry in 2012 was around $160 billion. This is estimated to be around $260 billion in 2015, registering around 8% growth every year. The Industry is broadly divided into six segments viz. Fruits and vegetables; Milk and milk products; Meat and poultry; Marine products; Grain processing and Consumer food. Consumer food includes sub-segments viz. Packaged food; Aerated soft drinks; Packaged drinking water; Alcoholic beverages etc.

We note here that the food processing industry is one of the largest industries in India and ranks fifth in terms of production, consumption and exports. In 2012-13, the food processing industry constituted 9.8% of India's manufacturing sector GDP.

Given the changes in the Indian landscape, the packaged foods segment holds immense promise and a concerted move to develop India's Food Processing sector will be a force multiplier in creating large-scale employment, enhancing farm incomes and combating agri-wastages.

Key drivers of Indian Food Processing Industry

The Key drivers of India's food processing industry are as follows:

Strong demand growth

The demand for processed food is increasing due to increasing disposable income, urbanisation, young population and nuclear families; leading to changing lifestyle and increasing expenditure on health and nutritional foods.

Flourishing Farm Sector

India is bestowed with a diverse agro-climatic conditions; large agriculture sector with second largest producer of fruits and vegetables; abundant livestock with largest production of milk; and cost competitiveness. With the increased linkages of primary sector with secondary sector; Investment opportunities to arise in agriculture, food infrastructure, and contract farming.

Increasing investments

The food processing sector is a sunrise sector and government sees it as a future driver of Indian economy. Government has launched various infrastructure development schemes to increase investments in food processing infrastructure. The government is also making an amicable FDI environment in this sector.

Key Problems of the Indian Food Processing Sector

Despite of its large size, Indian food processing industry is still at a nascent stage compared to its potential. It is one of the sunrise sectors in the country. Of the country's total agriculture and food produce, only 2 percent is processed currently in comparison to 40% in countries such as Malaysia and Thailand. There are several challenges that need to be addressed. These challenges span across the entire value chain and are as follows:

Productivity Issues

A major area of concern is food production itself. Despite being an agrarian economy and one of the largest producers of vegetables, fruits, wheat etc, it is unfortunate that the productivity of crops is quite low relative to international standards.

Availability of Skilled Resources

Human resource development needs to cover the entire gamut from basic infrastructure, education, vocational and technical guidance to qualified professionals in the sector.

Supply Chain Deterrents

Long and fragmented supply chains leading to high wastage and high costs especially due to seasonality, perishability and variability of produce.

Deadlocks in Infrastructure

Indian export- related infrastructure for agri-produce is grossly inadequate, especially at sea ports and airports. More than 30 percent of the produce is lost due to poor post-harvesting facilities and lack of cold chain infrastructure.

Low Adherence to Quality Standards

Unavailability of basic standardization and certification infrastructure. Given the size of the industry, there is a huge gap in the availability of laboratories, trained manpower, and certification agencies.

Low level of Linkages between Industries

Low level of interaction between industry and research institutes are one of the major problems. In order to improve farm productivity, continuous introduction and implementation of innovative technologies calls for existence of a strong R&D network. While investments are being made in this regard, the efforts have not been as rewarding.

Potentials for Food Processing Industry

Food processing Industry offers distinct benefits to both the producers as well as processors. The following four fundamental shifts in the market conditions reaffirm the potential for the sector.

Rapid growth in organized retail, a catalyst for the food industry

- Increased consumer spend as organized retail and hypermarkets can drive cost down by 35-40%
- Employment generation and higher tax revenue
- Productivity gains across entire supply chain through dis-intermediation and superior technology

Consumer trend towards convenience and 'enjoying life' driven by demographic trends in age, income-levels and more women in the workforce

- Explosion of convenience foods, value-added foods and eating-out
- Increasing willingness to pay premium for quality products

Global shift to outsourcing from India across products/ services including food

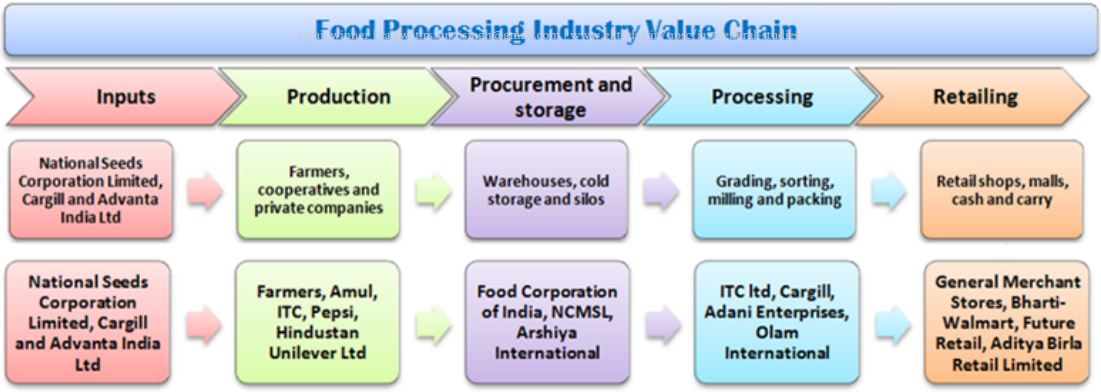
- High-margin businesses possible in niche export markets (e.g. organic foods, herbal products)
- Quality improvement and spill-over to domestic markets, as producers meet stringent export requirements
- Investments in cold chain and transport infrastructure

De-regulation and liberalization of the Indian economy, driven by central and state governments

- Ease of entry for new businesses and capacity addition
- Demand-growth from economy growth and rising incomes
- Potential to bring in global technology, know-how and investments
- India is the world's second largest producer of food next to China, but accounts for only 1.6 percent of international food trade.

Food Processing Industry Value Chain

The Food Processing Sector's complex value chain spans all players and activities from the time it is sown to the time it arrives to consumer. This includes Inputs; Production; Procurement and storage; Processing and Retailing. This value chain is shown in the below graphics:



Upstream and Downstream Industries in Food Processing

With reference to Food Processing / agro-processing industries, the Upstream industries are engaged in the initial processing of agricultural commodities. The common examples are rice and flour milling; leather tanning; cotton ginning; oil pressing, fish canning etc. The upstream industry is dedicated to extraction of raw material for manufacturing use. It also includes procurement of these products from cultivators.

Downstream industries undertake further manufacturing operations on intermediate products made from agricultural materials. Examples are manufacturing of bread, biscuit and noodle making, textile spinning and weaving; paper production; clothing and footwear manufacturing; and rubber

manufactures.

Thus, in downstream industries, the extracted raw materials are processed and finally transformed into consumable products. The downstream also includes sales of these products to wholesalers, retailers and consumers.

Forward Linkages and Backward Linkages

There are two different kinds of linkages between the economic activities viz. backward linkages and forward linkages. *For an industry, backward linkages are directed towards suppliers; while the forward linkages are directed towards consumers.*

We take an example of an steel mill here. To perform its economic activity, this mill needs inputs from coal mining and iron ore mining. These constitute its backward linkages. When the steel mills sells its produce, it needs to develop links with metal fabrication industry, construction companies, wholesalers and retailers of steel etc. These constitute the forward linkages of the steel mill.

We note here that infrastructure such as Railways, Roads and service providers such as transporters work as both forward as well as backward linkages.

In context with Food Processing Industry, a Food Processing Unit needs to have strong backward linkages with the farmers, farmer producer organizations, self help groups, farmer's groups etc. Further, to be able to sell its processed food, it needs to develop strong forward linkages with wholesalers, retailers, exporters etc.

Policy Framework around Food Processing Industry

Both central and central governments in India would like to see food processing sector to become powerhouse in the economy. Towards this, they have tried to put supporting framework. They major government schemes supporting this sector are discussed below:

- To check the waste of the harvest, there is a "Central sector scheme of Cold Chain, Value Addition and Preservation Infrastructure". Under this scheme, government provides grants in aid up to 50% (75% in North East and Hills) of a cold chain project subject to maximum Rs. 10 Crore. Such cold chain projects can be set up by individuals, groups of entrepreneurs, cooperative societies, Self Help Groups (SHGs), Farmer Producer Organizations, NGO, Public Sector Companies etc.
- Further, there is a Centrally Sponsored Scheme called National Mission on Food Processing (NMFP). The NDA government has delinked this scheme from central support. It is now up to the states if they would like to continue this scheme or not. They can set their own targets, design their own plans and develop the industry based on locally grown raw material.
- Loan to food & agro-based processing units and cold chain has been classified under

Agriculture activities for Priority Sector Lending (PSL) subject to aggregate sanctioned limit of Rs. 100 crore per borrower.

- The Ministry of Food Processing Industries is implementing Mega Food Parks Scheme since the year 2008. Under this scheme, government provides Financial Assistance up to Rs. 50.00 Crore for setting up Mega Food Parks for creation of modern infrastructure facilities for food processing along the value chain from farm to market.

Mega Food Park Scheme

Mega Food Parks Scheme (MFPS) was launched in 2008 whereby, the Government provides Financial Assistance up to Rs. 50 Crore to set up modern infrastructure facilities for food processing called Mega Food Parks. The key objectives of the scheme are to reduce wastage of perishables; raise processing of food items from 6% to 20% and raise India's share in Food Processing Industry from 1.5% to 3%.

What is a Mega Food Park?

A mega food park is basically a hub and spoke architecture comprising Collection Centres (CCs) and Primary Processing Centres (PPCs) as spokes linked to a Central Processing Centre as hub.

Collection Centres CCs

The CCs work as points of aggregation of the produce from individual farmers, farmer's groups and Self Help Groups. They feed the raw material to the PPCs. The collection centres are managed by local entrepreneurs. They server as farm level aggregation points for adjoining areas within a radius of around 10 kilometres. It was expected that these CCs will emerge as centres of rural commerce and will spur economic activities in the area.

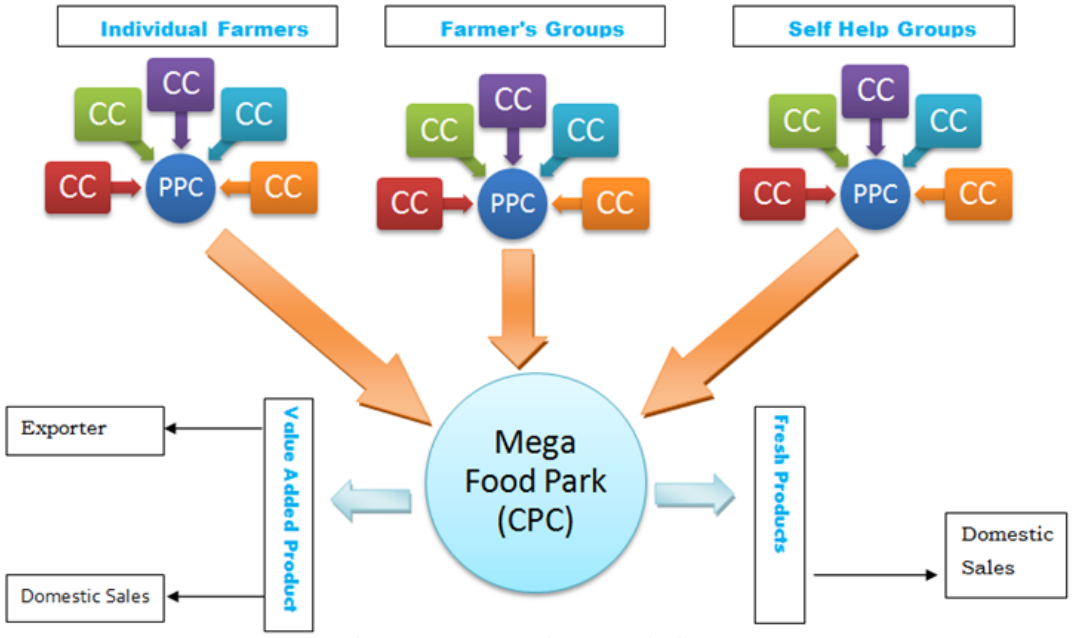
Primary Processing Centres (PPCs)

The PPCs work has primary handling centres which use the raw materials to be processed further in CPC. A PPC serves a number of CCs in proximity. Some PPCs have inhouse facilities such as pulping, juicing etc. They have facilities such as refrigerated vans, trucks etc. to transport material to CPC in shortest possible time.

Central Processing Centre

The Central Processing Centre is an industrial park in an area of around 50 acres and houses a number of processing units owned by different business houses. Here, the developed plots of land will be provided to the large and midsized units while Common Design Factory Sheds are provided to small scale units. The park will provide common facilities such as water, electricity and effluent treatment apart from specialized facilities like cold storage, ware housing, logistics and backward integration through the network of primary processing centres and collection centres.

The above architecture is based on a "hub and spoke" model as shown below:



Thus, Mega Food Park is an inclusive concept that aims at establishing the direct linkages from the farm to processing to consumer markets. The cornerstone of a Mega Food Park's success is efficient logistics that connects the CCs and PPCs to CPC. Further, the main feature of this scheme is cluster based approach.

Government Assistance

The MFPS scheme envisages a onetime capital grant of 50% of the project cost (excluding land cost) subject to a maximum of Rs. 50 Crores in general areas and 75% of the project cost (excluding land cost) subject to a ceiling of Rs. 50 Crores in difficult and hilly areas i.e. North East Region including Sikkim, J&K, Himachal Pradesh, Uttarakhand and ITDP notified areas of the States.

Most important Features of Mega Food Parks

- Cluster Based Approach
- Demand driven with focus on strong backward and forward integration
- Enabling Infrastructure Creation along the supply chain and technology
- Creation of Central Processing Centre (CPC) and Primary Processing Centres (PPC)
- Common Facilities and amenities to be assisted
- Leverage investments in food processing units
- Stakeholder participation with private led initiative through Special Purpose Vehicle (SPV)
- Assistance to creation of common enabling facilities

- Typical Project Cost envisaged – Rs 120-150 crore
- Land – not eligible for funding out of GOI grant
- Assistance from Ministry
- Limited to non-land component of the project and project is done on 50-50-50 scheme {Rs. 50 Crore grant by Government; 50 acre land is needed; 50 crore minimum investment to be done by park developer}
- 50% of project cost limited to Rs. 50 Crore in general areas
- 75% of project cost limited to Rs. 50 Crore in difficult & hilly areas and ITDP notified areas.

How the scheme is implemented?

Implementation of the Mega Food Park is done through the Special Purpose Vehicle (SPV) mechanism in which Financial Institutions/Banks, organized retailers, processors, service providers, producers, farmer organizations and other related stakeholders are the equity Holders.

Each SPV is a Company registered under the Companies Act; and is required to have at least three entrepreneurs / business units which would be independent of each other with no common directors. The land for the project is arranged by SPV.

- A minimum of 26% of equity of the SPV should be held by food processor(s) within the SPV.

- The combined net worth of the shareholders of the SPV should be minimum 50 Crore with food processor(s) having at least of Rs. 10 Crore of net worth .
- The earlier guidelines said that the government agencies can become shareholders and they can have maximum 26% share capital, so that SPV's private sector character is maintained. The NDA government had recently modified the guidelines to allow central government agencies to become shareholders in the Special Purpose Vehicles (SPVs) to run food parks without any restriction on their equity.
- The SPVs need to bring in at least 20% of the project cost, including the cost of land, as their contribution.

Role of state government

- Providing assistance to SPVs in procurement of suitable land.
- Providing all the requisite clearances, wherever needed, for setting up the MFP and its components thereof and providing the necessary assistance for Power, Water, Approach roads and other external infrastructure to the project
- Providing flexible and conducive labour environment and consider special facilities like exemption of stamp duty, VAT/Sales Tax exemption etc. for the MFP and the units located in the MFP
- Providing a fast track single window agency to facilitate clearances and permissions required

for the project.

Current Status

When this scheme was launched; 42 Mega Food Parks were to be established by 2015. The UPA government had allocated all of them in 2008-09 but allotment to 17 players was cancelled by the NDA Government because they could not start work due to various reasons. After that, in March 2015, NDA government allocated these 17 new parks to new players including state governments and private firms. The scheme now covers 22 states of India. The scheme is expected to benefit around 5 Lakh farmers.

Critical Analysis of the Mega Food Park Scheme

The objective of the scheme is to link farm produce to the market by bringing together farmers, processors and retailers. However, there are some major issues which need to be addressed to get the desired results.

- Firstly, land acquisition is major issue. It is very difficult to get 50 acre of land anywhere, particularly in small and hilly states. The government needs to provide flexibility to this requirement.
- Secondly, since most agri-business in our country happens through cooperatives, their integration into food parks is critical.

- Thirdly, through the scheme gives a grant to the SPV, the SPV finds itself unable to attract the PPCs and CCs. Here, the National Mission on Food Processing could play a major role by providing the Rs. 50 Lakh grant under that mission to units within the MFPs. But that scheme is now delinked from central support and states may have to decide if they want to continue or not. State governments may look into these issues case-by-case basis and provide attractions to these units as well.
- Fourthly, the MFP scheme provides maximum grant of Rs.50 crores for setting up a MFP in minimum 50 acres of contiguous land with 50 percent contribution to the total project cost from the SPV. This "one size fits all" approach has not been able to attract the investors having more or less requirements.
- Lastly, the scheme has not attracted global companies because some of them would not work on basis of "grant" from a developing country. They would like to work on Joint Ventures.

National Food Grid

The NDA government had proposed to develop a National Food Grid. The idea first came forward in July 2014 as an announcement by the food processing industries minister Harsimrat Kaur Badal. In December 2014, the minister launched first ever such report titled "Fruits & Vegetables

Availability Maps of India Booklet" focusing on the availability of fruits and vegetables pan India. This booklet, also called as National Food Map, depicts what is grown where; and the surplus and deficit status of various commodities at the national as well as state level. This booklet was touted by the minister as first step towards National Food Grid.

The proposed National Food Grid has the following objectives:

- To connect the deficient areas with producing regions and reduce wastage of fruits and vegetables
- To ensure stable food prices and contain food price inflation

Under the National Food Grid, the Government will divide the products and districts into 'critical' and 'non-critical categories'. There is a proposed tax holiday for critical districts. The government also proposed to make available real time online information on essential food stocks, perishable fruits & vegetables, poultry, fisheries and dairy products. The surplus food will be swiftly transported to deficit areas to reduce seasonal disparity in prices.

Analysis

Conceptually, a national food grid may be an excellent idea. Viewed in conjunction with a nation-wide borderless food market, this proposal certainly merits consideration to provide a fillip to the food processing sector. Viewed as analogous to the electricity grid, it makes sense if there is a grid which can swiftly transport essential food commodities from surplus regions to deficient regions. But making such things reality on ground needs proper planning and approach. The prerequisites are real time data availability and presence of a national cold chain grid; and a mechanism to make faster decision at the times of price spikes. None of these things are easy to achieve.

Current Status

In March 2015, the Government made it clear in Lok Sabha that there is no proposal at present under consideration to set up National Food Grid for the promotion of food processing industries in the country.

CSIR-Central Food Technological Research Institute

Central Food Technological Research Institute (CFTRI), Mysore is one of the laboratories of CSIR (Council of Scientific and Industrial research), New Delhi. It was established in 1950 as a premier institute to pursue in-depth research and development in the areas of food science and technology.

Contribution to Food Security and Food Safety

CFTRI has been here for 60 plus years and the Institute has contributed significantly over the years towards food security and food safety. Some of the innovative products that have emerged from the Institute include Amul baby food, parboiling of rice, Energy food, Oleoresins, Spirulina cultivation, Health oil etc.

The Institute is also in the forefront in human resource development as the Institute offers Doctoral degree in biological and chemical sciences, post-graduate programme in Food technol- ogy, Certificate programme in milling technology and number of short-term courses targeted to entrepreneurs and professionals throughout the year. As a premier R&D laboratory, CSIR-CFTRI is involved closely in framing and assisting regulatory aspects as well, both at national and international level.

Food Safety and Standards Authority of India

Food Safety and Standards Authority of India (FSSAI) is the apex body in the country which takes care of the quality and safety standards with respect to raw, processed and packaged food products in the country. It is a statutory body established via the Food Safety and Standards Act, 2006 and comes under Ministry of Health and Family Welfare.

It has been established for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption. As per these standards, use of additives, microbial load, levels of heavy metals and pesticides are monitored for local and imported food products in the country. The law enforcement is managed through its own mechanism.

FSSAI had issued the Food Safety and Standards (Food Product Standards and Food Additives) Regulations, 2011 and the Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011 which prescribe the quality and safety standards, respectively for food products.

Suggested Further Readings

- Introduction to Food Processing (FSSAI)
- Feeding a Billion: Role of Food Processing Industry (FICCI)

General Knowledge Today

Industries-2: Industrial Policies

Integrated IAS General Studies:2016-17
Last Updated: February 15, 2016
Published by: GKTODAY.IN

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Model Questions

1. Discuss the Industrial Policy in India immediately before independence. What role was played by ideals of Indian constitution in framing the Industrial Policy of the newly independent nation? Examine.
2. "Apart from the four fold classification of the industries; the Industrial Policy 1948 endeavoured to protect cottage & small scale industries by according them priority status." Throw light.
3. "In effect, the Industrial Policy Resolution of 1948 was a document of compromise between India's political and economic elite." To what extent you agree with this view? Discuss critically.
4. Why the Industrial Policy of 1948 is called "socialization of vacuum"? Justify the place given by it to private sector in the light of contemporary economic conditions.
5. Discuss the salient features of the Industrial Policy Resolution 1956 throwing light on its outcomes.
6. One of the pillars of the 1956 Industrial Policy was to check concentration of economic power in few individuals, groups or business houses. To what extent this policy was able to achieve this? Examine.
7. "The licensing policy was a conflict of objectives." Justify while throwing light on gradual reforms done in Industrial Licensing in India.
8. Discuss the current status of Government Monopoly industries and Industrial Licensing in India.
9. Critically examine the outcomes of the New Industrial Policy 1991.
10. Which sectors are reserved for MSME industries today? Discuss in the light of recent government policy.

Industrial Policies 1948 and 1956

Meaning and Importance of Industrial Policy

Industrial Policy is a formal declaration by the Government whereby it outlines its general policies for industries. Any industrial policy has broadly two parts. First part generally deals with the ideology of the current political dispensation, while other one provides a framework of certain rules / principles.

The main objective of any industrial policy is to augment the industrial production and thereby enhance the industrial growth which leads to economic growth by optimum utilization of resources; modernization; balanced industrial development; balanced regional development (by providing concessions for industrial development in backward areas); balanced development of basic and consumer industry; coordinated development of large as well as small, medium and cottage enterprises; determination of area of operation under private and public sector; enhance cordial relations between workers and management and proper utilization of the domestic / foreign capital.

Pre-Independence Industrial Policy of India

The British Government showed a marked antipathy and neglect towards Indian industries. The British Government in India followed the policy of free trade. It resulted in the demise of India's world fame cottage and small scale industries as these could not stand in the competition of British industries. Tierney had explained Britain's economic policy vis-a-vis India in these words, "The general principle of our economic policy should be, to sell in Indian markets the goods manufactured in England and in return, to buy raw material from India."

This policy got changed during first world war because the requirements of the war necessitated to increase production. An Industry Commission was appointed in 1916 to evaluate industrial prospects. Indian Ammunition Board was set up in 1917. This Board made some efforts towards industrial growth. In 1919, the industry was made a state subject. The Tariff Commission was set up in 1921. On the recommendations of this Commission, differential policy of protection was adopted for Indian industries. Therefore, it was decided to provide protection to some selected industries keeping in view pre-decided principles. The Indian industries got a boost during the period of second world war.

Post-Independence Industrial Policy of India

The post independence Industrial Policies of India may be studied under following headings :

- Industrial Policy-1948
- Industrial Policy -1956

- Janata Government's Industrial Policy -1977
- Industrial Policy -1980
- Industrial Policy -1991
- Industrial Policy Today

Industrial Policy -1948

After having attained independence, the Government of India declared its first Industrial Policy on 6th April, 1948. The Industrial Policy 1948 was presented in the parliament by then Industry Minister Dr. Shyama Prasad Mukherjee. The main historical importance of this policy is that it ushered India in the system of Mixed Economy.

Four Fold Classification of Industries

Under this policy, the large industries were classified in four categories viz. Strategic Industries, Basic / Key industries, Important Industries and other industries which respectively referred to Public Sector; Public-cum-Private Sector; Controlled Private Sector and Private & Cooperative sector. They have been discussed below:

Strategic Industries (Public Sector)

This category included three industries in which Central Government had monopoly. These included Arms and ammunitions; Atomic energy and Rail transport

Basic / Key Industries (Public-cum-Private Sector)

Six industries viz. coal, Iron and Steel, Aircraft manufacturing, Ship-building, Manufacture of telephone, telegraph and wireless apparatus, and Mineral oil were designated as "Key Industries" or "Basic Industries". It was decided that the new industries in this category will henceforth only be set-up by the Central Government. However, the existing private sector enterprises were allowed to continue.

Important Industries (Controlled Private Sector)

Eighteen industries were kept in the "Important Industries" category. Such important industries included heavy chemicals, sugar, cotton textile and woollen industry, cement, paper, salt, machine tools, fertiliser, rubber, air and sea transport, motor, tractor, electricity etc. These industries will continue to remain under private sector however, the central government, in consultation with the state government, will have general control over them.

Other Industries (Private and Co-operative Sector)

All other industries which were not included in the above mentioned three categories were left open for the private sector. However, government could impose controls on these industries also if any of them was not working satisfactorily.

Other features of Industrial Policy 1948

Apart from the four fold classification of the industries; the Industrial Policy 1948 endeavoured to protect cottage & small scale industries by according them priority status. It also emphasised on establishing harmonious industrial relations; gave high priority to fair wage rates; social security to workers and their participation in management. The industrial policy 1948 had acknowledged the significance of foreign capital for industrialisation of the country, but it was decided that the control should remain with Indian hands.

With this policy, India ushered into a mixed economy taking the society on socialistic pattern. The core idea was to keep the strategic and basic industries under the exclusive ownership / control of Government. The central and state governments had a virtual monopoly in railroads and exclusive rights to develop minerals, iron ore etc. The 18 important industries were to be developed under direct control and regulation of the government.

Analysis of the Industrial Policy 1948

The Industrial policy of 1948 was first major policy of independent India which was launched to lay the foundation of a mixed economy in which both private and public enterprises would march hand in hand to accelerate the pace of industrial development. However, there were numerous conflicting statements regarding the private participation. In this context, we need to analyze this policy in the light of below questions:

- To what the blueprint outlined in this policy was different from British Era policy?
- Our constitution was still being framed by the constituent assembly at that time. Was there anything in the constitution that inspired this policy?
- Was it as per economic philosophy of Nehru, Gandhi or Patel? Or it was a compromise between political / economic elites?
- Why this policy was called "socialization of vacuum"?
- Was the space given to private sector suited to contemporary circumstances?

To what extent, the blueprint outlined in this policy was different from British Era policy?

The Industrial Policy 1948 was a sincere depart from the British Era policy of lessez faire [free economy] model followed by British rulers. The British policy was that *Government was ill-qualified to advance the industrial development and all such matters should be left to private enterprise.*

Our constitution was still being framed by the constituent assembly at that time. Was there anything in the constitution that inspired this policy?

The 1948 policy was put forward at a time when there was neither constitution nor any proper legal framework around industrial development. The constitution was under framing by the constituent assembly.

Under the Directive Principles of State Policy, Articles 39 (b) and (c) favoured the state planning and

interference. The constitution which adopted later with these articles directing the state to secure that "the ownership and control of the material resources of the community are so distributed as best to subserve the common goods"; and that "operation of the economic system does not result in concentration of the wealth and means of production to the common detriment. This was the ground on which Planning constitution was later established for top down approach in economic development of the country.

Was it as per economic philosophy of Nehru, Gandhi or Patel? Or it was a compromise between political / economic elites?

Nehru was an avowed socialist; while Patel was bit conservative. Gandhi's economic philosophy was centred around self sufficient villages with an economy based on cottage industries. This 1948 policy cannot be called socialistic in entirety, for it has given space to both private as well as public sector. At the same time, it also sought to provide protection to the cottage industry. Further, under the basic industries, it did not seek to nationalize / discontinue the already existing private units; rather it mandated that new industries in this category will henceforth only be set-up by the Central Government.

Thus, it can be rightly said that the Industrial Policy of 1948 was a compromise between political and economic elites; trying to achieve a balance between the "radicalism of state ownership" and "resistance against this policy" by conservative elements. However, it was denounced by leftists because of whatever space was given to the private sector. It was reiterated in the Avadi session of Indian National Congress in 1955 when the Congress stated that object of the planning has to be "**Socialist Pattern**" and not absolute "**Socialism**".

Why this policy was called "socialization of vacuum"?

This was the time modern industry was at infant stage. The industry was confined to only some consumer goods such as sugar, tea and to some extent large industries at nascent stage such as Iron and Steel. The Capital Goods Industry was absent. This policy was called "socialization of the vacuum" because it envisaged that state would invest resources only in those sectors which were unoccupied (partially or fully) by the private sector. This can be justified because at that time, private enterprise alone was neither having resources or vision to set up large river valley projects; capital goods sector or huge steel / cement / power plants. The idea was that Government alone should come forward to launch new nation building projects.

Was the space given to private sector suited to contemporary circumstances?

As mentioned above, the Indian private enterprise was infant at that time; and they might be the first casualty if allowed to be full players in key sectors. However, state control in almost every sector led to a crisis of confidence among private participants, which proved to be a major roadblock in

Industrial expansion. Further, the public sector of the day was also unable to cope up with the increased burden because of lack of availability of finance, obsolete technology and lacunae in the management skills. Moreover, red-tapism would later prove to be a major impediment impairing the efficiency and productivity.

Industrial Policy Resolution 1956

Before we delve into the details of Industrial Policy Resolution of 1956, let's go back to the business environment of the day. It was a time when India's first five year plan (1951-56) was about to finish. The first plan mainly focussed on agriculture and improving food grain production. Before that, the Industrial (Department and Regulation) Act of IDR Act of 1951 had been enacted. This act empowered the Government of India to regulate the pattern of Industrial development through licensing. This was advent of License Raj in India.

In 1955, the Imperial Bank of India was nationalized and renamed as State Bank of India. In 1956, some 200 insurance companies and provident societies were merged to give birth to LIC of India. A State Trading Corporation (STC) was established to export and import in select commodities. It was also established to trade with the communist countries (these countries preferred to deal with state party). The STC was also given monopoly in the trade of "Cement", which was import material at that time.

Mahalanobis Model : Basis of 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.

Mahalanobis Model

In 1950s, an Old Russian Model was indianized by PC Mahalanobis, the founder of Indian Statistical Institute and a close aide of Pandit Nehru. This model is known to have set the statistical foundations for state-directed investments and created the intellectual underpinnings of the license-raj through an elaborate input-output model. 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.* India's second five year plan and Industrial policy Resolution 1956, which paved the way for development of Public Sector and license raj; were based upon this model.[currentuser_id]

The four fold classification of the 1948 Industrial Policy was changed now to a threefold classification in Schedule A, B and C industries.

Three Fold Classification of the Industries

Schedule A Industries

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). These included key industries such as Defence Equipment; Atomic Energy; Iron & Steel and heavy plants / machineries required for iron & steel production; Heavy power plants; Coal & Lignite; Mining & processing of key minerals; Railways and Air Transport; Aircraft & ship building; Telephones, Telegraphs and wireless except radio sets; Electricity generation and distribution.

Schedule B Industries

This category comprised 12 industries that 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, states were not given monopoly over these industries. They 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 schedule B industries included other minerals than central monopoly; machine tools; ferro alloys, steel tools; raw material needed for manufacturing of drugs, dyes and plastics; essential drugs and antibiotics; fertilizers; synthetic rubber; chemical pulp, road and sea transport.

Schedule C Industries

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

Other Focus Aras of Industrial Policy 1956

The other key focus areas were as follows:

- This policy integrated the need for infrastructure development as prelude to private investment. Thus, it gave priority to power, transport and financial institutions.
- It recognized the role of cottage and small scale sector in context of employment generation and balanced regional growth and provided it tax concessions and subsidies.
- It gave priority to industrial development in the backward regions of the country to spur balanced growth.
- It welcomed FDI as complimentary to domestic saving if major share in control and management was in Indian hands.
- It gave importance to “Industrial Peace” by offering share to workers in the profit and management; better work environment and participation in the management.
- It stressed the need to promote technical and managerial skill for industrial growth, thereby

proposing establishment of ITIs and introducing business management courses in universities.

- It also laid emphasis on decentralization of the management of PSUs.

However, the major thrust area of the 1956 policy was to enhance the role of public sector in the process of growth and development on socialistic pattern of society. It did not undermine the private investment but expected that private investment would kick-start if public sector achieves a breakthrough in the development of infrastructure.

Outcomes

Key outcomes of the Industrial Policy Resolution- 1956

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 outcome of this policy must be seen in conjunction with the Industries (Development & Regulation) Act of 1951. The first major outcome was that the public sector in the country expanded and it became the main vehicle for Industrial Growth. The government gave priority to backward regions to establish the Industrial units to spur balanced growth.

However, since all the Schedule B and many of the Schedule C industries came under provisions of *compulsory licensing* of Industries (Development & Regulation) Act of 1951; Industries in India were under License raj.

Analysis of Industrial Policy 1956

The Industrial Policy, 1956 was an elaborate document and was hailed as "Economic Constitution of India" It touched virtually all aspects of Industrial development. It established the public sector as epicentre of industrialization. Further, this policy must be analyzed in conjunction with IDA Act and License Raj and in light of the below statements.

- One of the pillars of this policy was to check concentration of economic power in few individuals, groups or business houses. To what extent this policy was able to achieve this?
- To what extent this policy was able to spur Industrial growth, check unemployment and

bridge the rural urban divide?

One of the pillars of this policy was to check concentration of economic power in few individuals, groups or business houses. To what extent this policy was able to achieve this?

The 1956 policy in injunction with the IDA act did just reverse of what it was supposed to do. The licensing policy of the government favoured big business houses who were in better position to raise huge amount of capital and had the better management skills to run the industry. They were also able to secure financial assistance from development and finance institutions. Further, since there was no proper system of allocation of licenses in place; pre-empting of licensing by authorities to select people or groups happened due to an array of reasons. Overall, the freedom of entry into industry was restricted due to licensing and this resulted in the concentration of economic power in few individuals.

To what extent this policy was able to spur Industrial growth, check unemployment and bridge the rural urban divide?

The pace of annual industrial growth could never go above 3 or 4%. The performance of the PSUs was also initially dismal and even today we see a lots of sick PSUs around.

Further, India could not combat unemployment, rural-urban divide, imbalance growth and other problems. The reasons were many fold. Firstly, the expansion of industry in backward regions was dismal. Secondly, the heavy industries were capital intensive rather than labour intensive. They lacked employment potential. The potential of employment generation was in small and cottage industries but they were sidelined practically either in want of institutional finance or due to competition. Most of the institutional finance was grabbed by large scale industries leaving little for them.

License Raj, IDA Act and Other Policies Till 1991

Industrial Policy (1956) was reformed several times before the new Industrial policy 1991 was launched. This was a watershed moment for Indian Economy ending the license Raj and ushering India into liberalization, privatisation and globalization. Before we move ahead, it's our duty to understand what happened in these four decades with respect to industries in particular.

License Raj

License Raj refers to regulations and accompanying bureaucracy that were required to set up and run Indian businesses in India between 1951 and 1991. The Government resorted to licensing system so that it can maintain control over industries as per the Industries Development and Regulation Act, 1951.

What is a License?

A licence refers to a written permission granted by government to a firm which mentions what

product can be manufactured by the firm. Further, license also includes various other particulars such as the place where factory is to be located; what products to be produced; what is maximum quantity that can be produced; what are conditions about expansion of production etc.

Example: India's automobile sector is most suitable to recall the heydays of license raj. In those days, only a few brands such as Bajaj, Rajdoot (of Escorts), Vespa (of Bajaj later), Chetak (of Baja), Lambretta etc. existed . Bajaj was market leader and its Chetak brand was so popular that people used to book it and wait for months to get it delivered. The reason was that the Industrial License stipulated what quantity of scooter they could produce and also that they could produce only up to 25 per cent in excess of its licensed capacity. If they wanted to expand beyond this, they needed prior permission.

What was compulsion for licensing?

The licensing policy made it necessary to obtain licensing in the following conditions:

- The existing industrial units (prior enactment of IDR act 1951) needed to obtain registration under the act.
- For new industrial units to be set up in category of licensed industries. If the industry is not covered under compulsory licensing but the investment was above Rs. 10 crore; the firm was required to file a memorandum of information with the department of industries.
- If any article is reserved for small scale industries and a firm wanted to manufacture these items, it needed a license.
- If a firm wants to increase its production capacity beyond 25%, it needed to obtain prior approval.
- An industrial license was needed to set up a manufacturing unit in metro city. Prior approval was needed to change the location of the manufacturing unit.

To obtain the license, the entrepreneur had to file an application with the government. After receiving application, government would make necessary investigation, and if government found that industrial unit is not against public interest, then it will grant licence. The license could be revoked if the industrial unit was not complying with provisions of Industrial Licensing Policy.

Analysis of the Licensing Policy

The Government had pursued the licensing policy to allocate the production targets set out in the five years plans to the firms. The stated objectives of the licensing policy were as follows:

- To regulate the industrial sector, particularly private sector in desired direction as per objectives of the five year plans.

- To check the concentration of ownership of Industries in few hands
- To emphasize on balanced Regional Development.
- To encourage small-scale industry
- To encourage the new entrepreneurs to set up industries.

But the bureaucratic red tape 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. The issues created by License Raj are:

- The entrepreneurs needed to run from pillar to post to obtain industrial license. They needed to deal with various government departments and officers; and spent more time in Delhi than their factories.
- The licensing policy was a conflict of objectives. The stated objective was to increase industrial production but on ground it restricted expansion, production of new articles etc. Similarly, the stated objective of was to check the concentration of economic power in few hands, but actually it did the same. New licenses were granted to big houses thanks to all pervasive corruption. They were also allowed to grow at cost of new players. Bribery was a culture in license raj. For bribe, the license was issued in areas reserved for public sector or small scale industries.
- There was an excessive control as one needed to obtain licences for setting up new unit, starting production of new product, substantial expansion, change of location etc.

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.

Reforms in the Licensing System

A series of reforms in Licensing System was initiated after the second five year plan in the form of studies by some committees and commissions in the 1960s. The key question were:

- Are the five year plans really increasing the income level of the people?
- What was the extent and effect of concentration of power in private hands?
- What was the extent and effect of monopolistic tendencies in Indian industries?
- To what extent and how the licensing regime should be liberalized?

First such committee was *Mahalanobis committee* on " Distribution of Income and Levels of Living" to find who was benefitted in first and second five year plans because there was no substantial increase in per capita income of the people under these two plans. This committee found that big financial

and development institutions helped only big industrial houses and helped in 'monopolistic growth' in the country and aided in concentration of economic power in few hands.

Monopolies Inquiry Commission

On the basis of recommendation of this committee, a Monopolies Inquiry Commission was established headed by Justice KC Dasgupta. This committee also iterated the dangers of monopolistic tendencies by reporting that the Industrial licensing system enabled big business houses to obtain disproportionately large share of licenses.

Hazari Committee

The process for review of the licensing system began with Hazari committee in 1967 headed by Dr. R K Hazari. This committee threw light on the failure of the Industrial licensing in almost every stated objectives. It termed license as 'passport' to do business in India.[currentuser_id]

Dutt Committee

The 1967 "Industrial Licensing Policy Inquiry Committee" was set up under the chairmanship of Mr. Subimal Dutt. This committee reported that due to the license raj, a very strong nexus had developed between the Industrial houses, politicians and bureaucrats. Corruption prevailed in the system and the licensing authorities were bought over by the large industrial houses. Its key recommendations were:

- The industries should be reclassified into core sector, non-core sector, reserved sector etc. Licensing should continue with necessary reorientation and larger houses should be given license to set up industry in only core and heavy investment sectors.
- A monopolies commission should be established with necessary teeth to deal with the problems of concentration of economic power or product monopolies.

MRTP Act 1970

On the basis of recommendation of Dutt Committee, MRTP Act was enacted in 1969 to ensure that concentration of economic power is not in hands of few rich. The act was there to prohibit monopolistic and restrictive trade practices. This act is not in force now as it was repealed in 2009 and was replaced by Competition Act 2002 with effect from September 1, 2009. It established a MRTP commission; which is now replaced by Competition Commission of India. The key points from this act are as follows:

- This act was not applicable to the Public Sector Companies, Trade Unions, Cooperatives and Financial Institutions.
- Any other company with assets more than Rs. 25 Crore was tagged as MRTP company. This limit was raised several times later and finally removed in 1991. Under the current provisions, no MRTP companies exist in India. Under the current provisions, any company

which has more than 25% of the market share is called Monopoly company.

MRTP Commission

This MRTP act established MRTP Commission (MRTPC) as an organ of Department of Company Affairs as a quasi-judicial body. Its major function was to enquire into and take appropriate action in respect of unfair trade practices and restrictive trade practices. It is now replaced with Competition Commission of India (CCI). We shall be studying the Competition Act later in these modules, here we note the two main differences between the two:

- The object of the MRTP Act was to prevent the economic concentration in few hands, the competition act aims to promote and sustaining Competition in the market and to ensure the freedom of trade and to protect the interest of the consumer in whole.
- The MRTP commission had an advisory role while the CCI has been provided teeth to initiate *suo moto* [on its own motion] actions and impose punishments to the entities having some adverse effect in the market.

Industrial License Policy in 1970 and emergence of core and non-core sectors

In the backdrop of Dutt committee and MRTP Act; the government launched its new Industrial License Policy in 1970 whereby the industries were re-classified into four groups viz. Core Sector, Middle Sector, Non-core Heavy Investment Sector and Delicensed sector. Core sector comprised basic, critical and strategic industries such as atomic energy, cement, Iron, Steel etc. requiring investment of Rs. 5 Crore or more. This sector would be exclusively developed under public sector. Non-core heavy investment sector or joint sector comprised of those core industries which required investment below 5 Crore. Middle Sector comprised the investment of Rs. 1 Crore to 5 Crore. Delicensed Sector, in which investment was less than ` 1 Crore and was exempted from licensing requirements.

Thus, the 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 government released further licensing policies in 1975, 1978, 1980, 1985, 1991, 1999 and 2006 gradually liberalising the licensing system and making it much simpler.

Industry Policy Statement 1973 and emergence of Core Industries / PPP concepts

The Government came up Industrial Policy Statement 1973 which for the first time defined the term "Core Industries" keeping six industries within this category viz. Iron and Steel, Cement, Coal, Crude Oil, Oil Refining and Electricity.

Currently, we have eight core industries viz. Fertilizers, Electricity, Refinery Products, Natural Gas, Steel, Coal, Crude Oil and Cement. You can remember these with mnemonics FERNS-C^3

This policy also allowed limited entry to MNCs and emphasized on a prototype of Public Private Participation.

Industrial Policy Statement 1977

This policy was announced by Janata Government led by Janata Government led by Morarji Desai. The Janata Government had a different approach and planning philosophy from Congress, and it reflected in its Industrial policy also. This policy gave highest priority to the small scale and tiny industries.

- For the first time, it defined a "tiny unit" as a unit with investment up to Rs. 1 Lakh, located in towns or villages with a population < 50,000.
- The policy declared to establish one District Industries Centre in each district to meet the requirement of industries within that district.
- To open a separate cell in Industrial Development Bank of India (now IDBI) to cater to the need of the small industries. It emphasized on more attention to marketing, standardisation, quality control etc. in small industries. It expanded the list of items reserved for exclusive production in the small scale sector from 180 to more than 500.
- The policy emphasized on the viability, efficiency and profitability of the public sector units.
- It declared that government will selectively take over sick industries to bear minimum possible loss; and will take immediate measures to rehabilitate and manage the units taken over.
- Focus on indigenous capital and technology; Self sufficiency, Minimum imports and maximum exports.
- The policy declared that the foreign investment in the "unnecessary areas" (means those which had not role to play in development of the country), was prohibited. This was virtually a complete NO to the foreign investment.

New Industrial Policy 1991

On July 24, 1991, Government of India announced its new industrial policy with an aim to correct the distortion and weakness of the Industrial Structure of the country that had developed in 4 decades; raise industrial efficiency to the international level; and accelerate industrial growth.

Salient Features

We can study the features of the new industrial policy 1991 under different heads as follows:

Government Monopoly

The number of industries reserved for public sector was reduced from 17 (as per 1956 policy) to only 8 industries viz. Arms and Ammunition, Atomic Energy, Coal, Mineral Oil, Mining of Iron Ore,

Manganese Ore, Gold, Silver, Mining of Copper, Lead, Zinc, Atomic Minerals and Railways.

Current Position

Currently only two categories from the above viz. atomic energy and Railways are reserved for public sector. Further, Atomic minerals come within the purview of Atomic Energy Act. Government of India does not grant license to private sector for mining of atomic minerals and mineral sand also. However, for mining of mineral present in beach sand deposits, the state governments can grant license to private parties subject to prior consent of the Department of Atomic Energy. There have been proposals to open the atomic energy sector for private sector, but so far it has not been done.

Further, the policy had implied threat of closure of sick public sector enterprises to increase efficiency of the public sector.

Industrial Licensing Policy

This policy abolished the Industrial licensing for all industries except for a short list of 18 industries. This list of 18 industries was further pruned in 1999 whereby the number reduced to six industries viz. drugs and pharmaceuticals, hazardous chemicals, explosives such as gun powder and detonating fuses, tobacco products, alcoholic drinks, and electronic, aerospace and defence equipment. The compulsion for obtaining prior approval for setting units in metros was also removed.

However, in this policy, industries reserved for the small scale sector were continued to be so reserved.

Foreign Investment and Capital

This was the first Industrial policy in which foreign companies were allowed to have majority stake in India. In 47 high priority industries, up to 51% FDI was allowed. For export trading houses, FDI up to 74% was allowed. Today, there are numerous sectors in the economy where government allows 100% FDI.

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. (The act was later replaced by FEMA in 1999)

NRIs were allowed to 100% equity investments on non-repatriation basis in all activities except the negative list.

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 government also established a special empowered board called *Foreign Investment Promotion Board* (FIPB) to negotiate with international firms and approve FDI in selected areas.

Foreign Technology Agreements

Automatic permission was given for foreign technology agreements in high priority industries up to 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. Further, government eased hiring of foreign technicians.

Review in Public Sector Investments

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.

Amendments to MRTP Act

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 Rs. 100 Crore. Currently, MRTP act is replaced by Competition Act 2002.

Definition of Tiny Sector

The definition of Tiny Unit was changed as a unit having an investment limit of Less than Rs. 5 Lakh.

National Renewal Fund to provide safety net for labourers

Via this policy, the Government announced to establish a National Renewal Fund (NRF) to provide a social safety net to the labour. This fund was established in 1992 and two schemes were brought under this- first Voluntary Retirement Scheme (CRS) and another re-training scheme for rationalised workers in organised sector. The fund monies would be used to make payments under these two schemes. This fund was later abolished in 2000.

Why NRF was abolished?

The NRF was established to provide relief to the workers affected by technological changes, privatisation of public sector units and closure of public sector units. Those who lost their jobs would be either paid money under VRS scheme or will be retrained / rehabilitated. The VRS scheme was under DIPP at that time. What happened was that for around 10 years, bulk of the payments in NRF was paid for VRS only; the fund did

not adequately serve the stated objective of "re-training and rehabilitation". Further, initially the private sector was also listed as its beneficiary, but later it was felt that only public sector should be exclusively benefitted from this fund. This, this fund was no more than a "golden handshake scheme". Due to this NRF was abolished and the VRS was shifted to Department of Public Enterprises (DPE).

Tangible outcomes of the Industrial Policy 1991

- This policy made Licence, Permit and Quota Raj a thing of past. The process of liberalization is continuing. The 1991 policy attempted to liberalise the economy by removing bureaucratic hurdles in industrial growth.
- The role of public sector was limited. Only 2 sectors were finally left reserved for public sector. This reduced burden on the government. A process of either transforming or selling off the sick units started. The process of disinvestment in PSUs also started.
- The policy provided easier entry of multinational companies, privatisation, removal of asset limit on MRTP companies, liberal licensing. All this resulted in increased competition, that led to lower prices in many goods such as electronics prices. This brought domestic as well as foreign investment in almost every sector opened to private sector.
- The policy was followed by special efforts to increase exports. Concepts like Export Oriented Units (EOU), Export Processing Zones (EPZ), Agri-Export Zones (AEZ), Special Economic Zones (SEZ) and lately National Investment and Manufacturing Zones(NIMZ) emerged. All these have benefitted the export sector of the country.
- Gradually, a new act was passed for MSMEs in 2006 and a separate ministry was established to look into the problems of MSMEs. Government tried to provide better access to services and finance to MSMEs.

If we were to evaluate the reform process in the Indian economy over the last two decades 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.

Key Notes on Current Industrial Policy

The Industrial Policy of 1991 was a watershed moment in the Indian Economy. It fulfilled log-left

demands of the industry such as removal of compulsory licensing, MRTP limit and other numerous bureaucratic bottlenecks. The companies could establish new undertakings and implement expansion plans. These reforms were introductory in nature and the series of reforms continued and are continuing even today. We study this in the form of below questions:

What are Government Monopoly sectors today?

Under 1991 policy, only eight industries were reserved for public sector. This number was further brought down and current position is that only Atomic Energy and Railways are Government monopoly industries in the country. There have been proposals for allowing private control in atomic energy sector also but so far no official decision has been taken in this direction.

For which Industries, entrepreneurs need license today?

Industrial Licensing was also abolished for all except short list of 18 industries in New Industrial Policy 1991. This number was further pruned to six industries. Currently (2015), only five industries are under compulsory licensing mainly on account of environmental, safety and strategic considerations. They are:

1. Distillation and brewing of alcoholic drinks
2. Cigars and cigarettes of tobacco and manufactured tobacco substitutes.
3. Electronic Aerospace and defense equipment: all types.
4. Industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches.
5. Specified Hazardous chemicals i.e. (i) Hydrocyanic acid and its derivatives, (ii) Phosgene and its derivatives and (iii) Isocyanates & diisocyanates of hydrocarbon, not elsewhere specified(example Methyl isocyanate)

Regarding Alcoholic products, we note that production of rectified spirit exclusively for industrial use falls under the Centre's purview while in the case of potable alcohol, states have last word. {This is as per Supreme Court decision in "Bihar Distillery Case"}. So, DIPP is not the licensing authority in case of potable alcohol.

What is the current definition of micro, small and medium Industries today?

The small industries sector definition has changed from time to time. Earlier there used to be concepts of Small Scale Industries, Tiny enterprises and ancillary units. However, since enactment of MSME (Micro, Small and Medium Enterprises) Act 2006; the scope of small industries was enlarged and the concepts of SSI, Tiny and ancillary units was replaced with Micro, Small & Medium Enterprises. Thus, the current definition comes from the notification issued under MSME Act 2006. As per this, the definition for Micro, Small and Medium enterprises are different for manufacturing sector and Service sector.

Manufacturing Sector	
Enterprises	Investment in plant & machinery
Micro Enterprises	Does not exceed twenty five lakh rupees
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees
Service Sector	
Enterprises	Investment in equipments
Micro Enterprises	Does not exceed ten lakh rupees:
Small Enterprises	More than ten lakh rupees but does not exceed two crore rupees
Medium Enterprises	More than two crore rupees but does not exceed five core rupees

Which sectors are reserved for MSME today?

Reservation and de-reservation of the products for particular sector is done under the Industries (Development & Regulation) Act, 1951. The original list was containing around 873 items that could be legally produced by only small / cottage sector in 1960s and 1970s. The idea of the governments of those days was to promote and facilitate the small sector because they were engines of employment generation. *However, as of today, not a single item is reserved for small industries.*

The last list was of 20 items in April 2015 and it contained items viz. pickles & chutneys, mustard oil (except solvent extracted), groundnut oil (except solvent extracted), wooden fixtures, exercise books and registers, wax candles, laundry soap, glass bangles, steel almirah, rolling shutters, steel chairs and tables, padlocks, stainless steel and aluminium utensils. On 13th April 2015, the NDA Government has de-reserved these products also.

Is the decision to not to reserve anything for small sector justified?

Yes. This is because the reserving manufacturing of products for small sectors implies that it blocks the production via latest technology and economy of scale. Due to this, such products face competition and threat from cheap imports. For example, today a huge part of market in padlocks is occupied by cheap Chinese locks. Not allowing big industries to take up their production was a counterproductive restriction. This happened with garment products which was once in this reserved list. India could never realize its potential as garment exports because of this restriction as the average size of an Indian garment factory was not even 10th of such factories in Bangladesh.

Today, Bangladesh has gone much ahead of India in Garment exports. This move though symbolic is a good step towards making India a genuine manufacturing hub.

General Knowledge Today

Industries-3: Industrial Growth, Indian Industries-1

Integrated IAS General Studies:2016-17

Last Updated: February 15, 2016
Published by: GKTODAY.IN

Contents

Model Questions

1. Critically examine the growth trends in Industrial Development in the country since 1951, pointing out factors responsible for these trends.
2. Give a critical account of the progress of industries during the initial three five year plans. To what extent these plans set the stage for long- run economic growth in the country. Examine.
3. Present a critical overview of the success and failures of the five year plans with respect to Industries in India.
4. Many opine that the process of Industrial development in India remained "growth oriented" and not "development oriented" during planning era. To what extent you agree with this view. Examine.
5. Critically examine the structural transformation in the Industrial Sector of India since independence.
6. Examine the importance of National Electric Mobility Mission Plan (NEMMP) 2020 towards achieving sustainable mobility and National Fuel Security.
7. Discuss the structural patterns in the Chemical Industry in India.
8. What are the major problems faced by Jute Industry in India. Discuss making a case for "Golden Fibre Revolution" in India.

Industrial-Growth-Indian-Industries-1

Industrial Growth and Industrial Policies

Industrial Structure and Growth Trends

The structure of industries is dynamic and keep changing from time to time. The change in Industrial structure or Industrial development or growth during the planning era can be divided into four phases discussed as follows

First Phase of High Growth

The **first phase** was of high growth between beginning of first plan to end of third plan i.e. 1950-51 to 1965-66. During this period, the central government led by Nehru laid great emphasis on industrialisation; particularly since the Second five year plan. Under the Industrial Policy of 1948 and 1956, huge public investment in heavy industries was done because such investment was thought to be out of capital-raising capacity of the private sector. During this phase, average industrial growth was nearly 9%.

Second Phase of Industrial Retrogression

Second Phase between 1966 to 1980 is called Low Growth Phase or phase of Industrial Deceleration in India or "Industrial retrogression" during fourth and fifth plan. During this phase, the average Industrial growth rate remained 4.1%. However, the capital goods industries registered a high growth during this period. There are several explanations of this phenomenon of Industrial retrogression between 1966-1980.

- As per the government, the wars of 1965 and 1971, back-to-back drought conditions, infrastructural bottlenecks were responsible.
- Some scholars held low farm growth responsible for slowdown, because it restricted the supply of raw materials.
- Others blamed the small size of market for industrial goods. Their argument was that such goods were not in the reach of the people beyond top 10% of the population (by income) because of huge inequalities of income and wealth. Once that market got saturated, there was no further expansion among the other strata of the population.
- Few more other blamed the wrong industrial / other government policies that led to complex licensing system, inefficient control and infrastructure bottlenecks.

Third Phase of Industrial Recovery

The third phase from 1980s to 1991 can be called phase of Industrial Recovery. During this phase, Industrial growth was between 6.4 to 8.3%.

- The main cause of this revival was gradual liberalization of the industrial licensing.

- The green revolution resulted in increased prosperity of the large farmers in some parts of the country, that led to increased demand of farm mechanization.
- Further, the government had taken several other budgetary / fiscal measures aimed at infrastructure investment. These measures included maintenance of heavy budgetary deficit and huge public borrowing (to invest in infra).

This period saw a changed consumption pattern in favour of Consumer durables. People started having Radio sets, TVs, VCRs, Refrigerators, Bikes, Scooters etc. in their homes. This was the reason that the *consumer durable were called the "forefront of growth" during this phase.*

Fourth phase of Industrial Reforms

The manufacturing growth was in negative zone in 1991-92 with a dismal overall industrial growth of 0.8%. After that, the PV Narsimharao government announced New Industrial Policy 1991 and growth started taking pace. However, there was no sustainable economic growth initially. As the Indian economy integrated with the rest of the global economy, it started responding to global slowdowns and recovery.

Industrial Growth Trends in first three Five Year Plans

First Five Year Plan

At the time of India's freedom, the Indian Economy exhibited the features of underdeveloped economy. Most of the industries produced consumer goods such as cotton textile, sugar, soap, leather goods etc. The intermediate products industry was small, and capital goods sector was absent. As the nation building process began, the industrial growth was witnessed.

In the first five year plan emphasis was on farm sector and also on better utilization of existing units in manufacturing sector. The plan document itself did not contemplate to industrialize the economy. Instead, the focus was on building the basic services such as power, irrigation which could facilitate industrial production. The total plan outlay on industries was Rs. 797 Crore of which public sector investment was only Rs. 94 Crore. The actual expenditure in public sector was Rs. 57 Crore only.

The overall Industrial Growth rate in first five year plan was 39% with a CAGR of 7%. *This plan should be note for establishment of Sindri Fertiliser Factory, Chittaranjan Locomotive Works, Integral Coach Factory, Indian Telephone Industries and Penicillin Factory.* Infrastructure for development of basic industries such as steel, drugs, pharmaceuticals, fertilisers, machine-building, machine tools, etc. was developed to some extent.

Second Five Year Plan

The second five year plan was based on Industrial Policy Resolution of 1956 and it accorded top priority to Industrialisation. Based on the Mahalanobis model, this plan emphasised the setting up of Basic and Heavy Industries so that a strong base for rapid industrialisation, self-reliance,

technological development can be established.

The plan document had outlined the below priorities under industries:

- To increase production of iron and steel; heavy engineering and machine building industries.
- To expand capacity in respect of producer goods such as aluminium, cement, chemical pulp, dyestuffs and phosphatic fertilisers, and essential drugs.
- To modernize and reequip the national industries in Jute, textiles and sugar.
- Full utilization of existing installed capacity of industries
- Expansion of consumer goods industry

The total investment in industries during the second plan was Rs. 1810 Crore, which was 27% of the total investment during the second plan. Out of this, Rs. 870 Crore was made in organized public sector industries. This plan should be noted for

- Establishment of Rourkela Steel Plant in Odisha, Bhilai Steel Plant in Madhya Pradesh and Durgapur Steel Plant in West Bengal.
- Establishment of fertilizer plant at Nangal (Punjab).
- Expansion of Hindustan Machine Tools; Sindri Fertilizers; Hindustan Shipyard; Chittaranjan locomotive factory etc.

- Use of novel applications of statistical models developed at Indian Statistical Institute
- Establishment of Atomic Energy Commission in 1957 with Homi J. Bhabha as the first chairman.
- Establishment of Tata Institute of Fundamental Research.

In summary, the second five year plan attempted to determine the optimal allocation of investment between productive sectors in order to maximize long- run economic growth. India made a beginning in the development of atomic energy also during this plan.

Third Five Year Plan

Both second and third plan emphasized on the development of heavy industries in the country but the third plan was the *beginning of perspective planning in India.* [Perspective planning refers to long-term planning in which long range targets are set in advance for a period of 15, 20, or 25 years; and five year plans are implemented as installments of that perspective plan.]

Further, this plan was aimed at "Integrated Growth of Industry and Agriculture". Further, out of Rs. 3000 Crore industry outlay, Rs. 1700 Crore was for public sector while Rs. 1300 crore was set for private sector. The basic idea was to make Indian economy self sustaining in producer goods industries so that external dependence can be minimized. This plan should also be noted for highest average industrial growth (9%) achieved in all five year plans so far.

Analysis of Progress of Industries during five year plans

The analysis of progress of Indian Industries during the five year plans should be done in the light of achievements and failures during planning era. The achievements and failures are shown in the below graphics:

Achievements	Failures
• Strong industrial base • Modern industry • Stupendous growth of public sector • Infrastructure build-up • Perceptible rise in the contribution of industry to GDP • Substantial increase in industrial production	• Huge gap between targeted and actual growth rate • Lack of sustained growth • Excess capacity and industrial sickness • Monopolistic growth • Inefficient performance of public sector • Regional imbalance • Small industries have faded to insignificance

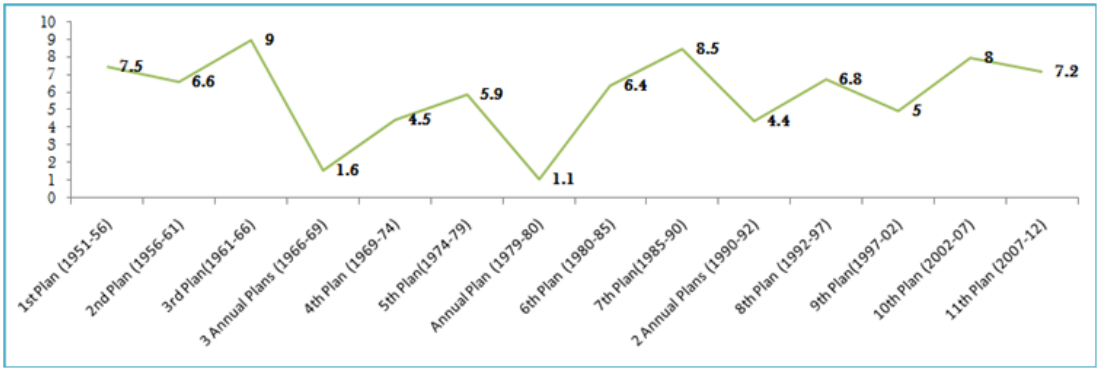
Industrialization helped in development of strong industrial base

At the time of Independence, India was an underdeveloped economy. Even today, India is developing but due to the consistent efforts made during Five Year Plans, a strong industrial base emerged. There is hardly any area where Indian Industry is missing its presence. Further, the five year plans helped the Indian economy to redeem itself from the cobweb of conventional industrial structure which focussed mostly on consumer goods and catered the local / regional markets. Today, India is among top 10 industrial countries and produces a wide range of goods for domestic as well as international markets.

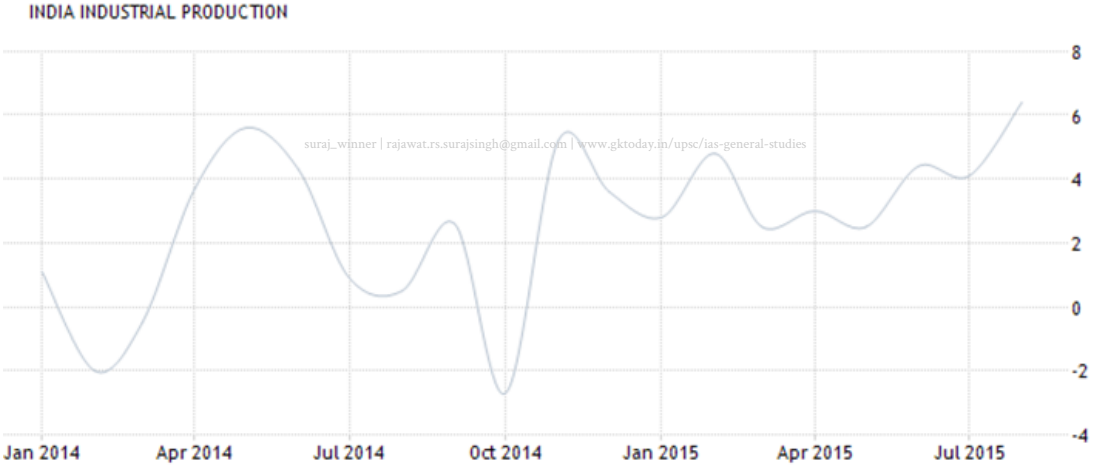
The public sector got tremendous policy support during almost all five year plans except the first one. This helped it to emerge as big-brother in the Indian industrial scenario. There was also great development in the industrial infrastructure including transport, communication, roads, dams, bridges, generation of power etc. Further, there was a perceptible rise in Industry's contribution in GDP. The share of industrial GDP in overall GDP was 16% in 1951 and it stands near 30% today. This indicates a structural shift in the economy. Further, Industrial production recorded substantial increase during the five year plans.

There was a huge gap between targeted and achieved growth rates

However, there a few dark aspects also of the above achievements. There was hardly any plan in which the targeted growth was achieved. Further, the growth in industries has not been stable but erratic and in zig-zag pattern. The below graphics shows the average annual growth rate of industries in all five year plans so far.



Within a five year plan itself, the annual change in industrial growth rate has been erratic. For example, while it was 8.5% in 2007-08, it was 2.4% in 2008-09. The same erratic behaviour continues even in the current year:



Frequent recessions, industrial sickness, rising NPAs in PSUs further aggravate the problem.

Inefficiency of the Public Sector

The main reason of inability to achieve targeted growth was operational deficiencies in the public sector and excessive control over private sector. The PSUs were marred by low productivity, inefficiency, corruption and Industrial sickness. The public sector grew in size but not in efficiency. It was the inefficiency of the public sector that largely compelled the government to move towards privatisation, besides liberalisation. Further, since most of the PSUs are supported by the central government and hold monopoly positions in domestic market; it led to rise of monopolistic tendencies in both public as well as private sector.

Industrial Process was growth oriented but not development oriented

The process of Industrial development in India remained "growth oriented" and not "development oriented". It was confined to few states such as Maharashtra, Gujarat and Tamil Nadu; it did not bridge the regional imbalance and it did not bring substantial change in the quality of life of common people. The growth process of industrialization was hijacked by large industrialists and this led the small scale industries to get lost into insignificance. It failed to generate enough employment for increasing job seekers. Last but not the least, the common people and small businessmen could not become a party to the Industrial development and industrial growth failed to be inclusive.

Structural Changes in the Industrial Sector in last 65 years

There key changes that occurred in the Industrial structure of the country during planning period are as follows:

Overall industrial production went up by 5 to 6 times

In last 65 years, Industrial overall production went up by five-six times, making India one of the top 10 most Industrial nations of the world. The industrial structure has been widely diversified from being only consumer goods to entire range of consumer, intermediate and capital goods.

Rise of Heavy and Capital Goods Sector

As the focus of 2nd five year plan was on heavy industries and capital goods sector; this resulted in a very strong industrial base. Today, India has a very good place in *Engineering goods, which is also largest foreign exchange earning sector*. Growth of heavy machinery and capital goods sector allowed India to reduce dependence on the other countries and save substantial amount of foreign exchange.

Rise of Public sector

There was no public sector worth the name in the pre-independence period. The entire range of activities in the industrial sector was controlled by the Private sector. After 1947, Public Sector has developed considerably.

Public Sector Enterprises range from Basic and Strategic Industries like Steel, Mining and Metallurgical units, Oil Exploration and Refining, Basic and Intermediate Chemicals, Ship-Building, Heavy Machine Building for Steel Plants, Chemical fertilisers, Cement, Aluminium etc. Besides, Public Sector Enterprises also produce a variety of goods and services ranging from sophisticated electronic goods to products of mass consumption like bread, cloth and drugs.

Various Types of Goods and IIP

Note: This section is useful for Prelims only. Kindly remember increasing / decreasing order of weights of sectors in IIP.

Concept: Various types of Goods

In economy, any object that is 'useful' is good. Useful here means utility, not good or bad in moral sense. A good is different from service because while former is a tangible object, later is an action that benefits someone. *A service is non-material equivalent of a good.* Since Physical objects can be touched, they are called tangible goods. Intangible goods cannot be touched but only experienced. So, services come under the category of *intangible goods*. We note here that both goods and services can be collectively called "products".

Free Goods

If one does not need to pay anything for a good, it is called "*free good*". Best example of free good is air – which we breathe. It has its utility but it is so abundant in nature that we don't need to pay a price for its production as well as usage. However, *good sold for free for promotion is not a free good* in economic sense.

Good Versus Bad in Economy

For goods other than free goods, we need to pay a positive price, because of their utility. However, there are many instances, in which we need to Pay negative price for goods. For example, garbage has no utility but we need to pay garbage + some money to the garbage collector. In economic sense, that becomes a 'bad', an antithesis of good.

Basic Good

Basic good means a good, which itself may not have utility but other good derived from it have that utility. For example, cotton / textile is a basic good because apparels made from it has utility. In other sense, bulk or raw material products used for further production of new items in agriculture, manufacture or construction are called basic goods.

Intermediate Goods

Intermediate good is incomplete good which goes as input for further finishing. Thus, in production chain, Intermediate goods lie between raw material and finished goods.

Raw material

The term raw material refers to both basic and intermediate goods, which are used as input to produce finished goods.

Finished Goods

A Finished goods has completed required manufacturing and is ready to provide its utility. Finished goods are ready to be consumed or distributed.

Capital Goods

The term Capital Goods is used for Plants, machinery and other assets which are used for conversion of basic goods to finished goods. We note here that *Capital Good provides service without losing its essential functional characteristic, form or shape except wear and depreciation*. Further, a Capital Good

itself is a finished good because it itself does not need any further processing.

Producer Good

A producer good is any good that is used to produce other goods as well as services. Thus, all basic goods, intermediate goods and capital goods are Producer goods because they are used to produce other goods. Among these three, the basic and intermediate goods are raw materials but NOT capital goods.

Consumer Goods

While the producer goods are used to produce other goods, consumer goods are used by individuals for their consumption. Consumer goods are generally, *not always* "Finished Goods" as they are ready to use without undergoing further processing or changes. There may be some consumer goods which need further processing – for example cloth, that needs to be sent to a tailor, is a consumer good but also an intermediate good. There are two main categories of consumer goods viz. Consumer Durable Goods and Consumer Non-durable Goods.

Consumer Durable Goods (aka. Consumer Durables)

The non-perishable goods such as electronics come under the category of Consumer durables. Such goods don't need to be purchased frequently because they are made to last for long period, at least three years. They are generally of higher price in comparison to the non-durables.

Consumer Non-durable Goods (aka. Consumer Non-durables)

The perishable goods such as fruits, vegetables, cosmetics, food items etc. which we need to purchase frequently are consumer non-durables.

Convenience Goods, Shopping Goods and Specialty Goods

Convenience Goods

The items which are bought frequently, immediately and with minimum shopping efforts are convenience goods. These include candy, ice-cream, cold drinks, cigarettes, magazines, medicines etc. Shopping Goods are those which are bought after selection, purchase and comparison of various goods. Generally, the shopping goods are durable goods e.g. furniture, dresses, electronic items & appliances etc. Speciality goods posses special features (and prices) and incur special purchasing efforts. Speciality goods examples are rare art collectibles, antiquities, style goods etc.

Use based category	Details	Examples
Basic Goods	Any bulk raw material/product used for further production of new items in manufacturing and agriculture	High Speed Diesel, Aviation Fuel, Kerosene, Urea, Cement all kinds, Granites, Sponge iron, Copper & Copper Products and Electricity

Use based category	Details	Examples
Capital Goods	Plants, machinery and goods used for further investments	Refractory Bricks, Boilers, Air& Gas Compressors, Engines including Internal Combustion and Diesel Engine, Tractors(complete), Transformers, Commercial Vehicles and all machineries like Textile Machinery, Printing Machinery etc.
Intermediate Goods	Any good/product produced as incomplete product or which goes as input in production for further finishing	Cotton yarn, Plywood, Corrugated and other paper boxes, Liquidified Petroleum Gas, Adhesives, Aluminium Tubes / Pipes, Steel Structures, Fasteners etc.
Consumer durable	Products directly used by consumers and having a larger durability (more than 2/3 years)	Pressure Cooker, Air Conditioner (Room), Tyre, Car/Cab, Glazed Tiles/Ceramic Tiles, Telephone Instruments including mobile phone and accessories, Colour TV Sets, Passenger Cars, Motor Cycles, Gems and Jewellery etc.
Consumer non-durable	Products that are directly used by consumers and can't be preserved for long periods	Fruit Pulp, Edible Hydrogenated Oil, Soyabean oil, Milk – skimmed/pasteurized, Milk Powder, Maida, Rice, Biscuits, Sugar(including sugar cubes),Tea, Cigarettes, Apparels, Newspapers, Antibiotics & it's preparations etc.

Index of Industrial Production

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 show 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.

Key Historical Facts

An *Interim Index of Industrial Production* was released from 1947, based upon 15 industries and with base year 1937. It was discontinued in 1949. The First IIP was published in 1950 by Office of Economic Advisor, Ministry of Commerce with base year 1937. The base year was later shifted from time to time. Currently IIP data is released every month by CSO (Central Statistical Office) which was set up in 1951. Current IIP Base year is 2004-05.

Composition of IIP

Currently, the Index of Industrial Production comprises 682 individual items. These items can be divided into two ways as follows:

Sector wise Composition

Sector wise , the items included in IIP fall into three sectors viz. mining, manufacturing and electricity sectors. The below tables shows the items in base year 2004-05 and 1993-94 number and weightage of items sector wise.

Sl. No.	Sector	No. of Items		Weight	
		1993-94	2004-05	1993-94	2004-05
1	Mining	64	61	104.73	141.57
2	Manufacturing	473	620	793.58	755.27
3	Electricity	1	1	101.69	103.16
4	General index	538	682	1000	1000

From the above table, we note down that:

- In the current IIP index, there are 61 mining items and 620 manufacturing items. Only 1 item (electricity) comes under electricity sector.
- Maximum weightage is of manufacturing items (755.27), followed by Mining (141.57) and Electricity (103.16)
- While updating the IIP from 1993-94 to 2004-05, the weightage of manufacturing was brought down while that of mining was increased. This is mainly because the contribution of the Gross Domestic Product of the Manufacturing sector has decreased compared to other two sectors as per the National Accounts Statistics.

Use wise Composition

Use wise, the 682 items are divided into basic goods, capital goods, intermediate goods and consumer goods. Further, consumer goods is divided into consumer durables and consumer non durables. The below table shows the items in IIPs with base year 1993-94 and 2004-05 with number of items therein.

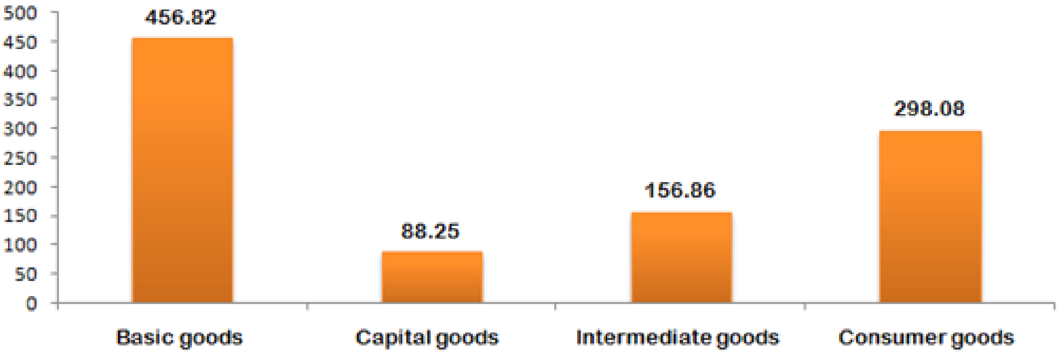
No.	Use based category	Number of Item Groups		Weightage	
		1993-94	2004-05	1993-94	2004-05
1	Basic goods	65	88	355.65	456.82
2	Capital goods	53	73	92.57	88.25
3	Intermediate goods	92	106	265.14	156.86
4	Consumer goods	89	132	286.64	298.08
	a. Consumer durables	26	43	53.65	84.60
	b. Consumer non-durables	63	89	232.99	213.47

From the above, table, we note that:

- In the IIP index, the maximum weight is of basic goods, followed by Consumer Goods,

followed by Intermediate and Capital Goods. While updating IIP index from base year 1993-04 to 2004-05, the weightage of basic goods and consumer goods has gone up; while that of capital goods and intermediate goods and come down.

- The maximum weightage is given to Basic goods, followed by Consumer Goods, followed by Intermediate and Capital Goods. Among Consumer goods, the weightage of consumer non-durables is much more than of durables.



Percentage Weightage of Core Industries

The eight Core Industries viz. Fertilizers, Electricity, Refinery Products, Natural Gas, Steel, Cement, Crude Oil and coal [remember this by mnemonic FERNS-C^3] is nearly 38% in the IIP. This is shown in decreasing order as follows:

Industry	% Weightage in IIP
Electricity	10.32
Steel (Alloy + Non-alloy)	6.68
Refinery Products	5.94
Crude Oil	5.22
Coal	4.38
Cement	2.41
Natural Gas	1.71
Fertilizers	1.25

So, on the basis of weightage the arrangement of six core industries in decreasing order is as

follows: Electricity> Steel >Refinery Products> Crude Oil >Coal>Cement >Natural Gas> Fertilizers.[currentuser_id]

National Manufacturing & Investment Zones (NIMZ)

National Manufacturing Policy was launched by UPA Government with two basic aims. First was to increase share of manufacturing in India's GDP from 16% to 25% by 2022; and other was to create 100 million additional jobs in manufacturing sector.

This policy envisages establishment of "autonomous and self regulated" **National Investment and Manufacturing Zones (NIMZ)** equipped with world-class infrastructure under Public-Private Partnership (PPP).

Key Observations for Prelims

Below are the key facts on NIMZ for preliminary examination

- Each NIMZ is an integrated industrial township in minimum 5000 hectare (50 KM²) area. At least 30 per cent of the total land area would be devoted to manufacturing units
- It is a self governing body declared / notified / sanctioned in official gazette by Central Government (DIPP) as "Industrial Township" under Article 243Q(c) of the constitution. *No separate legislation / law is needed to be passed to establish an NIMZ.*
- An NIMZ is managed by a Special Purpose Vehicle (SPV) (dedicated company for this cause only). The partners in NIMZ are that Special Purpose Vehicle, a developer, State Government and the Central Government. The SPV is headed by a Central / State Government.
- *Land is provided by State governments*. Barren and wastelands are preferred. If the land is to be acquired, this work is to be done by state governments. The policy calls for minimum use of fertile and agricultural land. *It should not be within any ecologically sensitive area or closer than the minimum distance specified for such an area*.
- The external physical infrastructure linkages to the NIMZs including Rail, Road (National Highways), Ports, Airports, and Telecom are to be provided by Central Governments.
- *The focus industries in NIMZ include employment generating industries such as textiles and garments; capital goods; industries with strategic significance; SMEs; PSUs and the industries where India has a competitive advantage.*
- The policy proposes establishment of a *Technology Acquisition and Development Fund* (TADF) for acquisition of appropriate technologies including environment friendly technologies; creation of a patent pool; and development of domestic manufacturing of equipments used for controlling pollution and reducing energy consumption.[currentuser_id]

List of Current NIMZ

The below NIMZ have been identified so far.

Under DMIC

- Ahmedabad-Dholera Investment region, Gujarat
- Shendra-Bidkin Industrial Park City near Aurangabad, Maharashtra
- Manesar-Bawal investment Region, Haryana
- Khushkhera-Bhiwadi-Neemrana Investment Region, Rajasthan
- Pithampur-Dhar-Mhow Investment Region, Madhya Pradesh
- Dadri-Noida-Ghaziabad Investment Region, Uttar Pradesh
- Dighi-Port Industrial Area, Maharashtra
- Jodhpur-Pali-Marwar region, Rajasthan

Outside DMIC

- Kuhi and Umred Taluka of Nagpur district, Maharashtra
- Tumkur, Karnataka
- Chittoor, Andhra Pradesh
- Medak, Telangana
- Prakasam, Andhra Pradesh
- Gulbarga, Karnataka
- Kolar, Karnataka
- Bidar, Karnataka
- Kalinganagar, Jajpur District, Odisha

Current Status

This scheme was launched by UPA government with much fanfare. The plan is ambitious and intends to give mega industrial townships autonomy, incentivise public private infrastructure development and facilitate access to green technologies. Currently, the NIMZs are being promoted under the Make in India programme.

Indian Industries-1

Automobiles Sector

Currently, India is 7th largest producer of automobiles in the world with annual production of 17.5 million automobiles every year. India is home to four large automotive clusters viz. Delhi-Gurgaon-Faridabad in the north, Mumbai-Pune-Nashik- Aurangabad in the west, Chennai-Bengaluru-Hosur in the south and Jamshedpur-Kolkata in the east. This industry accounts for 7.1% of India's GDP and its current value is USD 74 Billion. 100% FDI is allowed under the automatic route in the auto sector, subject to other regulations. No licensing / approvals needed.

Automotive Mission Plan-II 2026

The Automotive Mission Plan-I 2006-16 sought to make India world's destination choice for design and manufacture of automobiles and auto components. In September 2015, the Automotive Mission Plan-II 2016-26 (AMP 2016) has been released by the Government. This plan outlines the broad vision of Government of India and the automobile industry on where the industry should stand after a decade. This plan seeks to propel the sector to be the engine of the Make in India programme. The key features are as follows:

- By 2026, India's automotive industry is to grow by 4 times of current value of USD 74 Billion and India will be one of the top three automotive industries in the world.
- The current share of automotive sector at 7.1% to grow to 12% by 2026 and the sector will generate 12 million additional jobs.
- The plan aims to make automotive sector as engine of Make in India.
- AMP envisages to implement End of Life Policy for automotive vehicles and components.
- BS-V (Bharat Stage-V) norms to be adopted by 2019 and BS-VI norms to be implemented 2023 for passenger vehicle.
- Implementation of the *End of Life policy* for automotive vehicles and components. End of Life policy seeks to retire older vehicles and components that are not conducive for further use must be in place.

National Automotive Testing and R&D Infrastructure Project (NATRiP):

NATRiP is a joint venture Central Government, some state governments and India's auto industry to create a testing, validation and R&D infrastructure in the country. The aim of this project is to create testing, validation and R&D infrastructure that help to develop global competencies of Automotive sector. Currently it has facilities at Manesar, Chennai, VRDE Ahmednagar, ARAI Pune, Rae Bareilly, Silchar and Indore.

Key Problems and Issues in India's automobile Industry

India's automobile industry has undergone a transformation since 1991 and its growth has surpassed all expectations. The factors that helped this industry to grow by leaps and bounds are (1) liberalization that began in 1991 and (2) the increased income and standard of living of people.

In 1990s, the industry grew @ near 25% annual rate which attracted the leading automobile manufacturers from Europe and the United States to set up bases in India.

However, despite the spectacular growth, this sector has not been able to utilize its full potential. They key problems for this sector include poor road infrastructure, high tariff on imported components, poor localization (of auto components) plans etc.

National Electric Mobility Mission Plan (NEMMP) 2020

National Electric Mobility Mission Plan (NEMMP) 2020 was launched by UPA government in 2013. The objective of this plan is to *achieve national fuel security* by promoting hybrid and electric vehicles in the country. Its objective is that 6-7 million of different types of electric and hybrid vehicles should be sold by 2020, which will result in 2.2-2.5 million tonnes of liquid fuel savings and a decrease of 1.3 – 1.5% in carbon dioxide emissions.

Under this plan, the government encourages production of xEVs that are reliable, affordable and meet price / performance expectations.

Importance of NEMMP in sustainable mobility and National Fuel Security

In the light of concerns about increasing consumption of fossil fuels and rise in global carbon dioxide emissions, sustainable mobility has assumed greater significance in recent years. As transportation sector accounts for second largest emissions of carbon dioxide globally, governments, climate change activists and other stakeholders are advocating greater adoption of alternate and cleaner transport technologies.

Various alternate power-train technologies like hybrid electric vehicles, Plug-in hybrid electric vehicles, range extender electric vehicles, and battery electric vehicles are being experimented and even sold in the market. The demand for these in the market is still not very high because of their costs. For more people to adopt them, governments are providing incentives to consumers in the form of tax and cash incentives and developing charging infrastructure for the car. Even the manufacturers are being given incentives for investment in R&D.

It is the critical importance of shifting to cleaner forms of transport, that led the government to announce the National Electric Mobility Mission Plan (NEMMP) 2020. This plan aims to save 2.2-2.5 million tonnes of liquid fuel and a decrease of 1.3 – 1.5% in carbon dioxide emissions. However, success of this plan needs that the government and industry work in partnership to achieve its aims and make sustainable mobility a reality in the coming years.

Biotech Industry

India's first biotech firm Biocon was established in 1978. Centre for Cellular and Molecular Biology setup in Hyderabad in 1981, and Department of Biotechnology (DBT) was established in 1986.

Today, India is among the top 12 biotech destinations in the world and ranks third in the Asia-Pacific region. India is also home to second-highest number of USFDA–approved plants, after the USA. The product patent regime was adopted in 2005. In 2013, India became the biggest producer of Hepatitis B vaccine recombinant. The country has potential to become a major producer of transgenic rice.

This sector has grown @ nearly 20% and is expected to reach to size of USD 100 billion by 2025. The

Biotech Industry has five segments viz. bio-pharma, bio-services, bio-agri, bio-industrial and bio-informatics. The largest share (64%) is of Bio-pharmaceutical sector.

Key Growth Drivers

The key factors that make this sector grow include growing demand for healthcare services, intensive R&D activities and strong government initiatives. India has a strong pool of scientists and engineers and government has established national research laboratories, centres of academic excellence in biosciences, several medical colleges, educational and training institutes offering degrees and diplomas in biotechnology, bio-informatics and biological sciences. India is also becoming a popular destination for clinical trials and contract research also.

Government Policy

For Pharma Industry, the Government allows 100% FDI under automatic route in Greenfield projects while through government route for brownfield projects.

Biotech Parks

The Biotech Parks in India are PPP projects established with the help of the Department of Biotechnology. Currently, there are around 10 operational and planned Biotech Parks in India. The Operational biotech parks are located at Lucknow in Uttar Pradesh, Bangalore in Karnataka, Kalamassery and Kochi in Kerala, Guwahati in Assam and Chindwara in Madhya Pradesh. The first among them was TICEL Bio Park (Chennai) operational since 2004; followed by Lucknow BT Park, which started operations from 2006.

National Guidelines for Stem Cell Research 2013

The Government had released these guidelines to ensure that research with human stem cells is conducted in a responsible and ethical manner and complies with all regulatory requirements pertaining to biomedical research in general and of stem cell research in particular.

These guidelines apply to all stakeholders including individual researchers, organizations, sponsors, oversight/regulatory committees and any other associated with both basic and clinical research on all types of human stem cells and their derivatives.

Chemical & Petrochemicals Industry

Currently, India is 3rd largest producer of agro-chemicals in the world and 6th largest producer of overall chemicals. India accounts of 16% of world's dye production. In terms of global shipments of chemicals, India ranks 10th in the world.

Industry Overview

Since this industry has numerous forward and backward linkages, it is called the backbone of the industrial and agricultural development and provides building blocks for many downstream industries such as textiles, paper, paints and varnishes, leather etc., which are required in almost all

walks of life.

The Indian Chemical Industry has small, medium as well as large-scale units. The fiscal concessions granted to the small-scale sector in mid-eighties led to establishment of a large number of units in the Small Scale Industries (SSI) sector. India enjoys an abundant supply of basic raw materials, however lags behind in terms of technical and marketing capabilities.

India is also a major exporter of pesticides and agrochemicals. India is one of the most dynamic generic pesticide manufacturers in the world.

Sub-segments of Chemical Industry

There are six segments of the Chemical Industry in India viz. Basic Organic Chemicals, Speciality Chemicals, Chlor-alkali, Pesticides, Dyestuff and alcohol based chemicals.

Basic Organic Chemicals

The major basic organic chemicals produced in India are methanol, acetic acid, formaldehyde, pyridines, phenol, alkyl amines, ethyl acetate and acetic anhydride. For this segment of chemical industry, the Natural gas, naphtha and alcohol are mainly used as feedstock for the manufacture of these organic chemicals.

Speciality Chemicals

Specialty chemicals are the relatively high value, low volume chemicals known for their end use applications and performance enhancing properties. In contrast to base or commodity chemicals, specialty chemicals are recognized for 'what they do' and not 'what they are'. Specialty chemicals provide the required 'solution' to meet the customer application needs. Examples of speciality chemicals are Paints and coatings, Speciality Polymers, Plastic additives, Construction Chemicals, Home care surfactants, Textile Chemicals, Flavours and Fragrances, Water Chemicals, Cosmetic Chemicals, Paper Chemicals, Printing Inks and Rubber Chemicals.

Driving Factors for Speciality Chemical Industry

Speciality Chemicals Industry is a highly knowledge driven industry with raw materials cost is much lower than the end product itself. Specialty chemical industry growth typically follows the growth of major key end markets. For example, growth in construction industry will boost demand for paints and coating chemicals; growth in water treatment will boost demand for water chemicals.

Chlor-Alkali

The chlor-alkali industry comprises of caustic soda, liquid chlorine and soda ash. Raw material is common salt and limestone. Caustic soda industry gets its demand from alumina, paper and textile industries. Chlorine used in manufacture of paper and pulp, PVC, chlorinated paraffin wax, fertilizers and pesticides. Soda Ash is used as a raw material for a vast number of key downstream industries such as soaps, detergents, glass, silicate, specialty chemicals. Increasingly it is being applied

for climate change mitigation and environmental management applications such as *flue-gas desulphurization and mitigating the impact of acid rain on inland water bodies*.

Pesticides

India is top fourth producer of pesticides and is a predominant exporter. Exports account for ~50% of the pesticides market. The Indian pesticides industry suffers from low capacity utilization and high inventory owing to seasonal and irregular demand. Crops like cotton, wheat and rice together account for 70% of total agrochemical consumption.

Dyestuffs

Dyestuffs are inputs used in production of textiles, leather, paper, food products, cosmetics, plastics, paints, inks, CDs, DVDs, solar cells, medical diagnostics (CT Scan, angiography), security inks, lasers, photo dynamics etc. The basic raw materials used for the manufacture of dyestuffs are benzene, toluene, xylene and naphthalene altogether called BTXN.

Alcohol based chemicals Industry

Alcohol is a key feedstock for the manufacture of basic chemicals. Industrial alcohol in India is produced from sugarcane molasses and thus is heavily dependent on production of sugar and sugarcane. Some of the important alcohol based chemicals are acetic acid, acetic anhydride, acetaldehyde, ethylene glycol, glyoxal, pyridine/ picoline, pentaerythritol, ethylene oxide derivatives etc.

The major user industries of these chemicals include synthetic fibres and synthetic yarn, drugs & pharmaceuticals, agrochemicals, personal care products, dyestuffs, pigments, flavours & fragrances etc. The demand for alcohol is also increasing due to mandatory blending under Ethanol Blending Programme (EBP).

Petrochemical Industry

The expansion of the petrochemical industry happened with discovery of crude oil and natural gas in the country. The petrochemical industry mainly comprises synthetic fibres, polymers, elastomers, synthetic detergents intermediates and performance plastics. Polymers account for more than 60% of the total production of major petrochemicals. The main sources of feedstock and fuel for petrochemicals are natural gas and naphtha.

Government Policy in Chemical Industry

In the Chemical Sector, 100 percent FDI is permissible except for some hazardous chemicals. Industrial Licensing has been abolished for almost all chemical products covering organic/ inorganic, dyestuffs and pesticides, except hazardous chemicals.

PCPIR

In 2007, the government had declared its policy around Petroleum, Chemicals & Petrochemical

Investment Regions (PCPIRs) with a proposal to establish such regions in four states viz. Gujarat, Andhra Pradesh, Odisha and Tamil Nadu. Each PCPIR was conceptualized as a delineated area in around 250 km² to establish manufacturing facilities for domestic and export oriented production. The region could be declared by state governments under appropriate legislation or notification, and existing units in an area could also be included in a PCPIR without adversely affecting the benefits they received previously. Every PCPIR was thought to have a refinery or petrochemical feedstock company as an anchor tenant. The development of PCPIR is done on PPP mode. The main investor company is called Anchor Tenant, which may or may not be a public sector company.

Current Status of the Policy

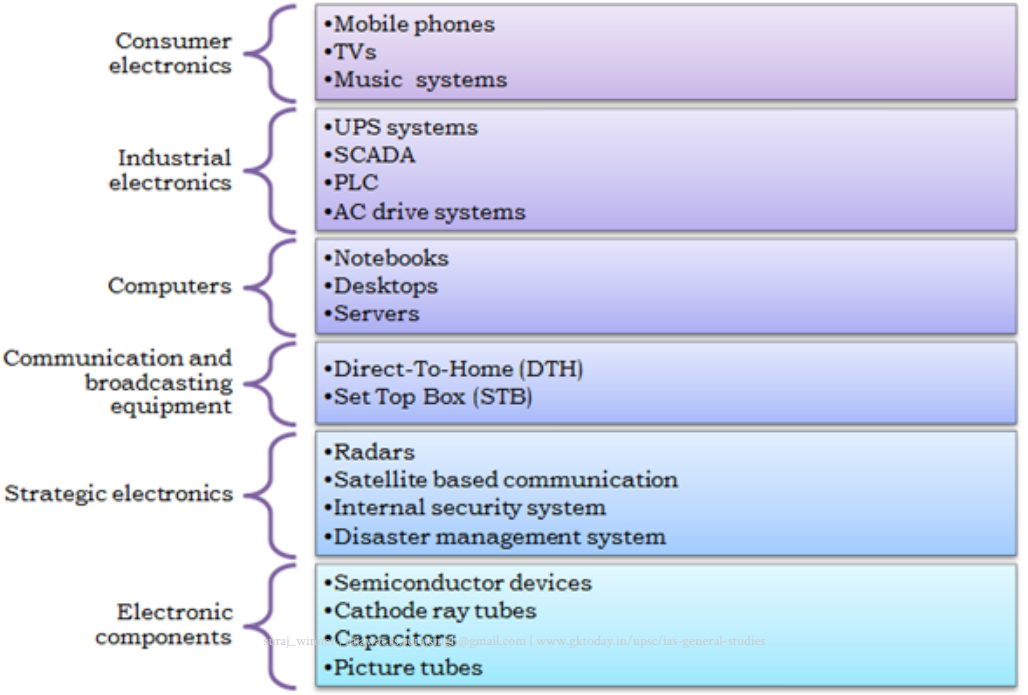
Since 2007, only four PCPIRs in four states of India viz. Andhra Pradesh (Vishakhapatnam – Kakinada), Gujarat (Dahej), Odisha (Paradeep) and Tamil Nadu (Cuddalore – Nagapattinam) have come into existance. By April 2015, four PCPIRs have attracted investment of some Rs. 1 Lakh Crore, however, this policy has been a non-starter. The NDA government is planning to bring certain changes and revise the policy in next few months.

National Chemical Policy

As of now, India does not have a National Chemical Policy. A draft was released by the UPA Government in 2012, but so far, neither UPA or NDA have been able to put in place a policy for chemical industry. Currently, the chemical industry comes under the purview of different ministries like Ministry of Forests (Environment Protection Act), Ministry of Labour (Factories Act), Ministry of Roads (Motor Vehicles Act), Ministry of Commerce (Explosives Act), Ministry of Home (Disaster Management Act), Department of Chemicals (The CWC Act) and Ministry of Rural Development (Land Acquisition Act).

Electronics, IT-ITES and ESDM Sectors

India is one of the largest growing electronics market in the world with a CAGR (Compound Annual Growth Rate) of around 66.1%. In 2015, this industry has a market size of USD31.6 billion and is expected to grow to USD 400 billion by 2020. In India, the electronics market is divided into 6 segments viz. Consumer electronics, Industrial Electronics, Computers, Communication and broadcasting equipment, Strategic electronics and Electronic components; as shown in below graphics:



Prior to 1980s, the market of electronics in India was very small confined to some transistors, black and white TVs, Calculators etc. The advent of colour TVs, computers and digital telephone exchanges in 1980s; the liberalization, WTO agreements that led to sharp decline in custom tariff on IT products; increased foreign investment, increasing demand and penetration of high end electronic products and government policies led the industry to grow by leaps and bounds. Two sub-sectors viz. IT-ITES (Information Technology – Information Technology Enabled Services) and ESDM (Electronics Systems Design and Manufacturing) have driven growth of the Indian economy in terms of employment, revenue generation, foreign exchange earnings, standards of living etc.

Government Policy Framework

National Policy on Electronics (NPE) 2012

The National Policy on Electronics (NPE) 2012 was approved in 2012 with the vision to create a globally competitive Electronics Design and Manufacturing (ESDM) industry, which can foster the manufacturing of indigenously designed and manufactured chips.

ESDM is of strategic importance, not only in internal security and defence but also in the pervasive deployment of electronics in civilian domains such as telecom, power, railways, civil aviation, etc.

Key Initiatives

This policy included the below policy objectives and initiatives:

- Set up two *semiconductor wafer fabrication* units in the country. This would give boost to large scale manufacturing of electronics in the country, including that of mobile phones. This would help to achieve global leadership in Very Large Scale Integration (VLSI), chip design and other frontier technical areas and to achieve a turnover of USD 55 billion by 2020.
- The policy outlined that domestically manufactured electronic products will be given preference in the Government procurement and share of domestic procurement would be raised from 20-25% to 60%.
- Other policy measures included:
    - To build up strong supply chain of raw materials, parts and electronic components;
    - to boost R&D in ESDM sector;
    - develop standards and certification systems
    - develop long term partnership between India's ESDM and strategic and core infrastructure sectors – Defence, Atomic Energy, Space, Railways, Power, Telecommunications, etc.
    - To expedite adoption of best practices in e-waste management.

Electronics Manufacturing Clusters Scheme

This scheme was notified in 2012 to provide support to both Greenfield and Brownfield Electronics Manufacturing Clusters (EMCs) to aid growth of ESDM sector. The idea was to make components available locally; which were hitherto imported from China and Taiwan. Under this scheme, government provides 50% project cost (max Rs. 50 Crore) for Greenfield projects while 75% (max Rs. 50 Crore) for brownfield projects.

Modified Special Incentive Package Scheme

Modified Special Incentive Proposal Scheme (M-SIPS) was launched to encourage the ESDM units by providing them 20% subsidy for investments in capital (plant & machinery) expenditure within SEZs and 25% in non-SEZs. The basic objective of the scheme to attract investment into the ESDM sector. The government proposed to provide Rs. 10,000 Crore support under this scheme in 12th five year plan period.

Current Status of M-SIPs

This scheme has been successful and has attracted investments worth over Rs. 1 Lakh crore in the ESDM sector. The NDA government has given special thrust to ESDM sector under "Make in India" programme.

Electronics Development Fund (EDF)

The Electronics Development Fund (EDF) was proposed in the National Policy on Electronics-2012

as a fund to promote innovation, Indian IP, R&D, product development, commercialization of products, etc. So far, this fund has not been operationlized.

Current Status of semiconductor wafer fabrication units

The NDA government is pushing for local manufacturing of chips and electronics, given the high level of imports. The previous UPA government had pushed for two semiconductor wafer fabrication units led by Jaiprakash Associates and HSMC Technologies India.

The consortium led by Jaiprakash Associates included American giant IBM and Tower Semiconductor of Israel and was supposed to come up at Yamuna Expressway in Uttar Pradesh at a cost of over Rs 34,000 crore. Another consortium led by HSMC Technologies included ST Microelectronics and Silterra Malaysia for the Rs 29,000 crore project, which was to come up in Gujarat.

However, both of these have hit a roadblock. These two projects collectively involved an investment of Rs 63,000 crore. The government says that these two consortia have not fulfilled satisfactory conditions and their proposals are still under consideration.

Leather Industry

Leather Industry has a prominent place in Indian Economy because of its substantial export earnings and employment generation. As of 2015, some 25 Lakh persons are employed in the leather industry in India.

The industry is demand driven. The demand of leather comes from fashion, footwear, interior design and automotive industries. India was once a raw material supplier, but the drastic growth in the industry has transformed the country into a value added product exporter. Currently, India accounts for 10% of world's leather production and half of India's leader revenue comes from exports. Current share of India in global leather trade is around 3%.

Key Drivers

The key drivers of leather industry include:

- Huge domestic markets
- Overseas demand of leather products
- abundance of raw material – India is endowed with one fifth of world's cattle and buffalo and 11% of goat and sheep population.
- 55% of workforce is below 35, so this industry has one of the youngest and productive workforce.

Government policy

100% Foreign Direct Investment is permitted through the automatic route in leather industry. There is no import duty on the import of raw hides and skins, semi-processed leathers like wet blue, crust

leather or finished leather. Leather Sector has been identified as a Focus Sector in the Foreign Trade Policy and this sector gets incentives under Focus Product Scheme, Focus Market scheme, EPCG (Export Promotion Capital Goods Scheme) etc. foreign trade promotion schemes. Kanpur, Agra and Ambur have been recognized as "Towns of Export Excellence" (TOEE) for leather products in FTP.

Indian Leather Development Programme

This scheme is being implemented by DIPP in the 12th plan with a total outlay of Rs.990.36 crore. This scheme has several components such as Integrated Development of Leather Sector (IDLS) that aims at upgradation of units engaged in leather industry; Support to Artisan (STA), which provides common facility centres, product development and marketing linkages; HRD component to provide skill development; Leather Technology, Innovation and Environmental Issues to envisage measures to help industries cope up with stringent norms. Further, the Mega Leather Cluster (MLC) sub-scheme aims at establishment of Mega Leather Clusters (MLC) with world class infrastructure with latest technology equipped production chain to meet the demand of both domestic market as well as standards for export.

Cotton Textile Industry

Textile industry contributes 14% to industrial production and 4 per cent to GDP. With employment to 45 million people, textile industry is one of the largest source of employment generation in the country. The industry accounts for nearly 13 per cent of total export earnings of India.

Historical Bits

First Cotton Mill of India

Bowreah Cotton Mills was India's first cotton cloth mill, established in 1818 by British at Fort Gloster, located 15 miles south of Calcutta. However, this mill was a failure. The true foundation of India's modern cotton cloth industry was established when KGN Daber established Bombay Spinning and weaving Company in 1854. The first cotton mill of Ahmadabad was established in 1861. In due course of time, Mumbai and Ahmadabad emerged as two rival centres of cotton textiles in India.

Impact of Partition on Cotton Industry

Partition of India in 1947 affected Indian cotton industry badly. Out of 423 textile mills of the undivided India, India received 409 after partition and the remaining 14 went to Pakistan. However, most of the weavers (who were Muslims) migrated to Pakistan. Further, a large part of cotton producing area also went to Pakistan. Due to this, India was forced to import raw cotton to keep the mills alive.

India's position in Textile sector

India accounts for about 14% of the world's production of textile fibre and yarn. Currently, India is

1st in terms of Jute production, 2nd in terms of textile manufacture and 2nd in terms of production of silk and cotton. India has 63% share in global textile and garment market. Further, India also has second largest manufacturing capacity globally. The Indian textile industry accounts for about 24% of the world's spindle capacity and 8% of global rotor capacity. India also has the highest loom capacity (including hand looms) with 63% of the world's market share.

Currently, there are around 1000 cotton mills in India. In India the cotton and manmade fibre industry is concentrated mainly in Maharastra, Tamil nadu and Gujarat.

Growth Drivers of Textile Industry

The key drivers for textile industry include rising per capita income and changes in preference for cloths; huge domestic demand and favourable government policy support.

Government Policy in Textile Industry

Technology Upgradation Fund Scheme (TUFS)

The government had launched a Technology Upgradation Fund Scheme in 1999 to provide easy access to capital for technological upgradation in the textile sector. It is an "interest subsidy" scheme that provides for reimbursement of 5% out of interest actually charged by the lending agencies for facilitating investment in modernization of Textiles Jute Industries. The scheme is being operated through nodal agencies (IDBI,SIDBI,IFCI and major nationalized banks). Current Government is planning to restructure this scheme, making it industry friendly.

Technology Mission on Cotton

Technology Mission on Cotton (TMC) was launched in 2000 with four mini-missions in its ambit viz. Cotton Research & Technology Generation; Transfer of Technology & Development; Development of Market Infrastructure and Modernization / Setting up of new G&P (ginning & pressing) factories to give a total makeover to the cotton industry.

National Textile Policy

Government of India had earlier launched a National Textile Policy in 1985 and then 2000 to increase textile and apparel exports and pay focussed attention to the textile sector including cotton, silk, jute and woollen textiles. Currently, the NDA government is in the process of finalizing new Textile Policy which would aim to achieve USD 300 billion textiles exports by 2024-25 and creation of additional 35 million jobs. In this context, the Ajay Shankar Committee was established to review the 2000 policy and suggest framework for new NTP.

Scheme for Integrated Textile Parks

This policy provides world class infrastructure to new textile units. As of now, some 57 Textile Parks have been sanctioned. By 2017, 25 more Textile Parks are to be sanctioned.

Further, the Budget 2014-15 also provided for Rs. 200 crore to set up mega textile clusters at Bareilly, Lucknow, Surat, Kuttch, Bhagalpur and Mysore and one in Tamil Nadu.

Jute Industry

Jute industry is an important livelihood in Eastern India, particularly West Bengal. The Jute industry is labour intensive because production process undergoes a variety of activities, such as cultivation of raw jute, processing of jute fibres, spinning, weaving, bleaching, dyeing, finishing and marketing. This industry contributes to the export earnings in the range of Rs. 1,000 to Rs.1, 200 crore annually. Jute is normally cultivated as an inter-crop between the two main agricultural seasons, Kharif and Rabi. Currently, there are some 77 composite jute mills in India, of which 60 are located in West Bengal. Out of all 77, 68 are in private sector.

Reasons of higher concentration of Jute Industry in West Bengal

At present, there are four million jute growers and about 300,000 workmen engaged in the jute sector in West Bengal. If their families are factored in, approximately one-third of the West Bengal's total population of about 90 million are directly or indirectly linked to jute. They key reasons as to why there is high concentration of Jute mills in West Bengal include:

- The well drained tracts, with hot & humid climate of West Bengal and lower Assam provide ideal conditions for Jute cultivation.
- Eastern India, particularly West Bengal have abundant cheap labour for the labour intensive jute industry.
- Availability of water transport at Hooghly River and export facilities at Kolkata and Haldia ports.

Apart from West Bengal, Jute mills are also found in Andhra Pradesh, Bihar, Uttar Pradesh (Kanpur) and Chhattisgarh.

National Jute Policy

First National Jute Policy was announced in April 2005 to facilitate the Sector to attain and sustain a pre-eminent 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 public private initiative, and ensure remunerative prices to the farmers.

National Jute Board

National Jute Board, Kolkata has been established via the National Jute Board Act, 2008 for development of cultivation, manufacture and marketing of jute and jute products and for matters connected. The National Jute Board (NJB) is the apex body for promotion of Indian Jute.

Problems with Jute Industry

India's first jute factory in India was established at Rishira, near Kolkata in 1854. Prior to independence, India had monopoly in the both production of raw jute and jute manufacturing.

However, Jute industry is marred with several problems right since independence. The first major blow to this sector was given by Partition. On partition, most of Jute mills remained in India while major Jute producing area went to East Pakistan (Now Bangladesh). The problem of raw material created a crisis in the Jute sector when Pakistan denied supply of raw Jute to India. The area extension under Jute were one of the key efforts of the Government in this sector.

The current problems of Jute Industries are as follows:

Shortage of Raw Material

Despite of the Government efforts to increase area under Jute, India is not self sufficient in raw material. The raw material is imported from Bangladesh and some other countries. The problems is further aggravated by import of finished Jute products both legally and illegally. These problems never allow Jute industry to be competitive. This necessitates a "Golden Fibre Revolution" in India.

Obsolete Mills and Machinery

The mills and machinery in Jute sector are obsolete and need technology upgradation. The Government had launched a Jute Technology Mission (JTM) in 2006 with four mini Missions. on Jute Research; Development / extension of raw jute agriculture; marketing of raw jute and processing, utilisation and industrial aspects of raw jute. But this mission was unable to achieve targets and use the allocated funds.

Competition

Indian Jute industry faces competition in the global market with countries such as Bangladesh, Philippines, South Korea, Japan etc. The industry also loses competitiveness due to obsolete technology, higher prices and industrial sickness in the Jute mills. The industry has become stagnant, unproductive and inefficient due to over dependence on jute sacks; and non-diversification.

Decrease in the Demand

Jute products are fast losing market to plastic, synthetic fibres and similar substitute products. The parliament of India had enacted the Jute Packaging Mandatory Act, 1987 with an objective to protect the Jute industry.

Strikes and Lock-outs

Jute Industry is reeling under a crisis triggered by the shutdown of jute mills.

Jute Packaging Norms and Legal Protection to Jute Cultivators

Parliament had enacted the Jute Packaging Mandatory Act, 1987 with an objective to protect the Jute industry. As per this act, the food grain and sugar produced is reserved and mandatorily packed in jute bags manufactured every year. Due to low supply, this mandatory packaging norms were diluted and now there are chances that the government lifts this support also.

Sericulture Industry

Silk Varieties

India is home to world's second largest Silk Industry and the country produces four varieties of silk viz. Mulberry, Eri, Tasar and Muga. The Tasar, Eri and Muga silk are non-mulberry , wild silks and also known as *Vanya Silks*.

Around 80% of Silk produced in India is of Mulberry variety with largest production in Karnataka, Andhra Pradesh and Tamil Nadu.

Muga silk is unique in having a golden sheen and is a prized possession of India. Muga is mainly produced in Assam. There are two varieties of Tasar silk viz. Tropical Tasar and Oak Tasar. Tropical Tasar silk is produced in tribal areas of central India in states of Jharkhand, Mahdya Pardesh, Bihar, Maharashtra, UP and Odisha. Oak Tasar silk is produced mainly in Manipur, Mizoram and Nagaland. Eri is grown in Assam and the adjacent north-eastern states, Bihar, West Bengal and Odisha.

Key Problems of Industry

The key problems faced by Silk Industry include increasing competition from imported silk from China and irritating gaps between supply and demand of silk. Further, the silk weavers face stiff competition from power loom and mill sector. To protect the local industry, Government of India keeps imposing anti-dumping duty on Chinese silk yarn from time to time.

Government Policy in Silk Sector

Catalytic Development Programme

Catalytic Development Programme refers to a package scheme implemented by Central Silk Board. Various components of CDP include development and expansion of host plant, development of farm and post cocoon infrastructure, up-gradation of reeling and processing technologies in silk, Enterprise Development Programme, support for extension and publicity etc. Under this scheme, financial assistance is provided to the stakeholders of silk industry.

Evolving new Bivoltine Breeds

In biology, Voltinism refers to number of generations of an organism in a year. The silk insects are bivoltine (have generations per year) or Multivoltine (have more than two generations per year). We note here that most of the silk (90%) produced in India is Multivoltine. This silk is yellow cream in color and is obtained throughout the year. In contrast, the Bivoltine silk is white in color and is considered to be best quality silk. The demand for Bivoltine silk in EU and US is much higher in comparison to Multivoltine and that necessitates the development of Bivoltine breeds suitable for India. The Central Silk Board was collaborating with Japan International Co-operation Agency (JICA) towards this purpose so that India could produce International Standard

grade silk.

Further, the National Silkworm Seed Organisation was established in 1975 to supplement the efforts of State Governments in supplying high quality **Bivoltine** and **Multibivoltine** silkworm seeds to the farmers.

Silkworm Seed Regulations

To maintain quality standards in silkworm seed production to improve the productivity and quality of silk; the sericulture industry is regulated by Silkworm Seed and Cocoon (Control) Acts enacted by various state governments and Central Silk Board Silkworm Seed Regulations, 2010. These laws and rules provide for licensing for silk worm seeds and quality standards.

Silk Mark

This scheme was launched in 2004 for protection of the interests of the silk industry. Silk Mark is a Quality Assurance Label or a hallmark for the products made from pure natural Silk and it guarantees the purity of silk products. It also plays an important role in brand promotion of Indian Silk in domestic and Export markets. It is maintained by Silk Mark Organisation of India (SMOI), a registered Society sponsored by the Central Silk Board.

Central Silk Board

CSB is a statutory body under Textile Ministry Established via the CSB Act 1948. It has been entrusted with the overall responsibility of developing silk industry and implementation of various government programmes, rule and regulations in the silk industry.

Other Facts

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

State	Silk Centers
Tamil Nadu	Kanchipuram, Arni, Salem, Kumbhakonam, Tanjavur
Uttar Pradesh	Varanasi
West Bengal	Bishnupur, Murshidabad, Birbhum

Location of R&D 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

Silk Arts in India

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.

Ikat 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.

Woollen Textile Industry

India's seventh largest producer of wool but shares only 1.8% in world wool production. Most of the wool produced in India (85%) is of carpet grade not suitable for making apparels. Only a small quantity of specialty fibre is obtained from Pashmina goats and Angora rabbits.

Composition of woollen Industry

The woollen industry in India is a mix of organized, unorganized and decentralized sector. The organized sector is made of composite mills, Combing units, Worsted and non-worsted spinning units, Knitwear and woven garment units and machine-made carpet manufacturing units. Decentralized sector is made of Hosiery and knitting units, powerloom units, Hand-made carpets, drugget and namadah units and Independent dyeing and process houses.

While Rajasthan is the largest producer state of wool in India, woollen textile industry is concentrated in Punjab, Maharashtra, and Uttar Pradesh. Punjab is the leader in woollen industry and Ludhiana in Punjab leads in number of woollen units in hosiery and shawl sector.

Government Policy

Central Wool Development Board(CWDB), Jodhpur, Rajasthan was set up as a society to administer the implementation of programmes and schemes. The key scheme in this sector include Integrated Wool Improvement and Development Programme (IWIDP), Sheep & Wool Improvement Scheme (SWIS), Sheep Breeders Insurance Scheme and Sheep Insurance Scheme.