Bachelor of Commerce

BC - 506

INDIAN ECONOMY

Directorate of Distance Education
Guru Jambheshwar University of Science & Technology, HISAR-125001

Contents

Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **1** **Indian Economy: Feature and Size**	Vetter: **Prof. Anil Kumar**

Structure

1.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To know the meaning of economy and economic systems.
- To know concept of national income.
- To understand the nature and size of Indian economy.

1.1 ECONOMICS: AN INTRODUCTION

In economics, we learn how societies use scarce resources to produce valuable commodities and distribute them among different people. According to this definition, we have two major concepts viz. *goods are scarce and society must use its resources efficiently*. In real terms, economics is a significant subject because of the fact of scarcity and the need for efficient use of the resources. Economics studies how individuals, firms, governments, and other organisations within our society make choices and how these choices determine a society's use of its resources. Human life depends on the consumption of various materials, which are made up of the resources available on earth. As there is no limit to human wants, we need infinite resources to gratify our needs. However, the resources are limited! Now it is up to the individual and humanity at large as to how they try to satisfy their competing needs to be fulfilled by the limited resources. It means we need to make some choices before we utilise the scarce resources by prioritising some of our needs. In this process, some needs might never be fulfilled. At the same time, there might be some needs, which may be fulfilled repeatedly with the available resources.

As s discipline, Economics studies how individual, society and the government make their ranked choices in the process of using the scarce resources to satisfy the various needs and wants of life. Economics comprises the economic activities of human being. Similarly, political, social and administrative activities of human being are composed of Political Science, Sociology and Public Administration, respectively. The activities which involve profit, loss, livelihood, occupation, wage, employment, etc., are economic activities. Economics studies all these activities. Currently, economics has many branches and studies highly diverse subject matters at the global, macro and micro levels. In simple words, the relation between economics and the economy is that of theory and practice. While the former is a discipline studying economic behaviour of human beings, the latter is a still frame picture of

it. Economics will come out with theories of market, employment, etc., and an economy is the real picture of the things which emerges after the application of those theories. Economy as such means nothing. It gets meaning once it is preceded by the name of a country, a region, a block, etc. When we say developed economies, we mean economies of developed countries.

1.1.1 EVOLUTION OF ECONOMIC SYSTEMS

The three economic systems have evolved during the passage of history of mankind. In order to understand every economy of the world, one must have a brief overview these models of economic systems:

(A). Capitalistic Economy

- The capitalistic form of economy has its origin in the famous work of Adam Smith—Wealth of Nations (1776). Capitalism or capitalist economy is referred to as the economic system where the factors of production such as capital goods, labour, natural resources, and entrepreneurship are controlled and regulated by private businesses.
- In a capitalist economy, the production of all the goods and services is dependent on the demand and supply in the market that is also known as a market economy. It is different from the central planning system that is also known as a command economy or a planned economy.
- The main characteristic of a capitalist economy is the motive of earning profit. The capitalist economy is also characterised by the presence of free markets and lack of participation by the government in regulating the business. As there is no government intervention in this type of economy, it is also known as a free market economy.
- This system advocates an 'invisible hand' of 'market forces' (price mechanism) to bring a state of equilibrium in the economy and a general well-being for the people. For such an economy to function for public well-being, the competition in the market is an essential requirement.

(B.) State Economy

- The idea of state economy was proposed by the German philosopher Karl Marx (1818– 1883). In a state or socialist economy, the setup is exactly opposite to that of a capitalist economy.

- In such an economy the factors of production are all state owned. So, all the factories, machinery, plants, capital, etc. is owned by a community in control of the State. All citizens get the benefits from the production of goods and services on the basis of equal rights. Hence this type of economy is also known as the Command Economy.
- In a socialist economy, private companies or individuals are not allowed to freely manufacture the goods and services. And the production occurs according to the needs of the society and at the command of the State or the Planning Authorities. The market and the factors of supply and demand will play no role here.
- The ultimate aim of a socialist economy is to ensure the maximization of wealth of a whole community, a whole country. It aims to have an equal distribution of wealth amongst all its citizens, not just the welfare of its richest companies and individuals.
- This type of economic system born in in the former USSR and it got perfect shape in the People's Republic of China (1949). Mainly, this form of economy was a reaction to the dominant economic system of capitalism. Such economies are also known as Centralised Economy, Centrally Planned Economy or Non-market Economy.

(C.) Mixed Economy

- During the Great Depression (1929), the idea of capitalism suffered a major setback. John Maynard Keynes (1883–1946) suggested a balanced approach i.e., mixed economy in the famous work, The General Theory of Employment, Interest and Money (1936).
- As the name suggests a mixed economy is the golden combination of a command economy and a market economy. So, it follows both price mechanism and central economic planning and oversight. The means of production are held by both private companies and public or State ownership. And while market forces decide the price, demand, supply, etc. there is some government oversight to prevent monopolization and discrimination.
- The idea behind a Mixed Economy is to tackle the demerits of both a capitalist economy and a socialist economy and come up with a unique system. It appreciates the concept and the freedom of private ownership of properties and resources. But at the same time, it understands the disadvantage of unchecked capitalism.

- It proposes government oversight and economic planning so there is no discrimination against the poorest citizens. However, in reality, mixed economies face the challenge of striking the right balance between free markets and government control. Governments generally have much more control than is necessary.

1.1.2 STATE'S ROLE IN AN ECONOMY

The economic history of world suggests three types of roles that a government can play in a nation's economy. These are as follows:

a. **Regulator:** In this role, government takes important economic decisions in an economic system such as economic policies required as per situations. Further, government solely makes essential efforts to implement economic policies. Thereafter, state look-afters the implementation process by controlling and punishing those who don't follow those economic decisions.
b. **Producer and/or Seller of private goods and services**: In this role government produces and distributes goods and services on the principle of market mechanism. These goods and services form an integral part of the market. Further, in this role government earns profit as a private enterprise.
c. **Producer and/or Seller of public goods or social goods**: In this role, government produces and distributes those goods and services, which look essential from the viewpoint of social justice and well-being for its population. Education, healthcare, sanitation, drinking water, nutrition, caring for the differently abled and old, etc., come under this category. These goods, which are generally distributed, free of cost at times, might reach the beneficiaries at subsidised prices.

Generally, the governments prefer to play different roles in the economies according to their socio-political ideologies,

a. The economic systems where the governments/states play both the roles (b and c) as monopoly, we called them the state economies.
b. The economic systems where the governments/states left both the roles (b and c) for the private sector in the economic system, we called them capitalistic economic system.
c. In the mixed economies, at least one economic role is fixed for the government (i.e., c), of supplying public goods to the needy people. In some of the mixed economies the government

also take the responsibility of supplying the private goods (i.e., b) even by carrying a heavy burden of subsidies.

1.1.2 SECTORS IN AN ECONOMY

In an economy, the economic activities are generally classified into three main categories, which are known as the three sectors of the economy.

I. **Primary sector:** This sector includes all those economic activities where there is the direct use of natural resources as agriculture, forestry, fishing, fuels, metals, minerals, etc. In some of the economies, mining activities are considered as part of the secondary sector. Broadly, such economies term their agricultural sector as the primary sector. This is the case in India.

II. **Secondary sector:** This sector is rightly called the manufacturing sector, which uses the produce of the primary sector as its raw materials. Since manufacturing is done by the industries, this sector is also called the industrial sector- examples are production of bread and biscuits, cakes, automobiles, textiles, etc.

III. **Services sector:** This sector includes all economic activities where different 'services' are produced such as education, banking, insurance, transportation, tourism, etc. This sector is also known as the services sector.

1.1.4 KINDS OF ECONOMIES

Depending upon the shares of the particular sectors in the total production of an economy and the ratio of the dependent population on them for their livelihood, economies are categorised as:

I. Agrarian Economy: An economy is called agrarian if its share of the primary sector is 50 per cent or more in the total output (the GDP) of the economy. At the time of Independence, India was such an economy. But now it shows the symptom of a service economy with the primary sector's contribution falling to almost 18 per cent of its total produce, while almost 49 per cent of the population depends on the primary sector for their livelihood. Thus, in monetary terms India is no more an agrarian economy, however the dependency ratio makes it so India being the first such example in the economic history of the world.

II. Industrial Economy: If the secondary sector contributes 50 per cent or more to the total produce value of an economy, it is an industrial economy. Higher the contribution, higher is the level of industrialisation. The western economies, which went for early industrialisation earning faster income and developing early, are known as developed economies. Most of these economies have crossed this phase once the process of industrialisation saturated.

III. Service Economy: An economy where 50 per cent or more of the produced value comes from the tertiary sector is known as the service economy. First lot of such economies in the world were the early industrialised economies. The tertiary sector provides livelihood to the largest number of people in such economies.

As country after country successfully industrialised, a pattern of population shift occurred from one to another sector of the economy, which was known as the stages of growth of an economy. Similarly, such economies saw a population shift from the secondary to the tertiary sector and these were known as the 'post-industrial' societies or the services societies. Almost the whole Euro-America falls under this category. In the last decade (2003–04 to 2012–13), growth has increasingly come from the services sector, in which contribution to overall growth of the economy has been 65 per cent, while that of the industrial and agricultural sectors have been 27 per cent and 8 per cent, respectively.

1.2 NATIONAL INCOME: CONCEPTUAL FRAMEWORK

Income level is universal tool to measure the welfare and happiness of nations and their citizens. By computing the income of a single person, we can compute the income of whole nation as well as of whole world. In the case of nation, we called it as National Income. Economists have developed four ways to calculate the income of a nation. These four methods to compute the national income are the concepts of GDP, NDP, GNP and NNP.

A. Gross Domestic Product

Gross Domestic Product (GDP) is the value of the all final goods and services produced within the boundary of a nation during one-year period. It is also calculated by national private consumption, gross investment, government spending and trade balance (exports-minus imports). The different uses of the concept of GDP are as given below:

- The growth rate per annum of an economy is percentage change in the GDP. For example, if a country has a GDP of Rs. 105, which is 5 rupees higher than the last year, it has a growth rate of 5 per cent. A growing economy, is adding up its income, i.e., in quantitative terms.
- GDP is a 'quantitative' concept and because this number shows the size and strength of the economy. But it cannot measure the 'qualitative' aspects of the goods and services produced and distributed in an economy.
- International Monetary Fund and World Bank use the GDP to compare its member nations.

B. Net Domestic Product

Net Domestic Product (NDP) is the GDP calculated after subtracting the value of the value of 'depreciation'. All assets (except human beings) are subject 'wear and tear' in their useful life and this 'wear and tear' is known as depreciation. For example, a computer in India has a rate of 20 per cent per annum depreciation and a printer fan has 10 per cent per annum, etc., which is calculated in terms of the asset's price. Thus, NDP = GDP- Depreciation. The different uses of the concept of NDP are as given below:

- For domestic use only: to understand the historical situation of the loss due to depreciation to the economy.
- To show the achievements of the economy in the area of research and development, which have tried cutting the levels of depreciation in a historical time period.

C. Gross National Product

Gross National Product (GNP) is the GDP of a country added with its 'income from abroad'. Here, the trans-boundary economic activities of an economy are also taken into account**.** The items, which are counted in the segment 'Income from Abroad', are:

i. Private Remittances: the net outcome of the money which inflows and outflows on account of the 'private transfers' by Indian nationals working outside of India (to India) and the foreign nationals working in India (to their home countries).

ii. Interest on External Loans: the net outcome on the front of the interest payments, i.e., balance of inflow (on the money lend out by the economy) and outflow (on the money borrowed by the

economy) of external interests. In India's case it has always been negative as the economy has been a 'net borrower' from the world economies.

iii. External Grants: the net outcome of the external grants i.e., the balance of such grants which flow to and from India. In the wake of globalisation, grant outflow from India has increased as its economic diplomacy aims at the playing bigger role at international level. The normal formula is GNP = GDP + Income from Abroad.

The different uses of the concept GNP are as given below:

- The IMF ranks the nations of the world in terms of the volumes at purchasing power parity (PPP) according to this 'national income'.
- It is the more exhaustive concept of national income than the GDP as it indicates towards the 'quantitative' as well as the 'qualitative' aspects of the economy, i.e., the 'internal' as well as the 'external' strength of the economy.
- It enables us to learn several facts about the production behaviour and pattern of an economy, such as, how much the outside world is dependent on its product and how much it depends on the world for the same.

D. Net National Product

Net National Product (NNP) of an economy is the GNP after deducting the loss due to 'depreciation'. The formula to derive it may be written like:

NNP = GNP – Depreciation. The different uses of the concept of NNP are as given below:

- This is the 'National Income' (NI) of an economy. Though, the GDP, NDP and GNP, all are 'national income' they are not written with capitalised 'N' and 'I'.
- This is the purest form of the income of a nation.
- When we divide NNP by the total population of a nation we get the 'per capita income' (PCI) of that nation, i.e., 'income per head per year'.

1.3 ECONOMIC GROWTH AND DEVELOPMENT

Traditionally, economic development has been considered as synonymous with economic growth. Modern view, however, tries to differentiate between growth and development. Let us have a look.

- Economic growth means a sustained increase in country's output and measured in terms of gross domestic product or growth per capita. Economic development on the other hand measures the technological and institutional change by which increase in output takes place.
- Economic growth is a narrow concept as it measures the quantitative change in the economy in terms of increase in output. Economic development on the other hand is a broader concept and measures change in composition and distribution of national and per capital income. Economic development is determined by the improvement in life expectancy rate, infant mortality rate, literacy rate, and poverty rates. Economic development, thus, measures both the quantitative and qualitative aspects of change in national income.
- Economic growth is a short period process and is measured annually. Economic development on the other hand is a long-term process and takes place over the period of time.
- Economic growth is a continuous process and is measured in terms of sustained indicators like Gross Domestic Product (GDP). Economic development is a discontinuous process involving periods of expansion and of recession, reflecting the existence of business cycles5.
- Economic growth as a concept is related with the developed countries. For the developed economies, development is not the problematic issue as such economies have already attained the qualitative targets and reached the pinnacle of institutional and technological progress over the period of time. For such countries, the major challenge is to attain a minimal required level of GDP growth so that economy does not plunge into recession. However, the major challenge for the developing countries like India is to undergo technological and institutional change so as to attain quantitative and qualitative progress.

1.4 A BACKGROUND OF INDIAN ECONOMY

- The Indian economy was in distress at the brink of the country's independence. Being a colony, India was fulfilling the development needs not of herself, but of a foreign land. The rulers,

which should have been responsible for breakthroughs in agriculture and industry, refused to play even a minor role in this regard.

- On the other hand, during the half century before India's independence, the world was seeing accelerated development and expansion in agriculture and industry - on the behest of an active role being played by these rulers in their native states.
- British rulers never made any significant changes for the benefit of the social sector, and this hampered the productive capacity of the economy.
- During independence, India's literacy was only 17 percent, with a life expectancy of 32.5 years.
- The need for delivering growth and development was in huge demand in front of the political leadership - as the country was riding on the promises and vibes of national fervour.
- The per capita incomes of Rs. 18 for 1899 and Rs. 39.5 for 1895 in current prices say the whole story of the mass poverty in India.
- The political leadership and the industrial leaders both were adequately conscious about the economic conditions of India at the time of independence.
- After independence, it was a major challenge for the government to systematically reorganise our economy. Many important and strategic decisions were taken by 1956, which are still shaping India's economic journey.

1.4.1 INDUSTRY: INITIAL MOVING STRENGTH

- It is a universal fact that each economy completes its journey to development by using its natural and human resources. Therefore, the quality and quantity of natural as well as human resources are the vital factors which determine whether a country go for agriculture or industry as its major strength to achieve the target level of development in the economy.
- Furthermore, many socio-political factors and goals play their roles in such decision-making. The obvious choice for India would have been the agriculture sector as the prime moving force of the economy because it was having the natural resource of fertile land, which was fit for cultivation, and human capital did not require any kind of higher training.
- However, the government at that time had opted for industry to be India's major moving strength of the economy. Given the available resource base it seems an illogical decision as India

lacked all those pre-requisites which could suggest the declaration of industry as its prime mover:

- India needed infrastructure sector, i.e., power, transportation and communication.
- Negligible presence of the infrastructure industries, i.e., iron and steel, cement, coal, crude oil, oil refining and electricity.
- Lack of investible capital—either by the government or the private sector.
- Absence of required technology to support the process of industrialisation and no research and development.
- Lack of skilled manpower.
- Absence of entrepreneurship among the people.
- Absence of a market for industrial goods.
- Many other socio-psychological factors which acted as negative forces for the proper industrialisation of the economy.

- There were many decisions, which were taken under the influence of the main political force of the times, still some very vital ones were influenced by the visionary hunches of the political leadership mainly being J. L. Nehru.
- This is why the economic thinking of independent India is considered and said to be nurtured by Nehruvian Economics even today.

1.4.2 PLANNED AND MIXED ECONOMY

- Independent India was declared to be a planned and a mixed economy. India needed national planning, which was decided by the political leadership almost a decade before independence.
- India was not only facing regional disparities at the level of resources, but inter-regional disparities were also prevalent, since centuries. Mass poverty could only be remedied once the government started the process of economic planning.
- Economic planning was thus considered an established tool of doing away with such disparities. Though India was constitutionally declared a federation of states, in the process of planning, the

authority of regulation, directing and undertaking economic activities got more and more centralised in the Union government.

- For many newly independent developing nations, economic planning was therefore an obvious choice. Economic planning was considered to help states to mobilise resources to realise the prioritised objectives in a well-defined time frame. They needed to clarify about the organisational nature of the economy—whether it was to be a state economy or a mixed economy.
- The idea of planning in India was inspired from the soviet planning which was a command economy and did not suit the requirements of democratic India, which was till now a privately owned economy.
- The dominant force behind planning in India, at least after Independence, was Nehru himself who had strong socialist leanings.

1.4.3 DOMINANCE OF THE PUBLIC SECTOR

- The state had to play a dominant role in the economy, as decided by the time India became independent. This led to a huge structure of the government controlled enterprises to be known as the public sector undertakings (PSUs).
- Each type of economy whether agrarian, industrial or post-industrial, wants appropriate infrastructure such as power, transportation and communication. Without this infrastructure, all economies struggle hard to grow and develop.
- These sectors needed considerable investment as well as heavy engineering and technological support. Growth of the infrastructure sector was not possible by the private sector alone. In this circumstance, it was only the government of India which took this responsibility. Therefore, without much alternatives in the infrastructure sector, the government has such a dominant presence that many areas such as in power, railways, aviation, telecommunication, etc.
- For industrialisation to take place, the presence of certain industries such as Electricity, Refinery, Steel, Coal, Cement, and Fertilisers were essential
- These basic industries also require huge capital, technology, skilled people and will-power and this was again feasible for the government of the time.

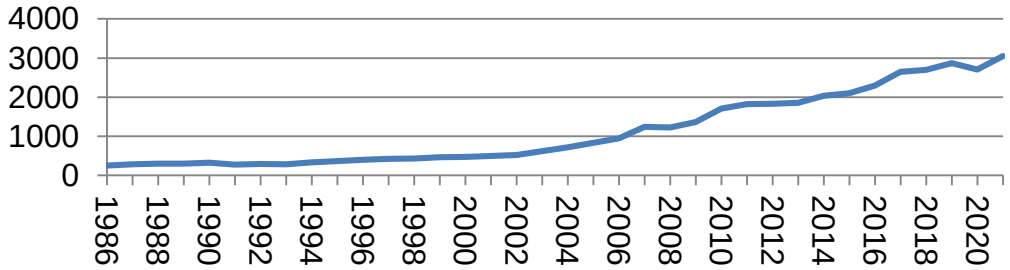
- With no choice left, the government decided to play the main role in industrialising of the country. In many of them we as a result, see a natural monopoly for the PSUs, again.
- These PSUs were also emerged as a significant part of the employment generation strategy. A government in a democratic set up has also to realise the socio-political dimensions of the nation with development of economy.
- Employment generation for the poor people is a well-proven tool of poverty mitigation. The PSUs were thought to create enough jobs for the employable workforce of the economy. The poverty of a larger section of the country was in some way linked to the age-old caste system in which the upper castes had a stronghold on the ownership of land, which was the only means of income and livelihood for majority of the population.
- The government arranged the funds taxation, internal and external borrowing and even by printing of fresh currencies. The state justified the high taxation and heavy public indebtness in providing employment to the Indian employable population.
- The state even promised a job in every household through the PSUs without figuring out the magnitudes of the future labour force in the country and the required resources to create jobs at such a high scale.
- This strategy of employment generation through PSUs was stretched to such a degree by the state that most of the PSUs had over supply of the labour force which started eating out their profits on account of salaries, wages, pensions and provident funds.
- Around 1980s, a kind of consensus had developed across the world (including the IMF & World Bank) regarding the inefficiency and under-performance of the PSUs
- In these circumstances, a process of privatisation and disinvestment of the PSUs had started among majority of the economies in the world India being no exception to it.
- India followed a subtle disinvestment policy from 2003–04 to 2015–16 The government has also decided in favour of selling increased shares of the PSUs to the foreign institutions, at par with the domestic financial institutions.

1.4.4 CHARACTERISTICS OF INDIAN ECONOMY

- World Bank categorises the world's economies into four income groups high, upper-middle, lower-middle, and low based on GNI per capita.

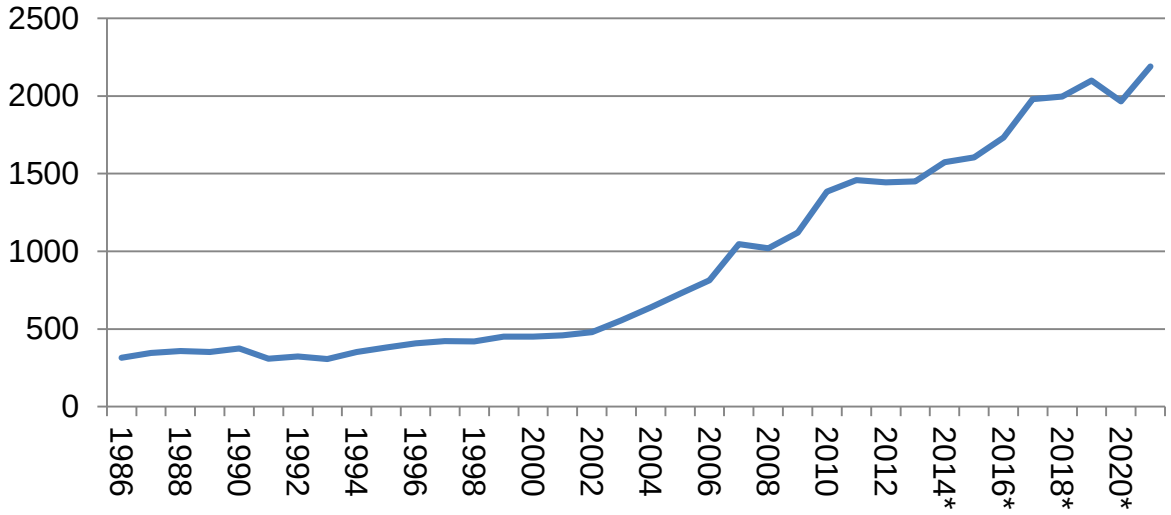
- For the year 2019, low-income economies are defined as those with a GNI per capita of $995 or less; lower middle-income economies are those with a GNI per capita between $996 and $3,895; upper middle-income economies are those between $3,896 and $12,055; and high-income economies are those with a GNI per capita of more than $12,055.
- Out of 218 countries, there are 34 low-income economies, 47 lower-middle-income economies, 56 upper-middle-income economies, and 81 high-income economies. With GNI per capita income of $1820, India is classified as a lower-middle income country.
- On independence, India was a backward country with very less growth rate. The government with the help of five year plans attempted to address such problems by laying down targets and ensured the allocation of funds for the development of different sectors.
- Till the first five plans, the average GDP growth was around 3.5%, and as a result, Indian economy failed to take off.
- During the post-reform period, the growth rate picked up, especially during 2004–2008, the country witnessed an average growth rate reaching an unprecedented high of 8.8% a year.
- In order to reach growth rate of 8% or higher and maintain such growth momentum needs contributions from all domestic sectors and support from the global economy.
- As per world economic outlook 2018 report, India is the world's third largest economy in terms of purchasing power parity (PPP), after the China and the United States.
- India has become the sixth largest in terms of nominal GDP surpassing France. India is forecast to overtake the UK to become the world's fifth largest economy in 2019 and projected to surpass Japan to feature at the second position in the Asia-Pacific region by 2025.

Table 1.1:Gross domestic product (GDP) in current prices from 1986 to 2021 (in billion U.S. dollars)



Source; https://www.statista.com/statistics/263771/gross-domestic-product-gdp-in-india/

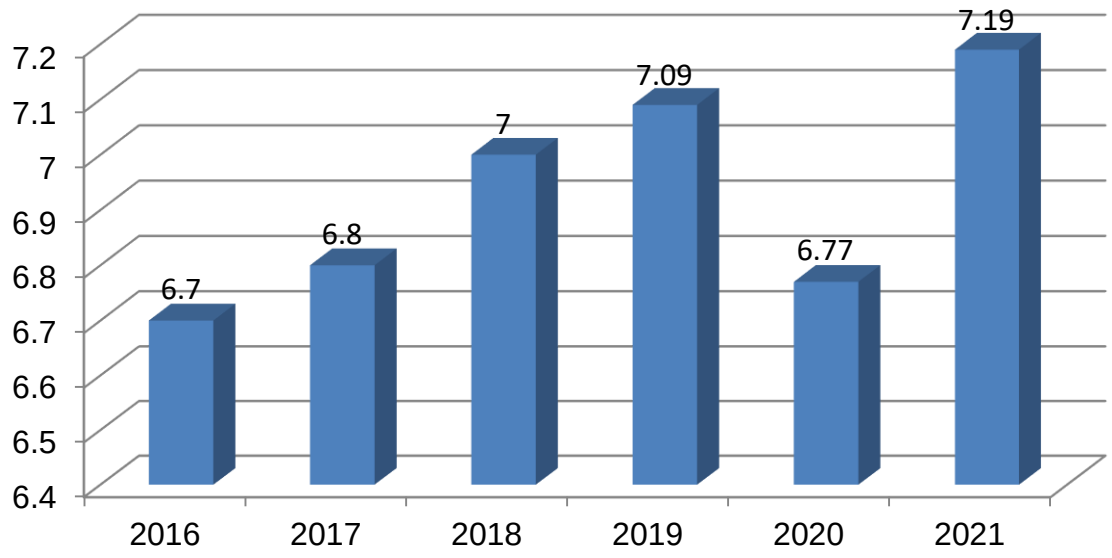
Table2.2:Estimated gross domestic product (GDP) per capita in current prices from 1986 to 2026 (in U.S. dollars)



Source:https://www.statista.com/statistics/263776/gross-domestic-product-gdp-per-capita-in-india/

- Even after 74 years, still India is a home for the world's largest number of poor people.
- As per NSSO 68th round, 29.5% of population in India was below poverty line during 2011–12. Around 27.5% of India's population was multi-dimensionally poor in 2015 as per Multi-Dimensional Poverty Index released by Oxford Poverty & Human Development Initiative.
- Unemployment rate in India as per the current daily status was 5.6% as per NSSO 68th round for the year 2011–12. The Centre for Monitoring Indian Economy (CMIE) estimated that 11 million jobs were lost in 2018—pushing the unemployment rate to 7.38%.
- The for female labor force participation rate has shown a declining trend. The main reason of worry is the rise in educated unemployment in India. The unemployment rate is 4.6% for those who had completed between the sixth and the ninth standard. For those with qualifications between the 10th and the 12th standard, the unemployment rate was uncomfortably high at 10.6%. For graduates and post-graduates, it rose even higher to 13.2%.

Table3.3: Share of global gross domestic product (GDP) adjusted for Purchasing Power Parity (PPP) from 2016 to 2021



Source:https://www.statista.com/statistics/271328/indias-share-of-global-gross-domestic-product-gdp/

- Savings are important factor in the investment and affect the gross domestic product. In the developed nations, the private sector contributes almost 80% of total savings and household and the government sector does rest of the savings.
- On the other hand, in India, household sector accounts for around 60% in total domestic savings. During 1990–91, situation was worse as household sector contributed as high as 84% of total savings.
- The problem with household sector savings is that in a country like India the per capita income is low that results in higher consumption pattern and low savings.
- However, in the past few decades, especially after the post-reform period, the private sector participation in the economy has increased multi-fold resulting in the increasing share of private sector and the decreasing share of household sector in aggregate domestic savings.
- The gross domestic capital formation in India has decreased from 39% in 2011–12 to around 29% in 2018–19. Finance holds the key to India's long-term sustainable growth. As the

economy becomes larger and market-oriented, the financial sector needs to play a critical role in channelling savings into productive investments.

- The share of agriculture as a percentage of GDP has come down from 53% in 1950–51 to around 15% in 2017–18. On the contrary, the share of services has increased from 30.3 to 54% during the same period. This transition of economy from agriculture to service sector is called service led growth phenomenon.
- Generally, as an economy progresses, it transmutes itself from an agriculture based economy to an industrialized economy and finally into a service led economy. But in Indian case, the industrial development could not take place as envisaged by our policy makers. The contribution of industry in country's GDP has increased from 16.6% in 1950–51 to 31.2% in 2017–18.
- One more thing which has serious implication is the share of respective sectors in employment. For example, in the United States, agriculture contributes 4% of GDP and absorbs 4% of country's workforce. Comparatively, agriculture in India contributes 15% of GDP and employs around 45% of country's workforce. Thus, the service sector which generates maximum national income provides lesser employment, a phenomenon called as "jobless growth."

1.5 CHECK YOUR PROGRESS

1. What is the main cause of all economic problems?

(A) Abundance

(B) Convenience

(C) Scarcity

(D) None of these

2. When did the great depression occur?

(A) 1929-30

(B) 1934-35

(C) 1938-39

(D) 1941-42

3. Saving in an economy are done by

a. Households b. Government

c. Business firms d. All of these

4. In which of the following type of economy are resources owned privately and the main objective behind economic activities is profit-making?

(A) Capitalist (B) Socialist

(C) Mixed (D) Global

5. Which of the following is the main objective of carrying out various economic activities?

(A) Profit

(B) Public welfare

(C) Competition

(D) Equality

1.6 SUMMARY

An economy is a system in which and by which people get a living to satisfy their wants through the processes of production, consumption, exchange and investment. Indian economy as a mixed economy is on the path of transition — transition from underdevelopment to development, from poverty to prosperity, from scarcity to abundance. Economic growth implies a process of increase in real national income and real per capita income. The growth of Indian economy will depend upon a multiplicity of factors like the availability of resources, the economic policy pursued by the central and State Government. Economic development is defined as a sustained improvement in material well-being of society. Sustainable development in development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Currently every economy want to achieve sustainable growth & development in term of GDP, Per Capita Income and Happiness Index etc.

1.7 KEYWORDS

- **Economics:** Economics studies how individual, society and the government make their ranked choices in the process of using the scarce resources to satisfy the various needs and wants of life.

- **Economic development:** is measured as changes (growth) in real GDP per capita.
- **Domestic Income:** The sum total of all factor incomes generated during an accounting year within the domestic territory of a country is termed as domestic income or domestic product of a country.
- **GDP Deflator**: It refers to the ratio Between GDP at Current prices and GDP at Constant prices. It shows Change in GDP owing to change in the price level
- **Net Factor Income from Abroad** (NFIA) This is the difference between the income earned from abroad for rendering factor services by the normal residents of the country to the rest of the world and the income paid for the factor services rendered by non-residents in the domestic territory of a country.

1.8 SELF-ASSESSMENT TEST

Q.1 Explain the difference between a planned economy and market economy.

Q.2 Differentiate Domestic product and National product.

Q.3 Discuss nature of Indian Economy.

Q.4 What is Economy? Explain various types of economies.

Q.5 Explain the different methods for calculating National Income.

Q.6 Differentiate between public sector and private sector.

Q.7 Explain the role of State in Indian Economic Development.

Q.8 "As you know three types of economic system prevails in the Economy". According to you, which economy is best and why?

1.9 ANSWERS TO CHECK YOUR PROGRESS

a. (c)
b. (a)
c. (d)

d. (a)

e. (a)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **2** **Natural resources : Land, water, Forest and Energy**	Vetter: **Prof. Anil Kumar**

STRUCTURE

2.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To know the meaning of Natural resources
- To know concept of Renewable and Non-renewable resources.

- To understand the nature and size of resources in Indian economy.

2.1 NATURAL RESOURCS

"Natural resources can be defined as the resources that exist (on the planet) independent of human actions."

These are the resources that are found in the environment and are developed without the intervention of humans. Common examples of natural resources include air, sunlight, water, soil, stone, plants, animals, and fossil fuels. The natural resources are naturally occurring materials that are useful to man or could be useful under conceivable technological, economic or social circumstances or supplies drawn from the earth supplies such as food, building and clothing materials, fertilizers, metals, water, and geothermal power. For a long time, natural resources were the domain of the natural sciences.

Based on the availability are two types of natural resources:

Renewable:

Renewable resources are the ones that are consistently available regardless of their use. They can be fairly recovered or replaced after utilization. Examples include vegetation, water, and air. Animals can also be categorized as renewable resources because they can be reared and bred to reproduce offspring to substitute the older animals. As much as these resources are renewable, it may take tens to hundreds of years to replace them. The renewable raw materials that come from living things namely animals and trees are termed as organic renewable resources while those that come from non-living things such as sun, water and wind are termed as inorganic renewable resources.

Non-Renewable:

Non-renewable resources are the ones that cannot simply be substituted or recovered once they have been utilized or destroyed. Examples of such natural resources include fossil fuels and minerals. Minerals are categorized as non-renewable because, even though they take shape naturally through the rock cycle, their formation periods take thousands of years. Some animals mostly the endangered species are similarly regarded as non-renewable because they are at the verge of extinction.

It brings about the many reasons the endangered species have to be protected by all means. The non-renewable materials that come from living things such as fossil fuels are known as organic non-renewable resources while those that come from non-living things such as rocks and soil are referred to as inorganic non-renewable resources.

Renewable resource Non-renewable resource

Renewable resource Non-renewable resource	**Renewable resource Non-renewable resource**
It can be renewed as it is available in	It can be renewed as it is available in
infinite quantity	infinite quantity
Once completely consumed, it cannot be	Once completely consumed, it cannot be
renewed due to limited stock	renewed due to limited stock

2.2 TYPES OF NATURAL RESOURCES

1. Land Resources
2. Forest Resources
3. Water Resources
4. Energy Resources

2.2.1 LAND RESOURCES

(a) Land as a resource: Landforms such as hills, valleys, plains, river basins and wetlands Include different resource generating areas that the people living in them depend on. Many Traditional farming societies had ways of preserving areas from which they used resources. Eg. In the ‘sacred groves’ of the Western Ghats, requests to the spirit of the Grove for Permission to cut a tree, or extract a resource, were accompanied by simple rituals. The Outcome of a chance fall on one side or the other of a stone balanced on a rock gave or withheld permission. The request could not be repeated for a specified period. If land is utilized carefully it can be considered a renewable resource. The roots of trees and grasses bind the soil. If forests are depleted, or grasslands over grazed, the land becomes Unproductive

and wasteland is formed. Intensive irrigation leads to water logging and salination, on which crops cannot grow. Land is also converted into a non-renewable resource when highly toxic industrial and nuclear wastes are dumped on it. Land on earth is as finite as any of our other natural resources. While mankind has learnt to adapt his lifestyle to various ecosystems world over, he cannot live comfortably for instance on polar ice caps, on under the sea, or in space in the foreseeable future. Man needs land for building homes, cultivating food, maintaining pastures for domestic animals, developing industries to provide goods, and supporting the industry by creating towns and cities. Equally importantly, man needs to protect wilderness area in forests, grasslands, wetlands, mountains, coasts, etc. to protect our vitally valuable biodiversity.

Thus a rational use of land needs careful planning. One can develop most of these Different types of land uses almost anywhere, but Protected Areas (National Park's and Wildlife Sanctuaries) can only be situated where some of the natural ecosystems are still Undisturbed. These Protected Areas are important aspects of Good land use planning.

(b) Land use change: The most damaging change in land use is demonstrated by the rapidity with which forests have vanished during recent times, both in India and in the rest of the world. Forests provide us with a variety of services. These include processes such as maintaining oxygen levels in the atmosphere, removal of carbon dioxide, control overwater regimes, and slowing down erosion and also produce products such as food, fuel, timber, fodder, medicinal plants, etc. In the long term, the loss of these is far greater than the short term gains produced by converting forested lands to other uses

(c) Land degradation: It is a process of deterioration of soil or loss of fertility. Due to increasing population, the demands for arable land for producing food, fibre and fuel wood is also increasing. Hence there is more and more pressure on the limited land resources which are getting degraded due to over-exploitation. Nearly 56% of total geographical area of the country is suffering due to land resource degradation. Out of 17-million-hectare canal irrigated area, 3.4 million hectares is suffering from water logging and salinity.

Effects of land degradation:

1. Soil texture and soil structure are destructed.
2. Loss of soil fertility.

3. Loss of valuable nutrients.

4. increase in water logging, salinity, alkalinity and acidity problem.

5. Loss of economic social and biodiversity.

Causes of land degradation:

1. Population: More land is needed for producing food, fibre and fuel wood. So land is degraded due to over exploitation.

2. Urbanisation: Urbanisation reduces the agricultural land. Urbanisation leads to deforestation, which in turn affects millions of plants and animals.

3. Fertilizers and pesticides: It affects fertility of the soil and causes land pollution.

4. Damage of top soil: Increase in food production generally leads to damage of top soil through nutrient depletion.

5. Water logging, soil erosion, salination and contamination of the soil with industrial wastes and cause land degradation.

(d) Soil erosion: The process of loss or removal of superficial layer of soil due to the action of wind, water and human factors. In other words, it can be defined as the movement of soil components, especially surface-litter and top soil from one place to another. It has been estimated that more than 5000 million tonnes topsoil is being eroded annually and 30% of total eroded mass is getting loosed to the sea.

Types of soil erosion:

1. Geological erosion:

It is caused by gradual removal of top soil by the natural process. The rate of erosion is less.

2. Accelerated erosion:

It is caused by man-made activities. The erosion is much faster than the rate formation of soil.

Causes of soil erosion:

1. Water: water causes soil erosion in the form of rain, run off, rapid flow and wave action.

2. Wind: It is an important climatic agent, which carry away the fine particles of soil creates soil erosion.

3. Biotic agent: Over grazing, mining and deforestation are the major biotic agent cause soil erosion.35% of soil erosion is due to over grazing and 30% is due to deforestation.

4. Land slide: It causes soil erosion.

5. Construction: Construction of dams, buildings, roads remove protective vegetal cover and Leads to soil erosion.

Control of soil erosion (or) Soil conservation practices:

The art of soil conservation is based on following basic principles

1. To slow down the water for concentrating and moving down the slope in a narrow path.
2. To slow down the water movement when it flows along the slope.
3. To encourage more water to enter into the soil.
4. To increase the size of soil particles.
5. Reduction in the wind velocity near the ground by growing vegetation.

***Conservational tillage*:** The process of mixing the residues from previous crops into the soil by ploughing is called conservational tillage. It improves soil permeability and increase organic matter, which in turn improve soil moisture and nutrients.

Organic farming: Process of increasing organic input to the soil. e.g bio fertilizer

Crop rotation: Process of growing different crops in successive year on the same land. It prevents the loss of fertility of the soil.

Contour Ploughing: It is very useful areas with low rain fall, i.e. placing some furrows to store water, which reduce erosion.

Mulching*:* Soil is covered with crop residues and other form of plant litters.

Strip cropping*:* Planting of crops in rows to check flow of water.

Terrace farming: Conversion of steep slopes in to a series of broad terraces which run across the contour. It reduces soil erosion by controlling run off.

Agroforestry: Planting crops in between rows of trees or shrubs that can provide fruits and fuel wood. After harvesting the crops the soil will not be eroded because trees and shrubs will remain on the soil and hold the soil particles.

Wind break: Trees are planted in long rows along the boundary of cultivated lands, which block the wind and reduces soil erosion.

(e) Desertification: Desertification is a process whereby the productive potential of arid or

Semiarid lands falls by ten percent or more. Desertification is characterized by de-vegetation and depletion of groundwater, salinization and severe soil erosion.

Causes:

1. Deforestation

2. Over grazing

3. Over utilisation of water

4. Mining and quarrying

5. Climate change

6. Excessive use of fertilizers and pesticides

Effects of desertification:

80% of productive land in the arid and semi-arid regions are converted in to desert. Around 600million people are suffered by desertification.

2.2.2 FOREST RESOURCES

Forest is an important renewable resources. Forest vary in composition and diversity and can contribute substantially to the economic development of any country. Plants along with trees cover large areas, produce variety of products and provide food for living organisms, and also important to save the environment.

It is estimated that about 30% of world area is covered by forest whereas 26% by pastures. Among all continents, Africa has largest forested area (33%) followed by Latin America (25%), whereas in North America forest cover is only 11%. Asia and former USSR has 14% area under forest. European countries have only 3% area under forest cover. India's Forest Cover accounts for 20.6% of the total geographical area of the country as of 2005.

(1) Significance of forests

Forest can provide prosperity of human being and to the nations. Important uses of forest can be classified as under:

(i) Commercial values

Forests are main source of many commercial products such as wood, timber, pulpwood etc. About 1.5 billion people depend upon fuel wood as an energy source.

Timber obtained from the forest can used to make plywood, board, doors and windows, furniture, and agriculture implements and sports goods. Timber is also a raw material for preparation of paper, rayon and film.

• Forest can provide food, fibre, edible oils and drugs.

• Forest lands are also used for agriculture and grazing.

• Forest is an important source of development of dams, recreation and mining.

(ii) Life and economy of tribal

Forest provide food, medicine and other products needed for tribal people and play a vital role in the life and economy of tribes living in the forest.

(iii) Ecological uses

Forests are habitat to all wild animals, plants and support millions of species. They help in reducing global warming caused by greenhouse gases and produces oxygen upon photosynthesis. Forest can act as pollution purifier by absorbing toxic gases. Forest not only helps in soil conservation but also helps to regulate the hydrological cycle.

(iv) Aesthetic values

All over the world people appreciate the beauty and tranquillity of the forest because forests have a greatest aesthetic value. Forest provides opportunity for recreation and ecosystem research.

2. Over exploitation of forests

Forests contribute substantially to the national economy. With increasing population increased demand of fuel wood, expansion of area under urban development and industries has led to over exploitation of forest. At present international level we are losing forest at the rate of 1.7 crore hectares annually. Over exploitation also occurs due to overgrazing and conversion of forest to pastures for domestic use.

3. Deforestation

Forest are burned or cut for clearing of land for agriculture, harvesting for wood and timber, development and expansion of cities .These economic gains are short term where as long term effects of deforestation are irreversible

1. Deforestation rate is relatively low in temperate countries than in tropics if present rate of deforestation continues we may losses 90% tropical forest in coming six decades

2. For ecological balance 33% area should be under forest cover but our nation has only 20.6% forest cover.

Causes of deforestation

Forest area in some developed area has expanded. However in developing countries area under forest is showing declining trend particularly in tropical region. Main causes of deforestation are

a) Shifting cultivation or jhum cultivation

This practise is prevalent in tribal areas where forest lands are cleared to grow subsistence crops. It is estimated that principle cause of deforestation in tropics in Africa, Asia and tropical America is estimated to be 70, 50, and 35% respectively. Shifting cultivation which is a practice of slash and burn agriculture are process to clear more than 5 lakh hectares of land annually. In India, shifting cultivation is prevalent in northeast and to limited extent in M.P, Bihar and Andhra Pradesh and is contributing significantly to deforestation.

b) Commercial logging

It is important deforestation agent. It may not be the primary cause but definitely it acts as secondary cause, because new logging lots permits shifting cultivation and fuel wood gatherers access to new logged areas.

c) Need for fuel wood

Increased population has lead to increasing demand for fuel wood which is also acting as an important deforestation agent, particularly in dry forest.

d) Expansion for agribusiness

With the addition of cash crops such as oil palm, rubber, fruits and ornamental plants, there is stress to expand the area for agribusiness products which results in deforestation.

e) Development projects and growing need for food

The growing demand for electricity, irrigation, construction, mining, etc. has lead to destruction of forest. Increased population needs more food which has compelled for increasing area under agriculture crops compelling for deforestation.

f) Raw materials for industrial use

Forest provides raw material for industry and it has exerted tremendous pressure on forest. Increasing demand for plywood for backing has exerted pressure on cutting of other species such as fir to be used as backing material for apple in J&K and tea in northeast states.

Major effects of deforestation:

Deforestation adversely and directly affects and damages the environment and living beings **Major causes of deforestation are**

- Soil erosion and loss of soil fertility
- Decrease of rain fall due to affect of hydrological cycle
- Expansion of deserts
- Climate change and depletion of water table

• Loss of biodiversity, flora and fauna

• Environmental changes and disturbance in forest ecosystems

4. Case studies

1. Jhum cultivation

Jhum Agriculture or shifting agriculture has destroyed large number of hectares of forest tracts in North-Eastern states and Orissa. Jhum agriculture is subsidence agriculture in which tract of forest land is cleared by cutting trees and it is used for cultivation. After few years, when productivity of the land decreases, cultivators abandon the land and clear next tract. As a result of this practise, combined with increasing population there is rapid deforestation as more and more cultivators clear forest to cultivate land. Also, with increase in population, cultivators are forced to return to previous tracts of land in relatively shorter durations, not allowing the land to regain its productivity.

2. Chipko movement

The Chipko movement or Chipko Andolan is a social-ecological movement that practised the

Gandhian methods of satyagraha and non-violent resistance, through the act of hugging trees to protect them from being felled. The modern Chipko movement started in the early 1970s in the Garhwal Himalayas of Uttarakhand, with growing awareness towards rapid deforestation.

The landmark event in this struggle took place on March 26, 1974, when a group of peasant women in Reni village, Hemwalghati, in Chamoli district, Uttarakhand, India, acted to prevent the cutting of trees and reclaim their traditional forest rights that were threatened by the contractor system of the state Forest Department. Their actions inspired hundreds of such actions at the grassroots level throughout the region. By the 1980s the movement had spread throughout India and led to formulation of people-sensitive forest policies, which put a stop to the open felling of trees in regions as far reaching as Vindhyas and the Western Ghats.

3. Western Himalayan region.

Over the last decade, there has been widespread destruction and degradation of forest resources in Himalayas, especially western Himalayas. This has resulted in various problems such as erosion of top soil, irregular rainfall, changing weather patterns and floods.

Construction of roads on hilly slopes, have not only undermined their stability, but also damaged protective vegetation and forest cover. Tribes in these areas are increasingly facing shortage of firewood and timber, due large-scale tree cutting. Increased traffic volumes on these roads leads to increased pollution in the area.

4. Timber extraction

There has been unlimited exploitation of timber for commercial use. Due to increased

industrial demand; timber extraction has significant effect on forest and tribal people.

Logging

• Poor logging results in degraded forest and may lead to soil erosion especially on slopes.

• New logging roads permit shifting cultivators and fuel wood gatherers to gain access to the logging area.

• Loss of long-term forest productivity

• Species of plants and animals may be eliminated

• Exploitation of tribal people by contractor.

5. Mining

Major effects of mining operations on forest and tribal people are:

• Mining from shallow deposits is done by surface mining while that from deep deposits is done by sub-surface mining. It leads to degradation of lands and loss of top soil. It is estimated that about eighty-thousand-hectare land is under stress of mining activities in India

• Mining leads to drying up perennial sources of water sources like spring and streams in mountainous area.

• Mining and other associated activities remove vegetation along with underlying soil mantle, which results in destruction of topography and landscape in the area. Large scale deforestation has been reported in Mussorie and Dehradun valley due to indiscriminating mining.

• The forested area has declined at an average rate of 33% and the increase in nonforest area due to mining activities has resulted in relatively unstable zones leading to landslides.

• Indiscriminate mining in forests of Goa since 1961 has destroyed more than 50000 hectare of forest land. Coal mining in Jharia, Raniganj and Singrauli areas has caused extensive deforestation in Jharkhand.

• Mining of magnetite and soapstone have destroyed 14 ha of forest in hilly slopes of Khirakot, Kosi valley and Almora.

• Mining of radioactive minerals in Kerala, Tamilnadu and Karnataka are posing similar threats of deforestation.

• The rich forests of Western Ghats are also facing the same threat due to mining projects for excavation of copper, chromites, bauxite and magnetite.

6. Effects of dams on forests and tribal people

Pandit Jawaharlal Nehru referred dam and valley projects as "Temples of modern India". These big dams and rivers valley projects have multi-purpose uses. However, these dams are also responsible for the destruction of forests. They are responsible for degradation of catchment areas, loss of flora and fauna, increase of water borne diseases, disturbance in forest ecosystems, rehabilitation and resettlement of tribal peoples.

• India has more than 1550 large dams, the maximum being in the state of Maharashtra (more than 600), followed by Gujarat (more than 250) and Madhya Pradesh (130).

• The highest one is Tehri dam, on river Bhagirathi in Uttaranchal and the largest in terms of capacity is Bhakra dam on river Satluj in Himachal Pradesh. Big dams have been in sharp focus of various environmental groups all over the world, which is mainly because of several ecological problems including deforestation and socioeconomic problems related to tribal or native people associated with them.

• The Silent valley hydroelectric project was one of the first such projects situated in the tropical rain forest area of Western Ghats which attracted much concern of the people.

• The crusade against the ecological damage and deforestation caused due to Tehri dam was led by Shri. Sunder Lal Bahaguna, the leader of Chipko Movement.

• The cause of Sardar Sarovar Dam related issues have been taken up by the environmental activitistMedha Patkar, joined by Arundhati Ray and Baba Amte. For building big dams, large scale devastation of forests takes place which breaks the natural ecological balance of the region.

• Floods, droughts and landslides become more prevalent in such areas. Forests are the repositories of invaluable gifts of nature in the form of biodiversity and by destroying them (particularly, the tropical rain forests), we are going to lose these species even before knowing them. These species could be having marvellous economic or medicinal value and deforestation results in loss of this storehouse of species which have evolved over millions of years in a single stroke.

7. Forest conservation and management

Forest is one of the most valuable resources and thus needs to be conserved. To conserve forest, following steps should be taken.

1. Conservation of forest is a national problem; thus, it should be tackled with perfect coordination between concerned government departments.

2. People should be made aware of importance of forest and involved in forest conservation activities.

3. The cutting of trees in the forests for timber should be stopped.

4. A forestation programmes should be launched

5. Grasslands should be regenerated.

6. Forest conservation Act should be strictly implemented to check deforestation.

7. Awards should be instituted for the deserving

2.2.3 Water Resources

Water is an indispensable resource for life on earth. Approximately 70.8 % surface of earth is

covered with water in the form of oceans. Out of this, about 97% is not fit for human consumption, about 2% is locked as a glacier and only less than 1% available as fresh water that can be used for human consumption and other uses.

Water is a very important source and essential for life because it has very unique characteristic such as

1. Water exists as liquid over a wide range of temperature 0-1000C with highest specific heat and latent heat of vaporization.

2. Water is excellent solvent and act as carrier of nutrient and helps to distribute them to the cells in the body, regulates the body temperature and support structure and can dissolve various pollutant and can act as carrier of large number of micro organisms

3. It is responsible for hydrological cycle which acts as resource of water to the earth. It is estimated that about 1.4 inch thick layer of water evaporates and majority of water returns to earth through hydrological cycle.

Water is renewable, but its overuse and pollution make it unfit for use. Sewage, industrial use, chemicals, etc. pollute water with nitrates, metals, and pesticides.

Use of Water Resources

Water resources are used for agricultural, industrial, domestic, recreational, and environmental activities. Majority of the uses require fresh water. However, about 97 percent of water found on the earth is salt water and only three percent is fresh water. A little over two-thirds of the available fresh water is frozen in glaciers and polar ice caps. The remaining freshwater is found mainly as groundwater and a negligible portion of it is presenton the ground or in the air.

Following is a brief account of how water is used in different sectors.

(i) Agricultural Use: Agriculture accounts for 69 percent of all water consumption basically in agricultural economies like India. Agriculture, therefore, is the largest consumer of the earth's available freshwater.

By 2050, the global water demand of agriculture is estimated to increase by a further 19% due to irrigational needs. Expanding irrigation needs are likely to put undue pressure on water storage. It is still

inconclusive whether further expansion of irrigation, as well as additional water withdrawals from rivers and groundwater, will be possible in future.

ii) Industrial Use: Water is the life blood of the industry. It is used as a raw material coolant, a solvent, a transport agent, and as a source of energy. Manufacturing industries account for a considerable share in the total industrial water consumption. Besides, paper and allied products, chemicals and primary metals are major industrial users of water.

Worldwide, the industry accounts for 19 percent of total consumption. In industrialized countries, however, industries use more than half of the water available for human use.

(iii) Domestic Use: It includes drinking, cleaning, personal hygiene, garden care, cooking, washing of clothes, dishes, vehicles, etc. Since the end of World War II there has been a trend of people moving out of the countryside to the ever-expanding cities.

Implications on our water resources.

Government and communities have had to start building large water-supply systems to deliver water to new populations and industries. Of all water consumption in the world, domestic use accounts for about 12 percent.

(iv) Use for Hydropower Generation: Electricity produced from water is hydropower. Hydropower is the leading renewable source of electricity in the world. It accounts for about 16 percent of total electricity generation globally. There are many opportunities for hydropower development throughout the world. Today, the leading hydropower generating countries are China, the US, Brazil, Canada, India, and Russia.

(v) Use for Navigation and Recreation: Navigable water ways are defined as water courses that have been or may be used for transport of interstate or foreign commerce.

Agricultural and commercial goods are moved on water on a large scale in a number of regions in the world. Water is also used for recreational purposes such as boating, swimming, and sporting activities. These uses affect the quality of water and pollute it. Highest priority should be given to public health and drinking water quality while permitting such activities in reservoirs, lakes, and rivers.

Over-Exploitation of Water

Water scarcity has become a burning global issue. The UN has held several conventions on water in recent decades. Continuous over utilization of surface and ground water has led to virtual water scarcity in the world today.

The depleting sources for high growth in human population over the centuries and increased man-induced water pollution across the world have created unforeseen water scarcity around the globe. As a result, there has been continuous overutilization of the existing water sources due to mammoth growth in world population.

(i) Surface water

Surface water mainly comes directly from rain or snow covers. The various surface sources are natural lakes and ponds, rivers and streams, artificial reservoirs. Availability of surface water decides the economy of the country. On one side surface water availability affects the productivity, but on the other side water sources may cause floods and drought. Due to unequal distribution, water may lead to national (interstate) or international disputes. Sharing of surface water due to these disputes is affecting productivity of different agro eco-zone and creating problems for government.

(ii) Ground water

Groundwater is the major source of water in many parts of the world. However, there has been continuous depletion of this source due to its over exploitation by rising human population and the rapid rise in industrialization and urbanization in modern times. About 9.86% of the total fresh water resources are in the form of groundwater and it is about 35-50 times that of surface water supplies.

Effects of extensive and reckless groundwater usage:

1. Subsidence

2. Lowering of water table

3. Water logging

Consequences of Overutilization

Water scarcity now becomes an important topic in international diplomacy. From village to the United Nations, water scarcity is a widely-discussed topic in decision making.

Nearly three billion people in the world suffer from water scarcity. International, intrastate and regional rivalries on water are not new to world. The ongoing Jordan River conflict, Nile River conflict, and Aral Sea conflict are cases in point. The intra-state issues such as Cauvery Water dispute in South India, 2000 Cochabamba protests in Bolivia is still a simmering cauldron causing periodic tension at the national and regional levels. According to World Health Organization (WHO) sources, a combination of rising global population, economic growth and climate change means that by 2050 five billion (52%) of the world's projected 9.7 billion people will live in areas where fresh water supply is under pressure. Researchers expect about 1 billion more people to be living in areas where water demand exceeds surface-water supply.

(i) Climate Change

Scientists, environmentalists, and biologists worldwide are now alarmed that climate change can have an impact on the drainage pattern and hydrological cycle on the earth thereby severely affecting the surface and ground water availability.

Climate change is believed to rise the global temperature at an increasing pace. Temperature increase affects the hydrological cycle by directly increasing evaporation of available surface water and vegetation transpiration.

As a result, precipitation amount, timing and intensity rates are largely affected. It impacts the flux and storage of water in surface and subsurface reservoirs.

(ii) Floods & Draughts

Floods and droughts are two well-known natural hazards in the world. The former is due to excess in water flow and the latter is due to scarcity of water.

The amount of rainfall received by an area varies from one place to another depending on the location of the place. In some places, it rains almost throughout the year whereas in other places it might rain for only few days. India records most of its rainfall in the monsoon season.

Heavy rains lead to rise in the water level of rivers, seas, and oceans. Water gets accumulated in the coastal areas, which results in floods. Floods bring in extensive damage to crops, domestic animals, property and human life. During floods, many animals get carried away by the force of water and eventually die.

On the other hand, droughts set in when a particular region goes without rain for a long period of time. In the meantime, the soil will continuously lose groundwater by the process of evaporation and transpiration. Since this water is not brought back to earth in the form of rains, the soil becomes very dry.

The level of water in the ponds and rivers goes down and in some cases water bodies get dried up completely. Ground water becomes scarce and this leads to droughts. In drought conditions, it is very difficult to get food and fodder for the survival. Life gets difficult and many animals perish in such conditions.

Frequent floods and droughts are mostly due to climate change and global warming. Various environmental organizations world over are of the view that climate change is a long-term change in weather patterns, either in average weather conditions or in the distribution of extreme weather events.

Major Water Conflicts

Some of the major water conflicts that have become thorn in relations between states and countries are

(1) Water conflict in the middle east

Countries involved are Sudan, Egypt and Turkey. It also affects countries which are water starved viz. Saudi Arabia, Kuwait, Syria, Israel and Jordan.

(2) The Indus water treaty

This Indus water treaty dispute between India and Pakistan is lingering since long.

(3) The Cauvery water dispute

It involves two major states of India viz. Tamilnadu and Karnataka.

(4) The Satluj-Yamuna link canal dispute

The dispute is between two Northern states viz. Punjab and Haryana and UP, Rajasthan as well as Delhi has also interest in it.

In traditional water management, innovative arrangements ensure equitable distribution of water, which are democratically implemented. These disputes can be solved amicably through 'Gram Panchayats", if transparency is maintained. But disputes between countries or states sometimes attain war like situation and are difficult to solve.

Dams - Benefits and Problems

Water is a precious resource and its scarcity is increasing at global level. There is a pressure to utilise surface water resources efficiently for different purposes. Dam, structure built across a stream, a river, or an estuary to retain water. Dams are built to provide water for human consumption, for irrigating arid and semiarid lands, or for use in industrial processes.

Major benefits of dams

The major benefits of dams are:

1. Hydroelectricity generation
2. Year-round water supply to ensure higher productivity
3. Equal water distribution by transferring water from area of excess to area of deficit
4. Helps flood control and protects soil
5. Assure irrigation during dry periods
6. River valley projects provide inland water navigation, employment opportunities and can be used to develop fish hatcheries and nurseries
7. River valley projects have tremendous potential for economic upliftment and will help to raise the standard of living and can help to improve the quality of life

Disadvantages/problems

Although dams have proved very useful over the centuries but recent past big dams has created lot of human as well as environmental issues

1. Submergence of large areas may lead to loss of fertile soil and displacement of tribal people

2. Salt left behind due to evaporation increase the salinity of river water and makes it unusable when reaches down stream

3. Siltation and sedimentation of reservoirs not only makes dams use less but also is responsible for loss of valuable nutrients

4. Loss of non-forest land leads to loss of flora and fauna

5. Changes in fisheries and the spawning grounds

6. Stagnation and water logging near reservoir leads to breeding of vectors and spread of vector-borne diseases

7. Growth of aquatic weeds may lead to microclimatic changes.

2.2.4 ENERGY RESOURCES

Energy Scenario

Energy is a key input in the economic growth and there is a close link between the availability of energy and the future growth of a nation. Power generation and energy consumption are crucial to economic development.

In India, energy is consumed in a variety of forms such as fuel wood; animal waste and agricultural residues are the traditional sources of energy. These non-commercial fuels are gradually getting replaced by commercial fuels i.e. coal, petroleum products, natural gas and electricity.

Out of total energy, commercial fuels account for 60% whereas the balance 40% is coming from non-commercial fuels. Of the total commercial energy produced in the form of power or electricity,

69% is from coal (thermal power),

25% is from hydel power,

4% is from diesel and gas,

2% is from nuclear power, and

Less than 1% from non- conventional sources like solar, wind, ocean, biomass, etc.

Petroleum and its products are the other large sources of energy. In a developing country like India, in spite of enhanced energy production, there is still shortage due to increased demand of energy. In spite of the fact that there is a phenomenal increase in power generating capacity, still there is 30% deficit of about 2,000 million units.

Policy makers are in the process of formulating an energy policy with the objectives of ensuring adequate energy supply at a minimum cost, achieving self-sufficiency in energy supplies and protecting environment from adverse impact of utilizing energy resources in an injudicious manner. The main features of this policy are

- Accelerated exploitation of domestic conventional energy resources, viz., oil, coal, hydro and nuclear power;
- Intensification of exploration to achieve indigenous production of oil and gas;
- Efficient management of demand of oil and other forms of energy;
- To formulate efficient methods of energy conservation and management;
- Optimisation of utilisation of existing capacity in the country
- Development and exploitation of renewable sources of energy to meet energy requirements of rural communities;
- Organisation of training for personnel engaged at various levels in the energy sector.
- Government private partnership to exploit natural energy resources

Renewable Resources

The resources that can be replenished through rapid natural cycles are known as renewable resource. These resources are able to increase their abundance through reproduction and utilization of simple substances.

Examples of renewable resources are plants (crops and forests),and animals who are being replaced from time to time because they have the power of reproducing and maintain life cycles.

Some examples of renewable resources though they do not have life cycle but can be recycled are wood and wood-products, pulp products, natural rubber, fibres (e.g. cotton, jute, animal wool, silk and synthetic fibres) and leather.

In addition to these resources, water and soil are also classified as renewable resources. Solar energy although having a finite life, as a special case, is considered as a renewable resource in as much as solar stocks is inexhaustible on the human scale.

Non-Renewable Resources

The resources that cannot be replenished through natural processes are known as non-renewable resources. These are available in limited amounts, which cannot be increased. These resources include fossil fuels (petrol, coal etc.), nuclear energy sources (e.g. uranium, thorium, etc). metals (iron, copper, gold, silver, lead, zinc etc.), minerals and salts (carbonates, phosphates, nitrates etc.). Once a non-renewable resource is consumed, it is gone forever. Then we have to find a substitute for it or do without it. Non-renewable resources can further be divided into two categories, viz. Recyclable and non-recyclable

(1) Recyclable resources

These are non-renewable resources, which can be collected after they are used and can be recycled. These are mainly the non-energy mineral resources, which occur in the earth's crust (e.g. ores of aluminium, copper, mercury etc.) and deposits of fertilizer nutrients (e.g. phosphate sock and potassium and minerals used in their natural state (asbestos, clay, mica etc.)

(2) Non-recyclable resources

These are non-renewable resources, which cannot be recycled in any way. Examples of these are fossil fuels and nuclear energy sources (e.g. uranium, etc) which provide 90 per cent of our energy requirements.

Use of Alternate Energy Sources

There is a need to develop renewable energy sources which are available and could be utilized (solar or wind) or the sources which could be created and utilized (bio-mass). The main renewable energy

sources for India are solar, wind, hydel, waste and bio-mass. Biomass are resources which are agriculture related like wood, bagasse, cow dung, seeds, etc.

(1) Hydel energy

India has a total hydro energy potential of about 1.5 lakh MW, of which only about 20 % is installed. Small hydro plant potential is about 15000 MW and most of it is in the northern and eastern hilly regions.

(2) Wind energy

The wind power potential of India is about 45,000 MW out of which capacity of 8748 MW has been installed in India till 2008. India is one of the leading countries in generating the power through wind energy.

Gujarat, AP, Karnataka, MP and Rajasthan are states having more than 5000 MW potential each. These potentials could be improved if the technology of putting turbines in sea is embraced. There are wind farms on sea generating as high as 160 MW of power.

(3) Geothermal energy

Geothermal energy is thermal energy generated and stored in the Earth. Thermal energy is the energy that determines the temperature of matter. Earth's geothermal energy originates from the original formation of the planet (20%) and from radioactive decay of minerals (80%).

Geothermal power is cost effective, reliable, sustainable, and environmentally friendly, but has historically been limited to areas near tectonic plate boundaries. Recent technological advances have dramatically expanded the range and size of viable resources, especially for applications such as home heating, opening a potential for widespread exploitation.

Geothermal wells release greenhouse gases trapped deep within the earth, but these emissions are much lower per energy unit than those of fossil fuels. As a result, geothermal power has the potential to help mitigate global warming if widely deployed in place of fossil fuels.

(4) Ocean thermal energy conversion (OTEC)

Ocean Thermal Energy Conversion (OTEC) uses the difference between cooler deep and

warmer shallow or surface ocean waters to run a heat engine and produce useful work, usually in the form of electricity. A heat engine gives greater efficiency and power when run with a large temperature difference. In the oceans the temperature difference between surface and deep water is greatest in the tropics, although still a modest 20 to 25 °C. It is therefore in the tropics that OTEC offers the greatest possibilities. OTEC has the potential to offer global amounts of energy that are 10 to 100 times greater than other ocean energy options such as wave power

(5) Biomass energy

Biomass is the oldest means of energy used by humans along with solar energy. As soon as the fire was discovered, it was used widely among humans mainly for heat and light. Fire was generated using wood or leaves, which is basically a biomass. The biomass could be used to generate steam or power or used as a fuel. Power is generated using rice husk in Andhra Pradesh, while several bagasse based plants are there. India has a potential of 3500 MW from bagasse. Other fast growing plants could be planned over a huge area, so that it provides biomass for generating power.

Organic waste such as dead plant and animal material, animal dung, and kitchen waste can be converted by the anaerobic digestion or fermentation into a gaseous fuel called biogas. Biogas is a mixture of 65% methane (CH4) and of 35% CO2 and may have small amounts of hydrogen sulphide (H2S), moisture and siloxanes. It is a renewable energy resulting from biomass. Biogas can be used as a fuel in any country for any heating purpose, such as cooking. It can also be used in anaerobic digesters where it is typically used in a gas engine to convert the energy in the gas into electricity and heat. Biogas can be compressed, much like natural gas, and used to power motor vehicles.

(6) Bio-fuels

India has more than 50 million hectare of wasteland, which could be utilized for cultivating fuel plants. Jatropha is one of the options which can be planted on arid lands and be used for production of bio fuels.

(7) Solar energy

India being a tropical country has potential to use solar energy on commercial bases.

According to estimates, 35 MW of power could be generated from one sq km. With such potential, solar energy has bright future as energy source for the development of the country.

Initial cost is the biggest limitation which has led to the low realization of its potential. For solar energy to become one of the front runners, it will require lot of research, cheap technology and low capital.

2.3 CHECK YOUR PROGRESS

1. Which group includes ALL renewable resources?

   a) Coal, trees, water, oil

   b) Water, wind, sun, plants

   c) Minerals, sun, natural gas, water

2. One type of natural resource is water. We can use water to make electricity. This is called what?

   a) Hydropower b) Wind power

   c) Superman power d) Coal power

3. Which state in India is estimated to have largest coal reserve in India?

   A) Bihar B) Jharkhand

   C) Madhya Pradesh D) Orissa

4. Where is the Forest Reserve Institute of India located?

   A) Dehradun B) Bhopal

   C) Lucknow D) Delhi

5. Which one of the following is the highest gravity dam?

   A) Beas dam B) Nangal dam

   C) Bhakra dam D) Hirakund dam

2.4 SUMMARY

Natural resources refer to the resources that we find readily available in the natural world or nature. These are the resources that are found in the environment and are developed without the intervention of humans. Common examples of natural resources include air, sunlight, water, soil, stone, plants, animals, and fossil fuels. Renewable resources are the ones that are consistently available regardless of their use and Non-renewable resources are the ones that cannot simply be substituted or recovered once they have been utilized or destroyed. There is a positive relationship between natural resources and economic development of a country. India is known as quite rich in natural resources in term of large no. of river, mountain ranges, coastal areas, a plateau, a rainforest, a desert, crude oil and natural gas reserves. Sustainable management of natural resources is a difficult task and it needs to keep an open mind with regard to the interests of various stakeholders to preserve natural resources.

2.5 SELF-ASSESSMENT TEST

Q.1 What are the differences between conventional and non-conventional Natural Sources?

Q.2 Explain the functions of forests in detail with suitable examples. Discuss the major causes and consequences of deforestation.

Q.3 Discuss the various ways of water conservation.

Q.4 Describe the essential components of land management.

Q.5 What are the merits and demerits of building big dams?

Q.6 How can you as an individual conserve different natural resources?

Q.7 We know that many human activities lead to increasing levels of pollution of the air, water-bodies and soil. Do you think that isolating these activities to specific and limited areas would help in reducing pollution?

Q.8 Write a note on how forests influence the quality of our air, soil and water resources.

2.6 ANSWERS TO CHECK YOUR PROGRESS

a. B

b. A

c. B

d. A

e. C

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Course: **Indian Financial System**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **3** **Infrastructure**	Vetter: **Prof. Anil Kumar**

STRUCTURE

3.0 LEARNING OBJECTIVES

- To know about the basic structure of infrastructure in India

- Acquaintance about under investment in infrastructure development
- To learn about the various infrastructure facilities in India
- Why infrastructure development is important?
- What are the current programmes being run by the government of India to promote the infrastructure?
- What are the challenges faced in infrastructure development?

3.1 INTRODUCTION

Infrastructure is the 'lifeline' of an economy as protein and vitamins is the lifeline of the human body. Presence of suitable level of infrastructure is a pre-requisite for growth and development. Growth and development of an economy is affected in various ways:

- Directly uplifting the economic activity and
- By elevating the productivity.

Basically, the goods and services which usually requires higher investment, considered essential for the proper functioning of an economy is called the infrastructure of an economy. In General, infrastructure is defined as a set of facilities through which good and services are provided to the public. Infrastructure is the stock of basic facilities and capital equipment needed for the functioning of a country or area; the term collectively refers to the roads, bridges, rail lines and similar public works that are required for an industrial economy, or a portion of it, to function.

Eight such sector might be: power, transportation, communication, water supply, sewerage, housing, urban amenities, etc. Mainly, there are 3infrastructure universally around the world i.e., communication, power and transportation. The Indian infrastructure has been suffering from the under investment from the past few decades.

3.2 INVESTMENT IN INFRASTRUCTURE

- Large upfront investment.
- Large gestation period, due to which income may begin to accrue late.
- Risk of uncertain returns.

- Social benefits from the infrastructure are higher than private income generation.

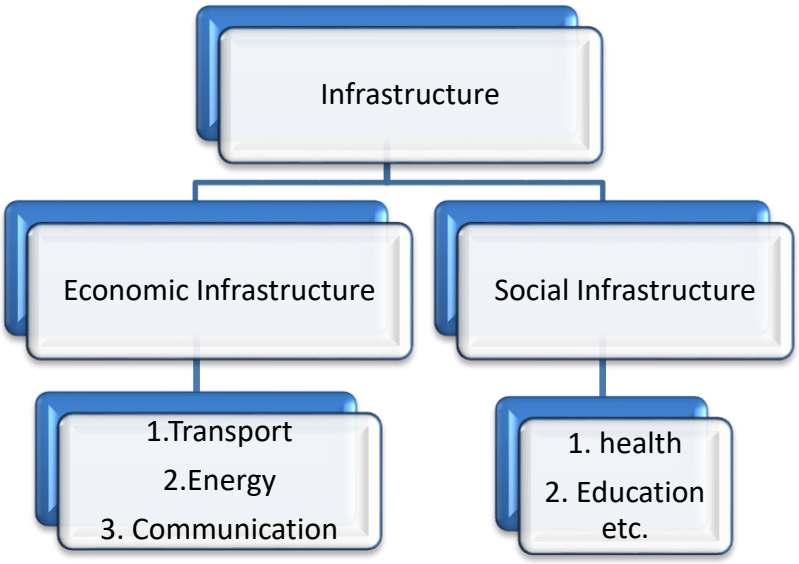
Though, it is very important on the part of government to directly intervene and make some regulations regarding the economic development through infrastructure. India too needs an enormous investment from both the public and private sectors to defeat the blockage in infrastructure. Public and private sectors are not the alternatives but complimentary to each other.

Some Infrastructure in India and other Countries, 2018

Country	Investment* in Infrastructure as a % GDP	Percentage of people using safely managed		Mobile Subscribers/100 People	Consumption of energy (ml. tonnes of oil equivalent)
		Drinking Water Sources	Sanitation Services		
China	44	96	72	115	3274
Hong Kong	22	100	92	259	31
India	**30**	**94**	**40**	**87**	**809**
South Korea	31	98	100	130	301
Pakistan	16	35	64	73	85
Singapore	28	100	100	146	88
Indonesia	34	87	61	120	186

Sources: *World Development Indicators 2019, World Bank website: www.worldbank.org.; BP Statistical Review of World Energy 2019, 69th Edition.*

3.3 CLASSIFICATION OF INFRASTRUCTURE

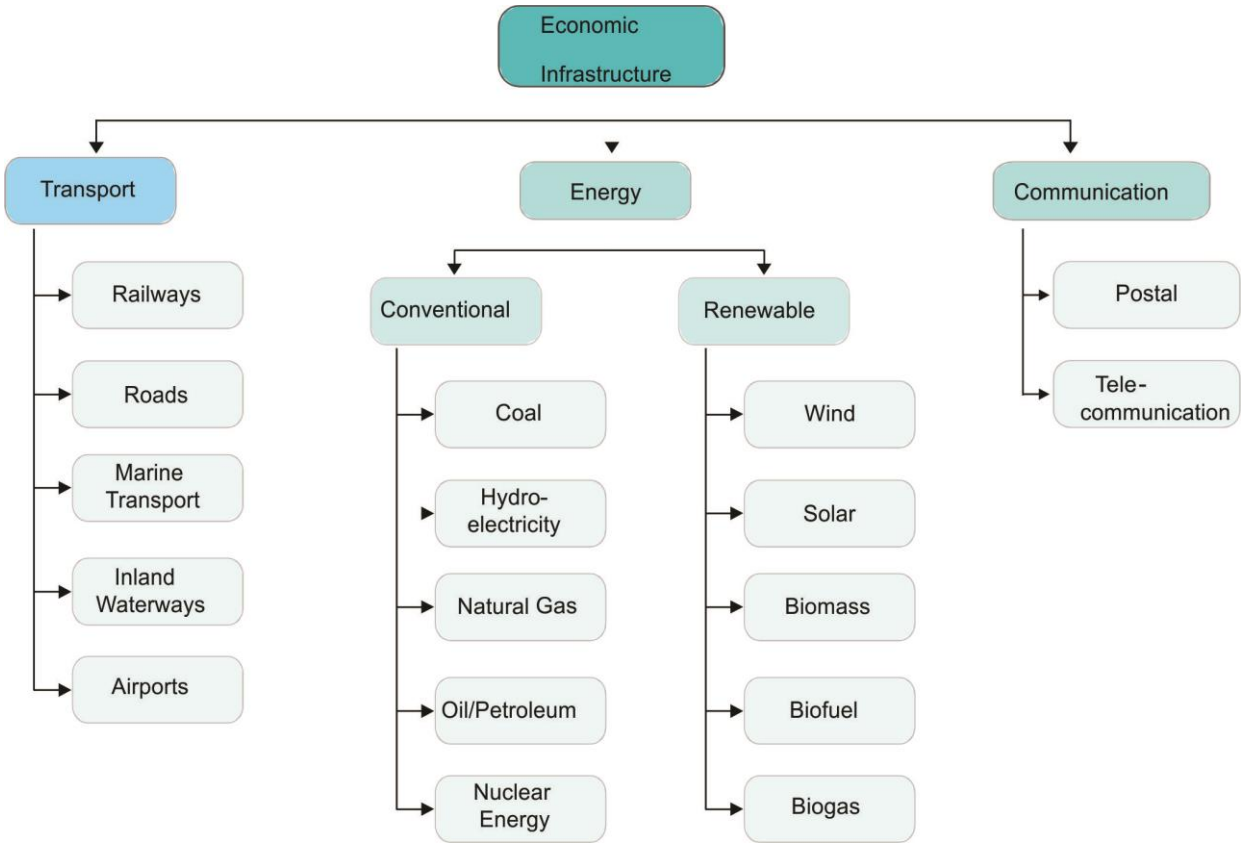


Source: Inter District Disparities of Social Infrastructure in Punjab: A Comparative Study of Pre- and Post-Reform Period (research paper published in Pacific business review international)

DIFFERENCE BETWEEN ECONOMIC INFRASTRUCTURE AND SOCIAL INFRASTRUCTUR

Social Infrastructure	Economic Infrastructure
It helps the economic system indirectly as it affects production and distribution indirectly.	Whereas it helps the economic system directly as it affects production and distribution directly.
It is responsible for improving the quality of human resource.	It is responsible for improving the quality of Economic resource.
It includes: Health, Education and Housing.	It includes: Energy, Transport and communication.
Expenses incurred on social infrastructure results into increase in Human Capital.	Expenses incurred on Economic infrastructure results into increase in Physical Capital.
Social infrastructure enhance the quality of life of people.	Economic infrastructure enhance the standard of living of people.

3.3.1 ECONOMIC INFRASTRUCTURE



A. TRANSPORT

Transport has recorded a substantial growth over the years. It provides an important link among the production centres, distribution areas, and the ultimate consumers.

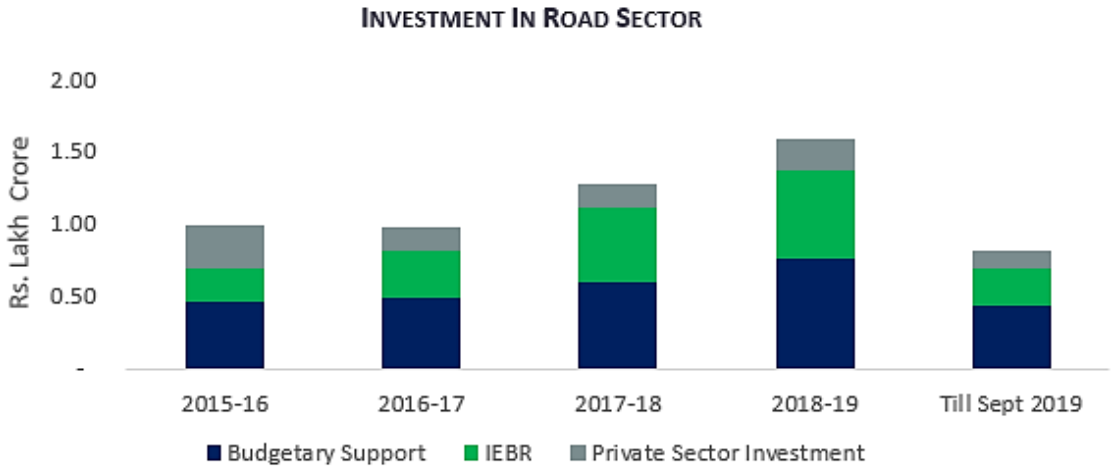
Indian railways

It traverses the length and breadth of the country providing the required connectivity and integration for balanced regional development. First, proposal for first Indian railway was raised in madras and now it is Chennai in 1932. By the early 1900s India had the fourth largest rail network in the world.

Road transport

It provides the roadways network to facilitate social integration, transport, trade and economic development. It is used for smooth movement of both people and goods, due to following reasons:

- It is easily accessible
- Door to door service
- Last mile connectivity
- Reliability
- Flexibility of operations



Source- IndianBudget

Marine transport:

Marine transport consists of shipping, port, ship repair and ship building and IWT system. India has a huge coastline spanning 7,516.6 km, forming one of the biggest peninsulas in the world. 95% of India's trading by volume and 70% by value are done through marine transport. Port Blair port in Andaman and Nicobar which was established in 2010 is one of the major ports in India.

Inland water ways:

IWT is a transporting method through creeks, canals, backwater, cargo over rivers and has the following benefits:

- Environment friendly mode of transport

- Efficient
- Cost- effective

Inland waterways are developed in 24 states in India which were developed by the National Waterways Act, 2016 which came into force in April 2016. There are 111 national waterways in the country today from which 106 waterways were declared national after the Act was passed.

Air transport

Air transport provides the vital connectivity and facilitates the global integration on a national, regional and international scale.

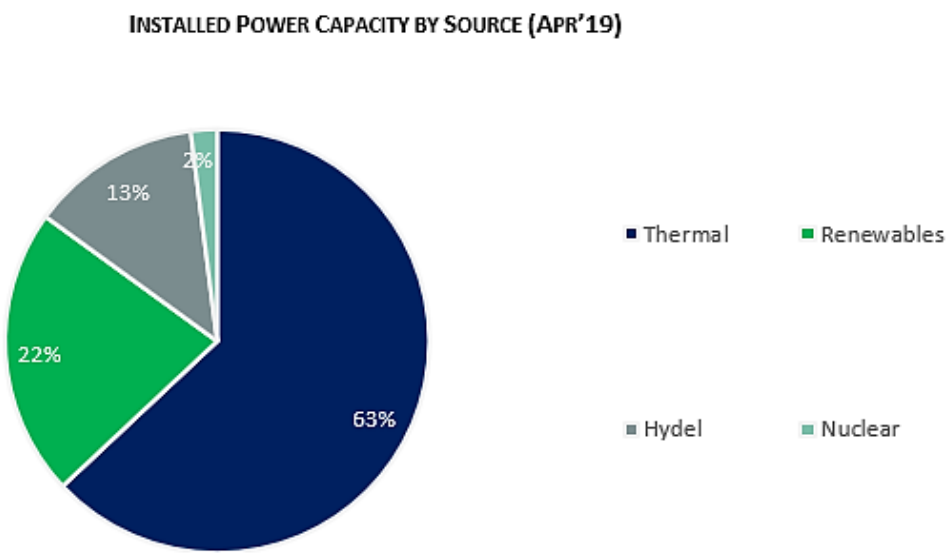
It assists:

- in generating trade
- promote tourism
- create employment opportunities.

B. ENERGY

Energy access is the interwork together the human development, economic growth and environmental sustainability. It is one of the most crucial infrastructure components for welfare and growth of nation. The following are the major sources of energy:

- Coal
- Hydroelectricity
- Natural gas
- Solar
- Biomass
- Biogas
- Wind



Source: IBEF

C. COMMUNICATION

Communication refers to the exchange of the information by speaking, writing, expressions using various types of medium i.e., electronic and digital medium. Communication implicit the conveyance of information.

Important means of communication are:

- Postal services
- Telephone services
- Television
- Internet etc.

Postal services

The first post office was incorporated in the year 1927 in Kolkata India has the largest postal services in the world. On an average a post office serves around 7,700 persons and covers an area of 21.56 km. Around 10% of post offices are located in urban area and 90% are located in rural areas. Quick mail services were introduced in the 1975. PIN was introduced in 1972. From 9 PIN regions one is reserved for army postal services.

Telecommunication:

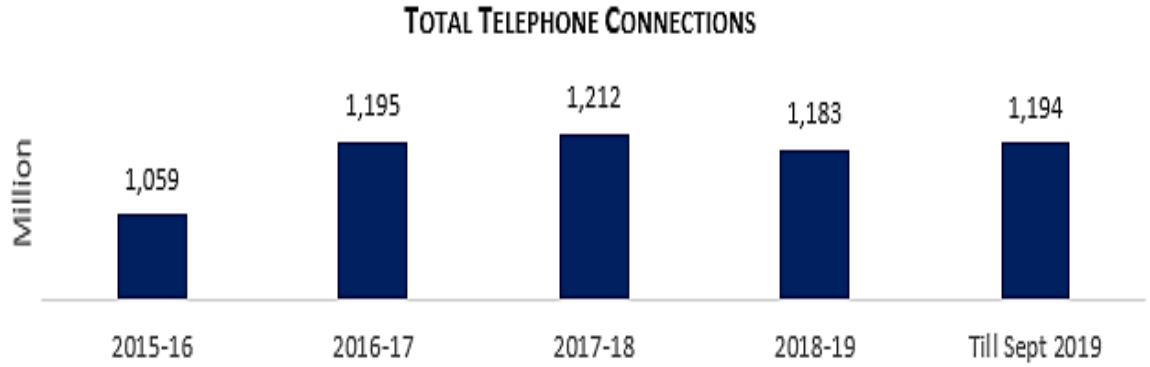
Telecommunication means communication over a distance and is realized by cable, telephone, or broadcasting.

1. Telephony:

   A) Landline B) Mobile telephony and internet

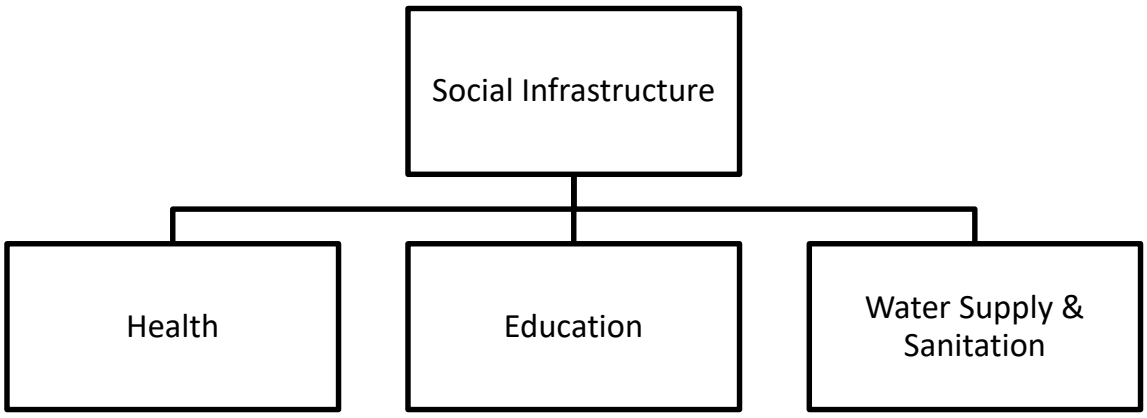
2. Broadcasting

a) Television b)Radio



Source- IndianBudget

3.3.2 SOCIAL INFRASTRUCTURE



Economic development of a country require the development of both types of infrastructure i.e. Economic Infrastructure and Social Infrastructure. Here, we will discuss about Social Infrastructure that helps the economic system indirectly as it affects production and distribution indirectly. It is responsible for improving the quality of human resource. It includes Education, Health and Water Supply & Sanitation.

A. EDUCATION

Education is the major factor responsible for economic and social growth of a country. It is considered as a basic need because it is backbone of a country. Education increase the creativity which results into entrepreneurs skills and leads to increase in standard of living of people. However, the status of education in India is not good because statistics shows below average literacy in India. Indian education system has six levels:

- **Nursery Class**
- **Primary Class**
- **Secondary Level**
- **Higher Secondary Level**
- **Graduation**
- **Post Graduation**

B. HEALTH

Health is another indicator of economic development of a country because labour productivity and efficiency depends on the health factor. Health care in India can be divided into different forms i.e.

1. Drug manufacturer
2. Hospitals
3. Ayurvedic medicine practice,
4. Unani or Galenic Herbal Care
5. Homeopathy

6. Allopathy

7. Yoga, etc.

C. WATER SUPPLY & SANITATION

Water supply and sanitation is equally important factor under social infrastructure. Economic development depends on the higher productivity and higher productivity depends on the labour efficiency and health; and labour needs sanitation facilities. Hence, water supply and sanitation is ultimately related with economic development.

3.4 INFRASTRUCTURE: IMPORTANCE, TRENDS, PROGRAMMES AND ISSUES

3.4.1 Importance of promoting infrastructure

- **Economic growth:** reliable infrastructure is required to connect supply chains and efficiently movement of goods and services across borders. It connects households across metropolitan areas to provide higher quality opportunities for employment, healthcare and education. Clean energy and public transit can reduce greenhouse gases.
- **Contribution to national income:** Economic infrastructure definitely ensures the mobility of labour and capital within/from the economy. It results in the overall growth of towns and cities. Thus, the easy mobility of capital and labour across the countries helps in contribution to the national income through various investment options available.
- **Employment generations:** Investing in infrastructure creates income opportunities and generates jobs. Directly as employment can be created during the construction and maintenance of infrastructure by using labour-based methods. Rural roads provide access to markets and employment centres and have a sustained impact on employment.
- **Improves sectoral development:** Infrastructure helps in improving the country's condition by improving GDP and through the development of MSMEs, which results in improving the living standards of the people outcomes the sectoral development.
- **Urbanisation:** urbanization generates demand for infrastructure investment, which then drives economic growth via various channels including reducing transaction costs and raising productivity.

- **Attract FDI, PPP initiatives:** Transport infrastructure improvements help to attract FDI through reduction in monetary and time costs of procurement of primary and intermediate inputs and distribution of finished products.
- **Capital formation:** Infrastructure helps in attracting FDIs and infrastructure development which further generates the job opportunities, and which stimulate the capital in the country.
- **Rural development:** As per various studies, development of sanitation, irrigation, water and rural power and road infrastructure can enhance the income, savings, tourism and productivity which resulted in better jobs and health of rural people.
- **Entrepreneurship:** Infrastructure plays an important role in improving the entrepreneurial development. It indicates and specify that physical infrastructure is more pertinent in less developed countries in promoting entrepreneurial activities.

3.4.2 INFRASTRUCTURE PROGRAMMES IN INDIA

Uday scheme: Without improving the performance of the electricity distribution companies (DISCOMs) of the state governments efforts towards 100 per cent village electrification, 24x7 power supply and clean energy cannot bear fruit.

For financial and operational turnaround of DISCOMs and to ensure a sustainable permanent solution to the problem, the UDAY (Ujjwal DISCOM Assurance Yojana) was launched by the GoI, in November 2015. The scheme also aims to reduce interest burden of the DISCOMs, cost of power and their AT&C (Aggregate Transmission & Technical) losses. Due to legacy issues, DISCOMs are trapped in a vicious cycle with operational losses being funded by debt. Outstanding debt of DISCOMs were Rs. 4.3 lakh crore by 2014-15, with interest rates upto14–15 per cent and AT&C losses as high as 22 per cent. The scheme assures the rise of vibrant and efficient DISCOMs through a permanent resolution of past as well as potential future issues of the sector.

This is to take place through four initiatives:

(i) Upgrade the operational efficiencies;
(ii) Reduction of cost of power;
(iii) Reduction in interest cost; and
(iv) Implementation of financial discipline

The salient features of the scheme are as given below:

- 75 per cent of the DISCOM debt shall be taken over by the state government
- GoI will not include the debt taken over by the states in the calculation of fiscal deficit of the States in the financial years 2015–16 and 2016–17.
- Non-SLR including SDL (State Development Loan) bonds will be issued by the government in the market or directly to the respective banks and Financial Institutions (FIs).
- DISCOM debt which are not taken over by the State shall be converted by the FIs and banks into loans or bonds with interest rate not more than the bank's base rate plus 0.1 per cent.
- future losses of DISCOMs would be taken over by the states in a graded manner.
- States accepting UDAY and performing as per operational milestones will be given additional / priority funding through Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY), Integrated Power Development Scheme (IPDS), Power Sector Development Fund (PSDF) or other such schemes of Ministry of Power and Ministry of New and Renewable Energy. States not meeting operational milestones will be liable to forfeit their claim on IPDS and DDUGJY grants
- Such States shall also be supported with additional coal at notified prices.
- UDAY is optional for all the States.

DDUGY (Deendayal Upadhyaya Gram Jyoti Yojana), was launched to promote rural electrification.

The budgetary support for continuation of the RGGVY (Rajiv Gandhi Grameen Vidyut Karan) in 12th and 13th Plans, has also been carried forward to the new scheme.

National LED Programme: National LED Programmes was launched by the government of India in January,2015 for total 100 cities with the aim of promoting use of the most efficient lighting technology at affordable rates.

This programme has two components:

i. incandescent bulbs (77 crore) are to be replaced with LED bulbs (by providing LED bulbs to domestic consumers) under DELP (Domestic Efficient Lighting Programme)
ii. conventional streetlights (3.5 crore) are to be replaced with smart and energy-efficient LED streetlights by March 2019 under SLNP (Street Lighting National Programme)

The programme is supposed to bring in multiple benefits to the economy:

i. Demand reduction in electricity by around 21,500 MW with a monetary savings of Rs. 45,500 crores to domestic consumers and urban local bodies.
ii. Helps in reducing the climatic change.
iii. Manufacturing of LED bulbs should be made consistent with the 'Make in India' policy.

The government also approved the establishment of a National Smart Grid Mission (NSGM) in the power sector to plan and monitor implementation of policies and programmes related to smart grid activities in India.

AT&C Losses: Due to lack of adequate investment on 'transmission and distribution' (T&D) works, the T&D losses have been consistently on the higher side, and reached to the level of 32.76 Per cent in the year 2000-01. The reduction of these losses was essential to bring economic viability to the state utilities (SEBs). T&D loss was not able to capture all the losses in the network, concept of Aggregate Technical and Commercial (AT&C) loss was introduced.

High technical losses in the system are primarily due to inadequate investments

(i) Low metering efficiency
(ii) Pilferages and
(iii) theft

This may be eliminated by:

- improving metering efficiency,
- proper energy accounting & auditing and
- improved billing & collection efficiency.

In December 2014, the GoI launched a new programme –

IPDS (Integrated Power Development Scheme) – a centrally sponsored scheme (CSS) with a Central grant between 60 to 75 per cent. Its core aim is to attain 24x7 power supply in the country – to be achieved by strengthening sub-transmission network, metering, IT application, Customer Care Services, provisioning of solar panels, reduction in the AT&C of the state DISCOMs).

PPP models: the government evolved the idea of public private partnership (PPP) for the sector aimed at attracting investments from the private sector (domestic as well as foreign). Various volumes of the Economic Survey together with the Kelkar Committee on the PPP have discussed about the various laws in the existing model of the PPP.

The Smart cities mission: Urban renewable program launched by the government of India to enlarge and enhance the living conditions and infrastructure in selected 100 cities all over the country. The objective of this program is to modernise the cities and decent quality of life to the citizens. This was officially launched on 25 June, 2016.

Atal mission for rejuvenation and urban transformation (AMRUT) project:

This project along with smart cities was launched by the government of India to transform the urban living conditions by upgrading the infrastructure facilities.

Mission of this project:

- Assured supply of water and a sewage connection.
- Reduce pollution by constructing the non-motorized transport
- Increase the amenity value of cities

Pradhan Mantra Awas Yojana (urban) or housing for all by 2022 Mission:

The main purpose of this program is to provide the housing facility to all the urban people till 2022. "Housing for all"

This program aims at:

- Slum rehabilitation
- Subsidy for beneficiary led individual house construction or enhancement.
- Promotion of affordable housing

Heritage city development and augmentation yojana (HRIDAY):

Launched for holistic development of heritage cities. Its objective is to protect the unique character of heritage cities of India. Rs,500 crore was allocated by the government at the first stage. Twelve cities were included under this yojana.

Jawaharlal Nehru national urban renewal mission:

It was launched in the 2005 as the flagship scheme for urban development.

This program has two components:

1. Integrating housing and slum development programme
2. Basic services for urban poor

This programme aimed at integrated development of slums through projects for providing basic services, shelter and other related amenities.

Urban transportation: Several initiatives were taken to enhance public transport system including bus rapid transit system (BRTS) approved for 11 cities under the Jawahar lal Nehru national urban renewal mission. The transportation system could be equipped with intelligent transport system and metro rail projects.

Swachh Bharat Mission: SBM targets to achieve 100% scientific management of municipal solid waste in 4041statutotry towns and cities in the country.

3.4.3 ISSUES IN INDIAN INFRASTRUCTURE

- **Land acquisition**: Several projects have been stalled due to the multiple reasons that leads to delay in development of infrastructure. The main reasons for this are:

  Resistance from farmers and local communities whose lands are tried to be acquired.

  Large roads and energy projects take several months to build, due to which investors doesn't show the interest to bid in the infrastructure.
- **Funding constraints:** Financers and investors expect the long term and steady returns. But, after the various global financial crises, long term lending is not that easy to arrange.
- **Post award changes in the scope of the project:** PAC changes the project after the sponsor had funded the project. After an investment is made by the funder/investor, there can be various changes during the project working.
- **Poor planning and acquisition:** lack of adequate and proper planning and acquisition may cause a serious challenge in the infrastructure development.
- **Delays in clearances**

- **Political and regulatory risk:** At every stage of the development, there are various approvals required across the various project stages, right from pre to post infrastructure. They include:

➢ Changes in asset specification regulations.

➢ Breach of contract terms

➢ Denial of payments by the government cause hindrances in future investment decision.

3.5 CHECK YOUR PROGRESS

1. How Economic development of a country is supported by infrastructure:

a) Raising the productivity of factor of production

b) Increase in GDP

c) Enhancing the quality of life

d) All the above

2. What percentage of bio-fuels is used for cooking by the rural households:

a) 90 percent

b) 75 percent

c) 50 percent

d) 70 percent

3. Which of the following countries invest the almost 50% of their GDP in infrastructure:.

a) USA

b) Pakistan

c) India

d) China

4. What is the largest source of power in India:

a) Thermal power

b) Wind power

c) Hydroelectricity

d) Solar power

5. Low-income countries do not invest in which of the following infrastructure services:

a) Power

b) Transport

c) Telecommunication

d) Irrigatio

3.6 SUMMARY

The biggest focus area for the Government of India is infrastructure because it is important for economic development of a country. Amount of US$ 1.4 trillion has been decided by the government to spend on infrastructure during 2019-23 to have a sustainable development of the country. An amount of 5,000,000 crore (US$ 750 billion) has been decided for railways infrastructure from 2017-30. We can observe that there is a huge gap between Indian infrastructure and infrastructure of other countries. India needs to cover this gap quickly to face competition with other countries which is responsible for infrastructure development. Growth and development of an economy is directly dependent upon the infrastructure activities of the country which directly helps in uplifting the GDP of the country and elevating the economic activities. Infrastructure is a support system which affects all the economic activities. In India, many parts of the country had sufficient roads, transportation facilities, communication, electricity, etc. but still some parts of the country did not get basic infrastructural facilities. This uneven distribution of infrastructural facilities in country is biggest reason behind unbalanced economic growth. Government of India is taking initiatives towards the development of quality infrastructure by providing various concession and incentives through different policies. India is moving towards modernisation where demand for quality infrastructure is required without harming the environment. Thus, Government is also attracting private sector towards this so that equal distribution of infrastructural facilities can be made to each section of the society.

3.7 KEYWORDS

Infrastructure: infrastructure is defined as a set of facilities through which good and services are provided to the public. Infrastructure is the stock of basic facilities and capital equipment needed for the functioning of a country or area.

Communication: Communication refers to the exchange of the information by speaking, writing, expressions using various types of medium i.e., electronic and digital medium. Communication implicit the conveyance of information.

PPP: public private partnership in the development of infrastructure

Infrastructure Programmes: Various initiates taken by the government of India to promote infrastructural development.

Energy: It includes coal, gas, solar, biogas, hydroelectricity, wind development.

Physical resources: Physical resources are those resources which are tangible in nature and used in the business operations.

Human Capital: Human capital refers to the skills, knowledge and efficiency of a person which are used by an organisation.

Investment: Investment is known as a process of investing money for future for earning profit or it may be defined as postponement of current consumption of money for earning profit.

3.8 SELF-ASSESSMENT TEST

Q.1 Describe various types of infrastructure facilities available in India.

Q.2 Put a light on the Steps / initiatives taken by the government of India for the infrastructure development

Q.3 Why infrastructure development is important for the economy?

Q.4 How infrastructure development helps in overall development of economy?

Q.5 What are the Challenges faced in infrastructure development?

Q.6 How do infrastructure facilities boost production?

Q.7 Infrastructure contributes to the economic development of a country. Do you agree? Explain.

Q.8 What is the state of rural infrastructure in India?

Q.9 What is the significance of 'energy'? Differentiate between commercial and non-commercial sources of energy.

Q.10 What are the three basic sources of generating power?

Q.11 What problems are being faced by the power sector in India?

Q.12 Discuss the reforms which have been initiated recently to meet the energy crisis in India.

3.9 ANSWERS TO CHECK YOUR PROGRESS

1. D)
2. A)
3. D)
4. A)
5. C)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **4** **Agriculture I: Feature, Importance, Production and Productivity**	Vetter: **Prof. Anil Kumar**

Structure

4.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To study the importance and features of agriculture sector in Indian Economy.
- To understand the cropping and irrigation patterns, seeds and fertilisers of agriculture sector in India
- To study the productivity of agriculture sector in India

4.1 INTRODUCTION

Agriculture has been the most important sector of the Indian economy, whether it is the pre-independence or the post-independence periods. This fact is certainly proved by the large number of people who depend on it for their livelihood. Agriculture, as the largest private enterprise in India, is the lifeline of the economy. Agriculture provides the foundation for our food and security and support for the economic growth and social transformation of the country. India has a big and diverse agriculture sector. Since independence in 1947, the share of agriculture in the GDP has declined in comparison to the growth of the industrial and services sectors. However, agriculture still provides the bulk of raw material required by the non-agricultural sector and industry. Also, the direct share of agriculture and allied sectors in total exports is significant. When the indirect share of agriculture products in total exports, such as cotton textiles and jute goods, is taken into account, the percentage is much higher. Some of the special features of Indian agriculture are as follows:

- The share of the agriculture sector in the economy remains at 17.4 per cent of the GDP. In the fiscal 1950–51 agriculture accounted for 55.4 per cent of the GDP.
- 49 per cent of the people of India depend on the agriculture sector. This makes it a significant sector as compared to the industry and the services.
- Agriculture income is not included in individual income for tax purpose and more than 90 per cent of the total unorganised labour-force is occupied by this sector.
- India has emerged as an important Agri-exporter in some crops, namely cotton, rice, meat, oil meals, spice, guar gum meal and sugar.

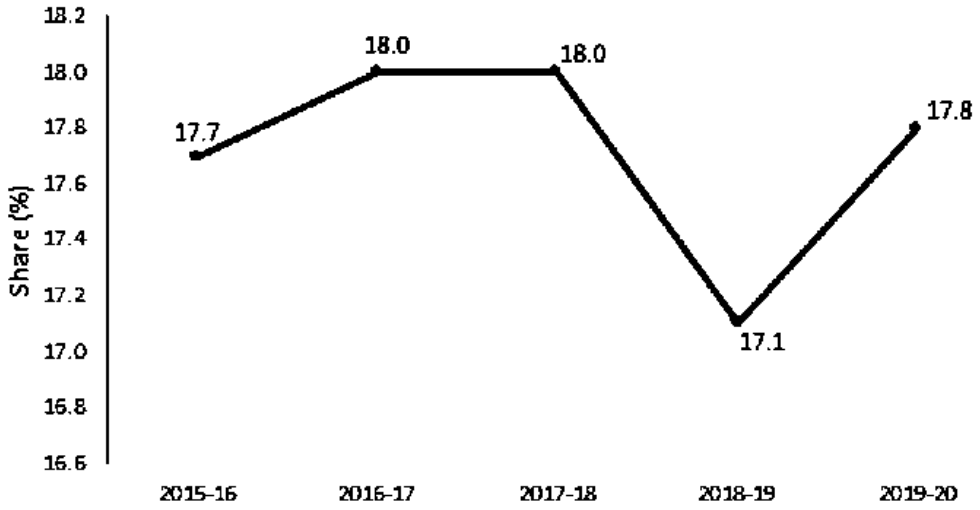
- Agriculture is related to growth of the industry and the GDP in India—1 per cent increase in the agricultural growth leads to 0.5 per cent increase in industrial output and 0.7 per cent increase in the GDP of India.
- With 1 per cent increase in the share of agriculture in India's total exports, the money which flows into agriculture is calculated to be Rs. 8,500 crores.
- Still the major crops' output is lower in case of India in comparison to the developed economies. However, it has been improving with a slower pace.
- Monsoon plays a significant role in irrigation as a total of 66.1 per cent of the cropped area still depends on it for their irrigational requirements.

Since the freedom of our country, the impact of food, financial and economic crises has been felt by the population. Agriculture has affected the lives, livelihood and food security of the people. Therefore, this sector needs an increased investment in the sector. The continued high growth of agriculture is essential to meet the food and nutritional security requirements of the people and provide livelihood and income in rural areas. Agriculture will remain as a key area in national policies and plans, since the India's food security depends on the performance of the agricultural sector.

4.1.1 AGRICULTURE IN INDIAN ECONOMY

As per the provisional estimates of Annual National Income released by Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the agriculture and allied sectors contributed approximately 17.8% of India's GVA at current prices during 2019-20, marginally higher than 17.7% in 2015-16.

Figure: Share in total GVA of the country at current prices



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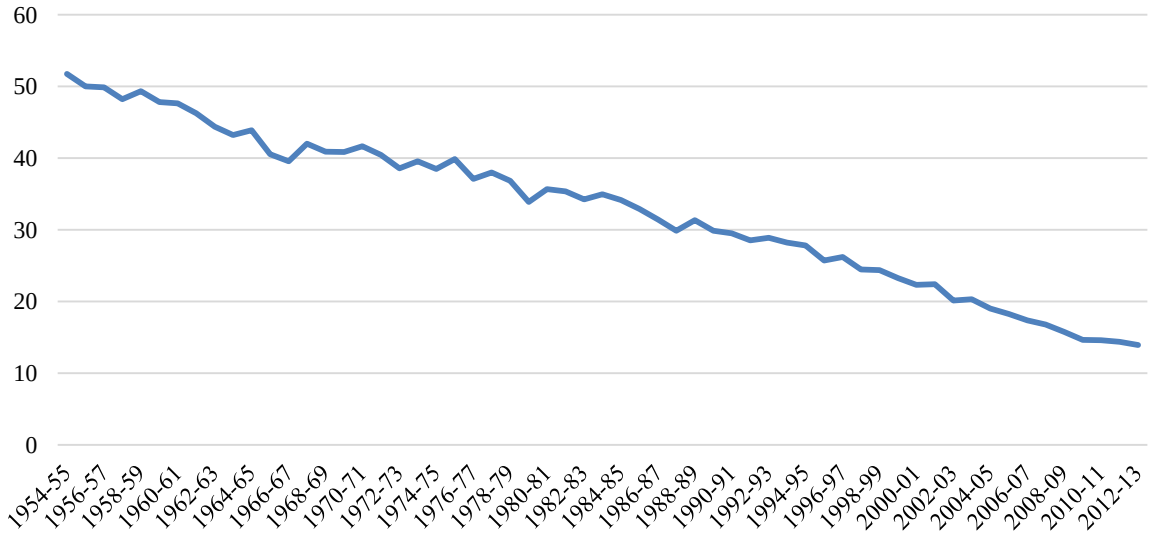
The Agriculture and Allied Sector witnessed marginal growth of 0.6 per cent in 2015-16 followed by a substantial recovery of 6.8 per cent in 2016-17 that fell by almost a per cent to 5.9 per cent in the following year, 2017-18. 2018-19 witnessed a sharp fall to 2.4 per cent that has since recovered to 4% in 2019-20 at 2011-12 base prices.

Percentage Share of Agriculture and Allied sector to total GDP (at constant prices 2004-05)



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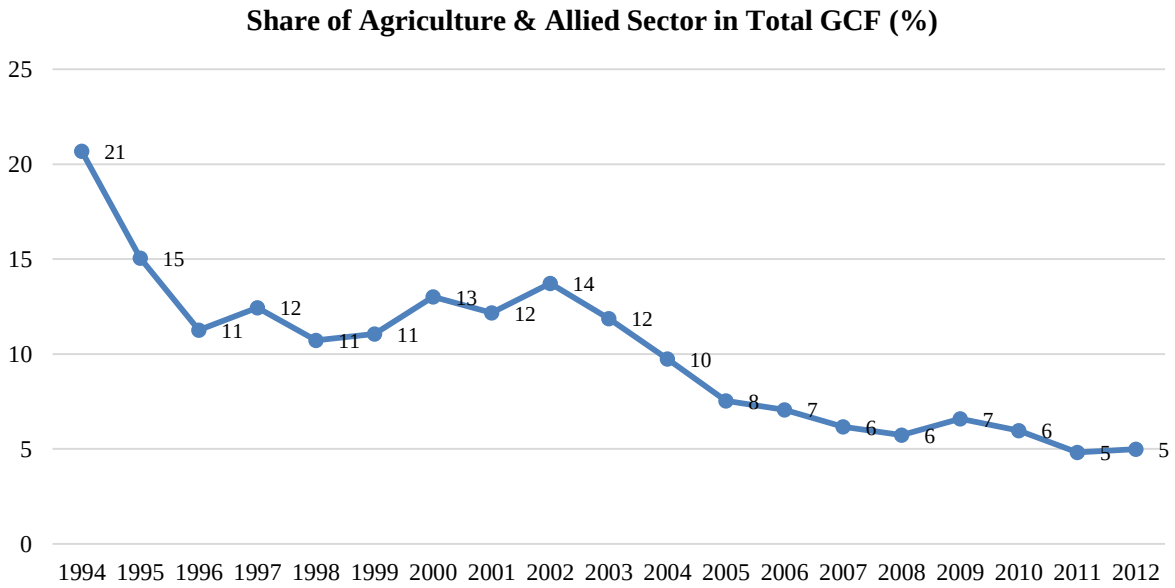
Gross Capital Formation (GCF) is an indicator of level of investment activity in the sector. With respect to GVA in the sector, Gross Capital Formation in the sector has been fluctuating during the last 5 years with a major fall experienced in 2015-16 to 14.7 percent from 17.7 per cent in 2013-14. The indicator has since recovered and has improved to 16.4 per cent in 2018-19.



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- In 5 states viz. Andhra Pradesh, Arunachal Pradesh, Madhya Pradesh, Nagaland and Tripura, Agriculture and Allied activities contribute more than 30% in State Gross Value Added estimated for 2016-17 (at current prices). (Source: National Statistical Office)
- Number of operational holdings in the country is estimated at 14.64 Crore. (Agriculture Census 2015-16).
- The percentage share of Agricultural workers in Total workers is 54.6%. (Registrar General of India).
- 57.8% of rural households are engaged in agriculture (Situation Assessment Survey of Agricultural Households, NSO).

- The small and marginal holdings taken together (0.00-2.00 ha) constituted 86.08% of the total land holdings in 2015-16. The all- India average size of holding is 1.08 ha. (Source: Agriculture Census, 2015-16)
- 30.33% of total cultivators and 40.67% of agriculture labour are women.
- Only 13.95% of total operational holdings are operated by women. (Source: Agriculture Census, 2015-16)

4.1.2 CROPPING SEASONS AND PATTERNS

- Rainfall, quality of soil and topography in addition to irrigation facilities are major factors of the crop and livestock patterns of the major geographic regions—the Himalayas, the Indo-Gangetic Plains and the Peninsula—and their agro-ecological sub-regions.
- In India, the agricultural crop is from July to June. The Indian cropping season is bifurcated into two key seasons- (i) kharif and (ii) rabi based on the monsoon. The kharif season lasts from July to October during the South-West/Summer Monsoon and the duration of rabi cropping season is from October to March (North-East/Returning/Winter Monsoon).
- Between March and June jayads crops are grown in some parts of India. The kharif crops include rice, maize, sorghum, pearl millet/bajra, finger millet/ragi (cereals), arhar (pulses), soyabean, groundnut (oilseeds), cotton, etc. The rabi crops include wheat, barley, oats (cereals), chickpea/gram (pulses), linseed, mustard (oilseeds) etc.
- In agriculture terminology, the combination of crops which farmers choose in a particular region and duration of year, is known as cropping pattern of the region.
- We have diversity of cropping systems it is attributed to rainfed agriculture and usual socio-economic situations of the farming community. The cropping patterns in India has experienced important changes over time.

Trends in cropping pattern

Crops	Area (Lakh hectare)			Production (Million Tonnes)			Yield (kg/hectare)		
	2017-18	2018-19	2019-20*	2017-18	2018-19	2019-20*	2017-18	2018-19	2019-20*
Rice	437.7	441.6	437.8	112.8	116.5	118.4	2576	2638	2705
Wheat	296.5	293.2	314.5	99.9	103.6	107.6	3368	3533	3421
Nutri / Coarse cereals	242.9	221.5	240.2	47.0	43.1	47.5	1934	1944	1976
Pulses	298.1	291.6	283.4	25.4	22.1	23.2	853	757	817
Foodgrains	1275.2	1247.8	1275.9	285.0	285.2	296.6	2235	2286	2325
Oilseeds	245.1	247.9	270.4	31.5	31.5	33.4	1284	1271	1236
Sugarcane	47.4	50.6	45.7	379.9	405.4	355.7	80198	80105	77893
Cotton@	125.9	126.1	133.7	32.8	28.0	35.5	443	378	451
Jute & Mesta#	7.4	7.0	6.8	10.0	9.8	9.9	2435	2508	2641

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- Climate circumstances and soil quality are the major determinants of the cropping systems of a region as well as the overall agro-ecological situation for nourishment and suitability of a crop or set of crops for cultivation.
- The rain nourished approximate 90 million hectare or 65 per cent of the cropped area. The rain-fed and dryland areas produce different crops and this led to a diversity of cropping systems with an over-riding practice of intercropping, due to greater risks involved in cultivating larger area under a particular crop.
- For majority of farmers, agriculture is an activity for survival instead of commercial. This is because of dominant socio-economic situations, such as, dependency of large population on agriculture, small landholding size, very high population pressure on land.
- Majority of farmers opt to grow a number of crops on their farm holdings, mainly to accomplish their household needs and follow the practice of rotating a particular crop combination over a period of 3-4 year, interchangeably on different farm fields. However, it has been estimated that more than 250 double cropping systems are followed throughout the country.

4.1.3 AGRICULTURE LAND HOLDINGS

Due to rapid and continuous increase in the population of India, average land holding in India is

continuously decreasing. The continuous division and fragmentation of holdings has increased the number of holdings, obviously of smaller size. As per the latest (9th) Agriculture Census 2010–11:

- The total number of operational holdings in the country has increased from 129 million in 2005–06 to 138 million 2010–11 (an increase of 6.61 per cent).
- There is a marginal increase in the operated area from 158.32 million hectare (ha) in 2005–06 to 159.18 million ha in 2010-11 (an increase of 0.54 per cent). The operated area has primarily increased because the State of Jharkhand participated for the first time in the Agriculture Census 2010–11 (since the state came into being in the year 2000).
- The average size of operational holding has declined to 1.16 ha in 2010–11 as compared to 1.23 in 2005-06.
- The percentage share of female operational holders has increased from 11.70 in 2005-06 to 12.79 in 2010-11, with the corresponding operated area of 9.33 and 10.36.
- The small and marginal holdings taken together (below 2.00 ha) constitute 84.97 per cent in 2010–11, as against 83.29 in 2005-06, with a share of 44.31 per cent in the operated area in the current Census, as against the corresponding figure of 41.14 per cent in 2005–06.
- The large holdings (10.00 ha & above) were 0.73 per cent of the total number of holdings in 2010-11 with a share of10.92 per cent in the total operated area, as against 0.85 per cent and 11.82 per cent respectively for 2005-06 Census.
- Share of different social groups in operational holdings stands as: 12.40 per cent for SCs, 8.71 per cent for STs, 0.18 per cent for institutional and 78.72 per cent for others.
- In a total of 137.76 million operational holdings in the country, the highest number belonged to Uttar Pradesh (22.93 million) followed by Bihar (16.19 million) and Maharashtra (13.70 million).
- Out of a total of 159.18 million hectares of the operated area in the country, the highest contribution was made by Rajasthan (21.14 million ha) followed by Maharashtra (19.84 million ha) and Uttar Pradesh (17.09 million ha)

4.1.4 IRRIGATION

- India's Ultimate Irrigation Potential (UIP) has been estimated at 139.89 Mha and about 68 per cent of UIP has been attached.
- Average annual growth in irrigation potential at about 1.5 Mha per annum up to the end of the Eighth Plan was proposed to be increased to 3.4 Mha annually, by the end of the Ninth Five-Year Plan.
- The sluggish growth in creation of irrigation potential at the rate of about 1.80–1.85 Mha per annum during the Ninth Five-Year Plan was due to varied reasons, including constraints of resources with the state governments.
- Accelerated Irrigation Benefit Programme (AIBP) was launched in 1996–97 to help the states in the completion of ongoing irrigation projects through Central Loan Assistance (CLA), this is now helping accelerate benefits from locked-up investments. Command Area Development Programme (CADP) has been in operation since 1974 to 1975 and aims at bridging the gap between the potential created and its utilisation.

Table: 4.1- Net Area under Irrigation by Sources (000 Hectares)

	Canals		**Tanks**	**Tube-Wells**	**Other Wells**	**Other Sources**	**Net Irrigated Area**
Year	Government	Private					
2001-02	14993	209	2196	23245	11952	4342	56936
2002-03	13867	206	1811	25627	8727	3658	53897
2003-04	14251	206	1916	26691	9693	4299	57057
2004-05	14553	214	1734	25235	9956	7538	59229
2005-06	16490	227	2083	26026	10044	5966	60837
2006-07	16802	224	2078	26942	10698	5999	62744
2007-08	16531	217	1973	28496	9864	6107	63189
2008-09 (p)	16686	195	1981	28366	10389	6020	63637
2009-10(p)	14786	188	1585	28370	9991	7024	61945
2010-	15475	171	1979	28543	10629	6869	63665

11(p)							
2011-12(p)	15837	172	1917	29943	10594	7245	65707
2012-13(p)	15512	165	1752	30543	10762	7552	66285
2013-14(p)	16115	163	1841	31158	11311	7557	68116
2014-15(p)	16020	163	1723	31606	11354	7519	68383

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- The construction of big dams and lengthy canals are costly but highly visible indicators of progress; the political pressure to launch such projects is frequently irresistible. However, funds and technical expertise were in short supply, many projects moved forward at a slow pace. The Indira Gandhi Canal project is a leading example.
- There are problems related with irrigation based on groundwater supplies as it is facing depletion. Diverting water off from one area to irrigate another frequently leads to salinity in the supply area with subsequent effects on crop production there.
- Displacement of thousands of people, generally poor, has been a major problem of construction of hydroelectric projects. Environmentalists also claim that the projects are harmful to the ecology. On the other hand, smaller projects and traditional methods for irrigation such as tanks and wells are understood as having less serious impact.

4.1.5 SEEDS

Seeds are elementary and important input for agricultural production in all agro-climatic regions. Effectiveness of other agricultural inputs such as pesticides, irrigation and fertilisers is basically determined by the quality of seeds. Therefore, the availability of quality seeds to the farmers is an important aspect of agriculture development. The Indian Seeds Programme recognises three generations of seeds, namely, breeder, foundation and certified seeds.

The remarkable growth in agricultural production since independence has been caused by quality input use, mainly purchased inputs as well as technology-driven productivity enhancements. The important inputs which improved the agriculture production include HYV (High Yielding Variety) seeds, chemical fertilisers, irrigation, pesticides, farm machinery and equipment credit and labour.

- While tackling the changes that have taken place in the seeds sector, the existing Seeds Act, 1966 is replaced by an appropriate legislation i.e., the Seeds Bill in 2004.
- Seed inspectors notified under the relevant provisions of the Seeds Act, 1966 and the Seeds (Control) Order, 1983, to inspect the premises of seed distribution agencies to draw samples for testing.
- Exports and imports of seeds have increased with the rationalisation and simplification of the export and import regime. This has benefited Indian farmers, the seed industry and entrepreneurs.
- The National Seed Research and Training Centre (NSRTC), Varanasi (Uttar Pradesh), has been notified as a Central Seed Testing and Referral Laboratory (CSTL), with effect from 1 April 2007. The primary objective for establishing the NSRTC is to have a separate National Seed Quality Control Laboratory.
- The National Seeds Policy, 2002 was formulated keeping in view the rapid changes that had been taking place in the national economic as well as agricultural sector and also the changes in the international markets. The policy aims at enhancing food production targets achievable by enhancing significantly the Seed Replacement Rates (SRR).
- In 2005-06, a Central Sector Scheme known as 'Development and Strengthening of Infrastructure Facilities for Production and Distribution of Quality Seeds' (DPQS) was introduced ensure production and multiplication of high-yielding certified and quality seeds of all crops in sufficient quantities and to make the seeds available to farmers, including those living in remote areas, not easily accessible by rail or road on time and at affordable prices.
- At present, 624 BT Cotton hybrids, including one variety, BN BT cotton, developed by the Central Institute for Cotton Research, Nagpur (ICAR) have been approved by the Genetic Engineering Approval Committee (GEAC) for commercial cultivation in the states of Haryana,

Punjab, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu.

4.1.6 FERTILISERS

The consumption of chemical fertilisers (in terms of nutrients) during 2008–09 was 249.09 lakh metric tonnes, 10.36 per cent more than the previous year, 2007–08. To ensure adequate availability of fertilisers to farmers, the Department of Agriculture and Cooperation (DAC) makes a demand assessment well in advance through half-yearly Zonal Conferences on Agricultural Inputs in consultation with the state governments, the Department of Fertilizers and the fertilizer industry. Thereafter, under the Essential Commodities Act (ECA) supply plan and under the Fertilizers Movement Control Order, movement orders, for both indigenous and imported urea, are issued by the Department of Fertilizers (DoF) to ensure timely availability to farmers. DoF also facilitates the availability of decontrolled phosphatic (P) and potassic (K) fertilisers to the states/UTs.

- Urea is the only fertiliser under statutory price control. The Maximum Retail Price (MRP) is fixed by the Government for phosphatic and potassic fertilisers under the concession scheme to ensure their availability to farmers at a reasonable price. With effect from 18 June 2008, the Government of India has rationalised MRPs of complex fertilisers based on nutrient content of N, P and K in the MRP of straight fertilisers such as urea, Di-Ammonium Phosphate (DAP) and Muriate of Potash (MOP), respectively.
- A centrally sponsored scheme, namely, the National Project on Management of Soil Health and Fertility (NPMSF) has been introduced during 2008–09. The components of the new scheme include the setting up of 500 new Soil Testing Laboratories (STLs), strengthening of the existing 315 STLs, setting up of 250 mobile STLs, promotion of organic manure, soil amendment and distribution of micro-nutrients, setting up of 20 new fertiliser quality control laboratories (FQCLs) and strengthening of 63 existing FQCLs during the Eleventh Plan.
- To ensure adequate availability of fertilisers of standard quality to farmers, fertilisers were declared as an essential commodity and the Fertilizer Control Order (FCO), 1985, promulgated under section 3 of the Essential Commodities Act, 1955, to regulate the trade, price, quality and

distribution of fertilisers. The enforcement of the FCO has primarily been entrusted to state governments.

4.1.7 PRODUCTION & PRODUCTIVITY

In 1950-51 the foodgrain production (Table 4.2) was 508 lakh tons including rice wheat, cereals and pulses. During the year of 2018-19 the total foodgrain production was noted as 2852 lakh tons in India. The production of rice which was 205.8 lakh tons in 1950-51 rose to 1165 lakh tons in 2018-19 at annual growth rate of 13 percent. Similarly, the wheat production was 64.6 lakh tons in 1950-51 and rose at annual growth rate of 15 percent to 1036 lakh tons in 2018-19. However, the same annual growth rate of production in cereals and pulses are not observed during the same period. The cereals production in India rose at annual growth rate of 3.1 percent from 153.8 lakh tons in 1950-51 to 430 lakh tons in 2018-19. The pulses production rose at annual growth rate of 1.23 percent from 84.1 lakh tons in 1950-51 to 220 lakh tons in 2018-19. The 1980s was also a period of Green Revolution; it enabled India to become self-sufficient in foodgrain production and even a marginal exporter. In the 1980s, however, the annual growth rate in production fell to 1.66 per cent from the 3.54 per cent recorded in the 1980s. This is a matter of serious concern for the country as this growth rate just matches the annual growth rate of the population and 40 per cent of the population in the country is still living below the poverty line. In the case of commercial crops production (Table 4.3) India is still lagging its peers. The production of groundnut has been stagnant at 60-80 lakh tons during the period of 1973-2019. On the other hand, the production of mustard and cotton production a five-fold increase has been observed during the period of 1973-2019. In the same period, the production of sugarcane, tea and tobacco has increased three-fold. Overall, the agricultural production in India is not up to the level since large part of workforce and resource are indulged in this profession. An annual growth rate of 2 percent is observed in the cultivation area (Table 4.4) of rice in India during 1953-2018. But in case of wheat this growth rate was 3.1 percent during the same period. If we look carefully at the data of cultivation area of cereals in India, we can observe a negative (-3.41 percent) annual growth. On the other hand, least annual growth rate (-0.40 percent) has been observed in the cultivation area of pulses in India. Overall, the cultivation area of all foodgrains has grown at an annual growth rate of 2.1 percent in India from 1953 to 2018.

In case of yield per hectare (Table 4.5), the production of rice has grown at annual growth rate of 27 percent while the production of wheat the annual growth rate is 42 percent during the period of 1953-2018. The yield per hectare of cereals and pulses grew at annual growth rate of 18 percent and 4 percent respectively in the same period. Overall, the yield per hectare of all foodgrain has grown at annual rate of 25 percent in India. There are large disparities among India's States and territories with regard to agricultural performance. Only some can be attributed to differences in climate or initial endowments of infrastructure such as irrigation. Realising the importance of agricultural production for economic development, the Central Government has played an active role in all aspects of agricultural development. Planning is centralised and plan priorities, policies and resource allocations are decided at the central level. Food and price policy also are decided by the Central Government. Although agriculture is constitutionally the responsibility of the states rather than the Central Government, the latter plays a key role in formulating policy and providing financial resources for agriculture.

Table: 4.2-Agricultural Production-Foodgrain (Lakh Tonnes)

Year	Rice	Wheat	Coarse Cereals	Pulses	Year	Rice	Wheat	Coarse Cereals	Pulses
1950-51	205.8	64.6	153.8	84.1	1985-86	638.3	470.5	262	133.6
1951-52	213	61.8	160.9	84.2	1986-87	605.6	443.2	268.3	117.1
1952-53	229	75	196.1	91.9	1987-88	568.6	461.7	263.6	109.6
1953-54	282.1	80.2	229.7	106.2	1988-89	704.9	541.1	314.7	138.5
1954-55	252.2	90.4	228.2	109.5	1989-90	735.7	498.5	347.6	128.6
1955-	275.6	87.6	194.9	110.4	1990-91	742.9	551.4	327	142.6

56									
1956-57	290.4	94	198.7	115.5	1991-92	746.8	556.9	259.9	120.2
1957-58	255.3	79.9	212.3	95.6	1992-93	728.6	572.1	365.9	128.2
1958-59	308.5	99.6	231.8	131.5	1993-94	803	598.4	308.2	133
1959-60	316.8	103.2	228.7	118	1994-95	818.1	657.7	298.8	140.4
1960-61	345.8	110	237.4	127	1995-96	769.8	621	290.3	123.1
1961-62	356.6	120.7	232.2	117.6	1996-97	817.3	693.5	341.1	142.4
1962-63	332.1	107.8	246.3	115.3	1997-98	825.4	663.5	304	138.3
1963-64	370	98.5	237.2	100.7	1998-99	860.8	712.9	313.3	149.1
1964-65	393.1	122.6	253.7	124.2	1999-00	896.8	763.7	303.4	134.1
1965-66	305.9	104	214.2	99.4	2000-01	849.8	696.8	310.8	110.7
1966-67	304.4	113.9	240.5	83.5	2001-02	933.4	727.7	333.7	133.7
1967-68	376.1	165.4	288	121	2002-03	718.2	657.6	260.7	111.3

1968-69	397.6	186.5	251.8	104.2	2003-04	885.3	721.6	376	149.1
1969-70	404.3	200.9	272.9	116.9	2004-05	831.3	686.4	334.6	131.3
1970-71	422.2	238.3	305.5	118.2	2005-06	917.9	693.5	340.7	133.8
1971-72	430.7	264.1	246	110.9	2006-07	933.6	758.1	339.2	142
1972-73	392.4	247.4	231.4	99.1	2007-08	966.9	785.7	407.5	147.6
1973-74	440.5	217.8	288.3	100.1	2008-09	991.8	806.8	400.4	145.7
1974-75	395.8	241	261.3	100.2	2009-10	890.9	808	335.5	146.6
1975-76	487.4	288.4	304.1	130.4	2010-11	959.8	868.7	434	182.4
1976-77	419.2	290.1	288.8	113.6	2011-12	1053	948.8	420.1	170.9
1977-78	526.7	317.5	300.2	119.7	2012-13	1052.4	935.1	400.4	183.4
1978-79	537.7	355.1	304.4	121.8	2013-14	1066.5	958.5	432.9	192.5
1979-80	423.3	318.3	269.7	85.7	2014-15	1054.8	865.3	428.6	171.5
1980-	536.3	363.1	290.2	106.3	2015-16	1044.1	922.9	385.2	163.5

81									
1981-82	532.5	374.5	310.9	115.1	2016-17	1096.98	985.1	437.7	231.3
1982-83	471.2	427.9	277.5	118.6	2017-18	1127.6	998.7	469.7	254.2
1983-84	601	454.8	339	128.9	2018-19	1164.8	1036	430.6	220.8
1984-85	583.4	440.7	311.7	119.6					

https://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics

Table: 4.3-Agricultural Production-Commercial Crops (Lakh Tonnes)

Coffee and Tea data measured in Lakh kg., Cotton in Lakh bales of 170 kg., Raw jute and the mesta in Lakh bales of 180 kg. each.

Year	Groundnut	Rapeseed & Mustard	Soya bean	Coffee	Cotton	Raw Jute & Mesta	Sugar cane	Tea	Tobacco
1973-74	59.3	17	0.4	863.9	63.1	76.8	1408.1	4720	4.6
1974-75	51.1	22.5	0.5	925.1	71.6	58.3	1442.9	4890	3.6
1975-76	67.6	19.4	0.9	839.8	59.5	59.1	1406	4870	3.5
1976-77	52.6	15.5	1.2	1023	58.4	71	1530.1	5120	4.2
1977-78	60.9	16.5	1.8	1251.4	72.4	71.5	1769.7	5560	4.9
1978-79	62.1	18.6	3	1104.9	79.6	83.3	1516.6	5640	4.5
1979-80	57.7	14.3	2.8	1498.4	76.5	79.6	1288.3	5440	4.4

1980-81	50.1	23	4.4	1186.5	70.1	81.6	1542.5	5696	4.8
1981-82	72.2	23.8	3.5	1521	78.8	83.7	1863.6	5604	5.2
1982-83	52.8	22.1	4.9	1299.5	75.3	71.7	1895.1	5607	5.8
1983-84	70.9	26.1	6.1	1050.3	63.9	77.2	1740.8	5815	4.9
1984-85	64.4	30.7	9.5	1951.1	85.1	77.9	1703.2	6399	4.9
1985-86	51.2	26.8	10.2	1224.5	87.3	126.5	1706.5	6562	4.4
1986-87	58.8	26	8.9	1920.9	69.1	86.2	1860.9	6246	4.6
1987-88	58.5	34.5	9	1227.1	63.8	67.8	1967.4	6743	3.7
1988-89	96.6	43.8	15.5	2147.2	87.4	78.6	2030.4	7011	4.9
1989-90	81	41.3	18.1	1180.5	114.2	82.9	2255.7	6841	5.5
1990-91	75.1	52.3	26	1697.3	98.4	92.3	2410.5	7203.4	5.6
1991-92	70.9	58.6	24.9	1800	97.1	102.9	2540	7541.9	5.8
1992-93	85.6	48	33.9	1694	114	85.9	2280.3	7039.3	6
1993-94	78.3	53.3	47.5	2120.9	107.4	84.3	2296.6	7608.3	5.6
1994-95	80.6	57.6	39.3	1801	118.9	90.8	2755.4	7529	5.7
1995-96	75.8	60	51	2230	128.6	88.1	2811	7560.2	5.4
1996-97	86.4	66.6	53.8	2050	142.3	111.3	2775.6	7801.4	6.2
1997-98	73.7	47	64.6	2283	108.5	110.2	2795.4	8356.4	6.4
1998-99	89.8	56.6	71.4	2650	122.9	98.1	2887.2	8551.6	7.4
1999-00	52.5	57.9	70.8	2920	115.3	105.5	2993.2	8368.6	5.2
2000-01	64.1	41.9	52.8	3012	95.2	105.6	2959.6	8484.3	3.4
2001-02	70.3	50.8	59.6	3006	100	116.8	2972.1	8514.1	5.5

2002-03	41.2	38.8	46.6	2753	86.2	112.8	2873.8	8459.7	4.9
2003-04	81.3	62.9	78.2	2705	137.3	111.7	2338.6	8786.5	5.5
2004-05	67.7	75.9	68.8	2755	164.3	102.7	2370.9	9068.4	5.5
2005-06	79.9	81.3	82.7	2740	185	108.4	2811.7	9489.4	5
2006-07	48.6	74.4	88.5	2880	226.3	112.7	3555.2	9730.7	4.7
2007-08	91.8	58.3	109.7	2620	258.8	112.1	3481.9	9870.2	4.4
2008-09	71.7	72	99.1	2623	222.8	103.7	2850.3	9727.7	5.7
2009-10	54.3	66.1	99.6	2896	240.2	118.2	2923	9911.8	6.9
2010-11	82.7	81.8	127.4	3020	330	106.2	3423.8	9667.3	8.8
2011-12	69.6	66	122.1	3140	352	114	3610.4	10954.6	7.5
2012-13	47	80.3	146.7	3182	342.2	109.3	3412	11350.7	6.6
2013-14	97.1	78.8	118.6	3045	359	116.9	3521.4	12087.8	7.4
2014-15	74	62.8	103.7	3270	348.1	111.3	3623.3	11971.8	8.6
2015-16	67.3	67.9	85.7	3480	300	105.2	3484.4	12331.4	8
2016-17	74.6	79.2	131.6	3120	325.8	109.6	3060.7	12504.9	8.1
2017-18	92.53	84.3	109.33	3160	328.05	100.33	3799.05	13250.5	9.5
2018-19	67.3	92.6	132.7	3195	280.4	98.2	4054.16	13500.	-

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Table:4.4-Area under Cultivation-Foodgrain (Lakh Hectares)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Foodgrains	Year	Rice	Wheat	Coarse Cereals	Pulses	Total Foodgrains
1950-51	308	98	377	191	973	1985-86	411	230	395	244	1280
1951-52	298	95	389	188	970	1986-87	412	231	397	232	1272
1952-53	300	98	425	198	1021	1987-88	388	231	366	213	1197
1953-54	313	107	454	217	1091	1988-89	417	241	387	232	1277
1954-55	308	113	439	219	1079	1989-90	422	235	377	234	1268
1955-56	315	124	435	232	1106	1990-91	427	242	363	247	1278
1956-57	323	135	420	233	1111	1991-92	427	233	334	225	1219
1957-58	323	117	429	225	1095	1992-93	418	246	344	224	1232
1958-59	332	126	447	243	1148	1993-94	425	252	328	223	1228

1959-60	338	134	438	248	1158	1994-95	428	257	322	230	1237
1960-61	341	129	450	236	1156	1995-96	428	250	309	223	1210
1961-62	347	136	447	242	1172	1996-97	434	259	318	225	1236
1962-63	357	136	443	243	1178	1997-98	435	267	308	229	1239
1963-64	358	135	439	242	1174	1998-99	448	275	293	235	1252
1964-65	365	134	444	239	1181	1999-00	452	275	293	211	1231
1965-66	355	126	443	227	1151	2000-01	447	257	303	204	1211
1966-67	353	128	451	221	1153	2001-02	449	263	295	220	1228
1967-68	364	150	473	227	1214	2002-03	412	252	270	205	1139
1968-69	370	160	462	213	1204	2003-04	426	266	308	235	1235
1969-70	377	166	472	220	1236	2004-05	419	264	290	228	1201
1970-71	376	182	460	225	1243	2005-06	437	265	291	224	1216
1971-	378	191	436	222	1226	2006-	438	280	287	232	1237

72						07					
1972-73	367	195	422	209	1193	2007-08	439	280	285	236	1241
1973-74	383	186	462	234	1265	2008-09	455	278	275	221	1228
1974-75	379	180	432	220	1211	2009-10	419	285	277	233	1213
1975-76	395	205	438	245	1282	2010-11	429	291	283	264	1267
1976-77	385	209	419	230	1244	2011-12	440	299	264	245	1248
1977-78	403	215	423	235	1275	2012-13	428	300	248	233	1207
1978-79	405	226	422	237	1290	2013-14	440	312	257	252	1260
1979-80	394	222	414	223	1252	2014-15	439	310	242	231	1220
1980-81	402	223	418	225	1267	2015-16	435	304	244	249	1232
1981-82	407	221	425	238	1291	2016-17	440	308	250	294	1292
1982-83	383	236	404	228	1251	2017-18	438	297	243	298	1275
1983-84	412	247	417	235	1312	2018-19	442	293	221	292	1248

1984-85	412	236	392	227	1267						

Table:4.5-Yield Per Hecatare-Foodgrain (Kg./ Hectares)

Year	Rice	Wheat	Coarse Cereals	Pulses	Total Foodgrains	Year	Rice	Wheat	Coarse Cereals	Pulses	Total Foodgrains
1950-51	668	663	408	441	522	1985-86	1552	2046	664	547	1175
1951-52	714	653	414	448	536	1986-87	1471	1916	675	506	1128
1952-53	764	763	462	463	580	1987-88	1465	2002	721	515	1173
1953-54	902	750	506	489	640	1988-89	1689	2244	814	598	1331
1954-55	820	803	520	500	631	1989-90	1745	2121	922	549	1349
1955-56	874	708	449	476	605	1990-91	1740	2281	900	578	1380
1956-57	900	695	473	495	629	1991-92	1751	2394	778	533	1382
1957-58	790	682	495	424	587	1992-93	1744	2327	1063	573	1457
1958-	930	789	519	541	672	1993-	188	2380	939	598	1501

59						94	8				
1959-60	937	772	522	475	662	1994-95	1911	2559	929	610	1546
1960-61	1013	851	528	539	710	1995-96	1797	2483	940	552	1491
1961-62	1028	890	519	485	706	1996-97	1882	2679	1072	635	1614
1962-63	931	793	556	475	680	1997-98	1900	2485	986	567	1552
1963-64	1033	730	540	416	687	1998-99	1921	2590	1068	634	1627
1964-65	1078	913	514	520	757	1999-00	1986	2778	1034	635	1704
1965-66	862	827	483	438	629	2000-01	1901	2708	1027	544	1626
1966-67	863	887	533	377	644	2001-02	2079	2762	1131	607	1734
1967-68	1032	1103	608	534	783	2002-03	1744	2610	966	543	1535
1968-69	1076	1169	545	490	781	2003-04	2077	2713	1221	635	1727
1969-70	1073	1208	578	531	805	2004-05	1984	2602	1153	577	1652
1970-71	1123	1307	665	524	872	2005-06	2102	2619	1172	598	1715

1971-72	1141	1380	564	501	858	2006-07	2131	2708	1182	612	1756
1972-73	1070	1271	548	474	813	2007-08	2202	2802	1431	625	1860
1973-74	1151	1172	623	427	827	2008-09	2178	2907	1459	659	1909
1974-75	1045	1338	606	455	824	2009-10	2125	2839	1212	630	1798
1975-76	1235	1410	694	533	944	2010-11	2239	2988	1531	691	1930
1976-77	1089	1387	689	494	894	2011-12	2393	3177	1590	699	2078
1977-78	1308	1480	710	510	991	2012-13	2461	3117	1617	789	2129
1978-79	1328	1568	721	515	1022	2013-14	2424	3075	1677	764	2101
1979-80	1074	1436	652	385	876	2014-15	2390	2872	1729	744	2070
1980-81	1336	1630	695	473	1023	2015-16	2400	3034	1579	656	2056
1981-82	1308	1691	733	483	1032	2016-17	2494	3200	1750	786	2153
1982-83	1231	1816	685	519	1035	2017-18	2576	3368	1934	853	2235
1983-	145	1843	813	548	1162	2018-	263	3533	1944	757	2286

84	7					19	8				
1984-85	1417	1870	795	526	1149						

4.2 GREEN REVOLUTION

The Green Revolution was an endeavour initiated by Norman Borlaug in the 1960s. He is known as the 'Father of Green Revolution' in world and consequently he won Nobel Peace Prize in 1970 for his work in developing High Yielding Varieties (HYVs) of wheat.

In India, the Green Revolution was mainly led by M.S. Swaminathan. The Green Revolution resulted in a great increase in production of food grains (especially wheat and rice) due to the introduction into developing countries of new, high-yielding variety seeds, beginning in the mid-20th century. Its early dramatic successes were in Mexico and the Indian subcontinent. The Green Revolution, spreading over the period from 1967-68 to 1977-78, changed India's status from a food-deficient country to one of the world's leading agricultural nations.

In 1943, India suffered from the world's worst recorded food crisis; the Bengal Famine, which led to the death of approximately 4 million people in eastern India due to hunger. Even after independence in 1947, until 1967 the government largely concentrated on expanding the farming areas. But the population was growing at a much faster rate than food production.

This called for an immediate and drastic action to increase yield. The action came in the form of the Green Revolution. The green revolution in India refers to a period when Indian Agriculture was converted into an industrial system due to the adoption of modern methods and technology such as the use of HYV seeds, tractors, irrigation facilities, pesticides and fertilizers. It was funded by the US and the Indian Government and the Ford and Rockefeller Foundation. The Green Revolution in India is largely the Wheat Revolution as the wheat production increased by more than three times between 1967-68 and 2003-04, while the overall increase in the production of cereals was only two times

Objectives of Green Revolution

- Short Term: The revolution was launched to address India's hunger crisis during the second Five Year Plan.
- Long Term: The long-term objectives included overall agriculture modernization based on rural development, industrial development; infrastructure, raw material etc.
- Employment: To provide employment to both agricultural and industrial workers.
- Scientific Studies: Producing stronger plants which could withstand extreme climates and diseases.
- Globalization of the Agricultural World: By spreading technology to non-industrialized nations and setting up many corporations in major agricultural areas.

Basic Elements of the Green Revolution

- Expansion of Farming Areas: Although the area of land under cultivation was being increased from 1947 itself, this was not enough to meet the rising demand. The Green Revolution provided assistance in this quantitative expansion of farmlands.
- Double-cropping System: Double cropping was a primary feature of the Green Revolution. The decision was made to have two crop seasons per year instead of just one. The one-season-per-year practice was based on the fact that there is only one rainy season annually. Water for the second phase now came from huge irrigation projects. Dams were built and other simple irrigation techniques were also adopted.
- Using seeds with improved genetics: Using seeds with superior genetics was the scientific aspect of the Green Revolution.

4.3 IMPACT OF THE GREEN REVOLUTION

Positive Impact

- Tremendous Increase in Crop Produce: It resulted in a grain output of 131 million tonnes in the year 1978-79 and established India as one of the world's biggest agricultural producers. The crop area under high yielding varieties of wheat and rice grew considerably during the Green Revolution.

- Reduced Import of Food-Grains: India became self-sufficient in food-grains and had sufficient stock in the central pool, even, at times, India was in a position to export food-grains. The per capita net availability of food-grains has also increased.
- Benefits to the Farmers: The introduction of the Green Revolution helped the farmers in raising their level of income. Farmers ploughed back their surplus income for improving agricultural productivity. The big farmers with more than 10 hectares of land were particularly benefited by this revolution by investing large amounts of money in various inputs like HYV seeds, fertilizers, machines, etc. It also promoted capitalist farming.
- Industrial Growth: The Revolution brought about large-scale farm mechanization which created demand for different types of machines like tractors, harvesters, threshers, combines, diesel engines, electric motors, pumping sets, etc. Besides, demand for chemical fertilizers, pesticides, insecticides, weedicides, etc. also increased considerably. Several agricultural products were also used as raw materials in various industries known as agro based industries.
- Rural Employment: There was an appreciable increase in the demand for labour force due to multiple cropping and use of fertilizers. The Green Revolution created plenty of jobs not only for agricultural workers but also industrial workers by creating related facilities such as factories and hydroelectric power stations.

Negative Impacts of Green Revolution

- Non-Food Grains Left Out: Although all food-grains including wheat, rice, jowar, bajra and maize have gained from the revolution, other crops such as coarse cereals, pulses and oilseeds were left out of the ambit of the revolution. Major commercial crops like cotton, jute, tea and sugarcane were also left almost untouched by the Green Revolution.
- Limited Coverage of HYVP: High Yielding Variety Programme (HYVP) was restricted to only five crops: Wheat, Rice, Jowar, Bajra and Maize. Therefore, non-food grains were excluded from the ambit of the new strategy. The HYV seeds in the non-food crops were either not developed so far or they were not good enough for farmers to risk their adoption.
- Regional Disparities: Green Revolution technology has given birth to growing disparities in economic development at interred and intra-regional levels. It has so far affected only 40 percent

of the total cropped area and 60 per cent is still untouched by it. The most affected areas are Punjab, Haryana and western Uttar Pradesh in the north and Andhra Pradesh and Tamil Nadu in the south. It has hardly touched the Eastern region, including Assam, Bihar, West Bengal and Orissa and arid and semi-arid areas of Western and Southern India. The Green Revolution affected only those areas which were already better placed from an agricultural point of view. Thus, the problem of regional disparities has further aggravated as a result of the Green Revolution.

- Excessive Usage of Chemicals: The Green Revolution resulted in a large-scale use of pesticides and synthetic nitrogen fertilisers for improved irrigation projects and crop varieties. However, little or no efforts were made to educate farmers about the high risk associated with the intensive use of pesticides. Pesticides were sprayed on crops usually by untrained farm labourers without following instructions or precautions. This causes more harm than good to crops and also becomes a cause for environment and soil pollution.
- Water Consumption: The crops introduced during the green revolution were water-intensive crops. Most of these crops being cereals, required almost 50% of dietary water footprint. Canal systems were introduced, and irrigation pumps also sucked out the groundwater to supply the water-intensive crops, such as sugarcane and rice, thus depleting the groundwater levels. Punjab is a major wheat- and rice-cultivating area, and hence it is one of the highest water depleted regions in India.
- Impacts on Soil and Crop Production: Repeated crop cycle in order to ensure increased crop production depleted the soil's nutrients. To meet the needs of new kinds of seeds, farmers increased fertilizer usage. The pH level of the soil increased due to the usage of these alkaline chemicals. Toxic chemicals in the soil destroyed beneficial pathogens, which further led to the decline in the yield.
- Unemployment: Except in Punjab, and to some extent in Haryana, farm mechanization under the Green Revolution created widespread unemployment among agricultural labourers in the rural areas. The worst affected were the poor and the landless labourers.
- Health Hazards: The large-scale use of chemical fertilizers and pesticides such as Phosphamidon, Methomyl, Phorate, Triazophos and Monocrotophos resulted in resulted in a

number of critical health illnesses including cancer, renal failure, stillborn babies and birth defects.

Conclusion

- Overall, the Green Revolution was a major achievement for many developing countries, especially India and gave them an unprecedented level of national food security. It represented the successful adaptation and transfer of the same scientific revolution in agriculture that the industrial countries had already appropriated for themselves.
- However, lesser attention was paid to factors other than ensuring food security such as environment, the poor farmers and their education about the know-how of such chemicals.
- As a way forward, the policy makers must target the poor more precisely to ensure that they receive greater direct benefits from new technologies and those technologies will also need to be more environmentally sustainable. Also, taking lessons from the past, it must be ensured that such initiatives include all of the beneficiaries covering all the regions rather than sticking to a limited field.

4.4 CHECK YOUR PROGRESS

1. Agriculture activity included in –

A. Primary sector

B. Secondary sector

C. Territory sector

D. None of these

2. How much agriculture and allied sectors contributed approximately of India's GVA at current prices during 2019-20?

A. 17.8%

B. 20.8%

C. 20.7%

D. 15.8%

3. The Indian cropping season is related to:

A. kharif

B. rabi

C. Both

D. None

4. The Green Revolution initiated in –

A. 1940s

B. 1960s

C. 1950s

D. 1930s

5. Father of green revolution is –

A. Norman Borlag

B. M.S. Swaminathan

C. Adam smith

D. Marshall

4.5 KEYWORDS

Agriculture: Agriculture is the practice of cultivating plants and livestock.

Economy: An *economy* is the large set of inter-related production and consumption activities that help allocation of scarce resources.

Productivity: ***Productivity*** is commonly defined as a ratio between the output volume and the volume of inputs.

Green revolution: a large increase in crop production in developing countries achieved by the use of artificial fertilizers, pesticides, and high-yield crop varieties.

Industry: a group of companies that are related based on their primary business activities.

4.6 SUMMARY

Primary sector of an economy is most important sector for economic development and growth of a country. Agriculture that comes under primary sector has a major share in the GDP of India. It is

agriculture which provide food i.e. basic need for human being. All other activities related with production and manufacturing totally dependent on agriculture. Because agriculture provides the bulk of raw material required by the non-agricultural sector and industry. Further, income earned from agriculture is not included in individual income. Thus, it provides tax benefit to a person. Agriculture is very important for a country's growth still there is lack of facilities and infrastructure which can improve agriculture.

Green revolution is a great movement which change the direction of agriculture in India and it helps to spread awareness about agriculture. In India, the Green Revolution was mainly led by M.S. Swaminathan. Green revolution has its positive as well as negative effects but it is requirement of time. India is moving towards modernisation where it becomes important to support agriculture and its related movements. Government is taking various initiatives to improve the quality and quantity of agriculture. Thus, it becomes the responsibility of government as well as a common man to take necessary actions for improving the level of agriculture in India.

4.7 SELF-ASSESSMENT TEST

Q.1 Explain primary sector in detail.

Q.2 Write in brief about agriculture in Indian economy.

Q.3 Explain features and importance of agriculture sector in India.

Q.4 Discuss in brief green revolution.

Q.5 What are the advantages and disadvantages of green revolution in India?

4.8 ANSWER TO CHECK YOUR PROGRESS

1-a, 2-1, 3-c, 4-b, 5-a

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **5-** **Agriculture II: Rural Indebtness, Agricultural Marketing, Agricultural Finance, Agricultural Policy and New Development in Agriculture**	Vetter: **Prof. Anil Kumar**

Structure

5.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To study the importance and features agriculture finance.
- To understand the structure of agriculture marketing in India
- To know the recent developments in agriculture sector in India

5.1 AGRICULTURE FINANCE & AGRICULTURE INSURANCE

Agriculture is a key sector of Indian economy in view of its contribution to employment and GDP. Agricultural credit plays a vital role in farm sector development and facilitates adoption of new technologies. However, any amount of credit even at the most reasonable rate cannot guarantee higher productivity or adequate income among the farmers, as the success depends upon many other supporting factors including the availability of agricultural inputs, services and remunerative markets for the products. The agricultural credit policies designed and implemented in India are mainly supply driven through targeted ground level credit, interest subvention scheme and directed lending by way of regulatory prescription under Priority Sector Lending guidelines. These policies along with other policy interventions at the level of Government and RBI have yielded commendable results in the field of agricultural credit. However, agricultural sector still faces challenges such as lack of capital formation, regional disparity, dependence of farmers especially small and marginal farmers, tenant farmers, landless labourers and share croppers on non-institutional sources of credit at significantly higher rates, non-realization of the fair price for agricultural produce causing farmers' distress and farm loan waivers impacting credit culture and weakening state finances.

5.1.1 NATIONAL BANK FOR AGRICULTURE AND RURAL DEVELOPMENT (NABARD)

National Bank for Agriculture and Rural Development (NABARD) was established on July 12, 1982 on the recommendation of B. Sivaraman Committee. NABARD is fully owned by Government of India and is an apex body for the agriculture credit. The functions/achievements of NABARD can be categorized under three heads: financial functions, developmental functions, and supervisory functions.

Financial Functions

- Refinancing facility: NABARD does not provide direct loans to farmers but finance them through institutional set up. Therefore, refinancing is a way for banks to get funding in respect of term loan for both farm sector and non-farm sector activities for a period of 18 months to 15 years. The institutions that get such refinancing facilities are SCARDBs, SCBs, RRBs, or scheduled CBs or any other financial institution, approved by RBI.
- Rural Infrastructure Development Fund (RIDF): Rural Infrastructure Development Fund (RIDF) was established with NABARD in 1995–1996. Domestic CBs contribute to the fund to the extent of their shortfall in stipulated priority sector lending to agriculture. The major beneficiaries of RIDF are the State Governments, gram panchayats, self-help groups (SHGs), and NGOs. The main objective of the Fund is to help states complete ongoing rural infrastructure projects.
- NABARD Infrastructure Development Assistance (NIDA): RIDF discussed above faced two major problems. First, loans cannot exceed the borrowing power of the State Government under Article 293 (1) of the Constitution of India, which limited the states' offtake from RIDF. Second, political influence was noticed in the disbursement of funds. To address such issues, NABARD launched a new line of credit, named NABARD Infrastructure Development Assistance (NIDA). NIDA is a new line of credit support for funding rural infrastructure projects which provides assistance outside of RIDF borrowing. It offers customized terms based on the requirements of the borrower, nature of the project, and risk profile of the borrower on flexible interest rates. NIDA is available for the State Governments and other state-owned organizations, such as corporations.
- Long-Term Irrigation Fund (LTIF): The Long-Term Irrigation Fund (LTIF) was established in NABARD during 2017. The fund aims to bridge the resources gap and facilitate the completion of 99 prioritized irrigation projects as part of Pradhan Mantri Krishi Sinchayee Yojana during 2016–2020 and bringing 76.03 lakh hectares of land under irrigation.
- Other programs: Warehouse Infrastructure Fund was created in the year 2013–2014 with NABARD to meet the requirements for scientific warehousing infrastructure for agricultural

commodities in the country. Food Processing Fund was created in NABARD in 2014–2015 to promote food processing industry in the organized sector on a cluster basis. Producers Organization Development Fund was created in 2010 to help farmers transform into agricultural entrepreneurs or agripreneurs. Apart from all these, NABARD also provides funding to cooperatives, market federations, and other entities.

Developmental Functions

- Kisan Credit Card (KCC) scheme: Designed by NABARD in consultation with RBI, Kisan Credit Card (KCC) scheme was introduced by the government in August 1998. Such cards are issued to the farmers on the basis of their land holdings and other criteria such as timely payment of past credits. The scheme helps farmers in multiple ways like production credit, working capital requirements for allied activities, ancillary credit requirements related to crop production contingent needs, and accidental insurance.
- Microfinance: Also called as microcredit, it is a type of banking service that is provided to unemployed or low-income individuals or groups so that they can start a small business venture. Generally, the microfinance is routed through SHGs. NABARD had launched the Self-Help Group-Bank Linkage Programme (SHG-BLP) in 1992. Under this programme, banks are allowed to open savings accounts for SHGs and provide loans to the SHGs against group guarantee. Microfinance movement can be traced back to 1976, when Mohammad Yunus, a Bangladeshi economist and Nobel laureate, started a campaign for microfinance for poor villagers near Chittagong, Bangladesh. His efforts led to the establishment of Grameen Bank in 1983 and soon the movement spread throughout the world.
- Eshakti: Launched on March 15, 2015, the project aims at digitization of all the SHG accounts to bring SHG members under the fold of Financial Inclusion thereby helping them access wider range of financial services together with increasing the bankers' com- fort in credit appraisal and linkage.5
- Other programs: In order to commercialize innovations and to shape agri-entrepreneurship in the country, NABARD has established incubation centers in different agriculture universities across the country. NABARD also provides marketing opportunities to rural artisans and producers and

facilitates their participation in exhibitions across the country. The tribal development programme of NABARD was implemented in the 2003–2004 with a corpus of `50 crore.

Supervisory Functions

- NABARD is empowered to conduct the inspection of cooperative banks and RRBs. In addition, NABARD has also been conducting periodic inspections of state
- Level cooperative institutions, such as SCARDBs, Apex Weavers Societies, Marketing Federations, on a voluntary basis. Objectives of supervision are protecting the interest of present and future depositors; ensuring that the business conducted by such banks is in conformity with the rules laid down; examining the financial soundness of the banks; and suggesting ways and means for strengthening the institutions so as to enable them to play a more efficient role in purveying rural credit.

5.1.2 COOPERATIVE CREDIT SOCIETIES

- The history and evolution of cooperatives can be traced back to 1904 when the British Government passed the Co-operative Credit Societies Act to provide cheaper credit to the farmers.
- The Maclagan Committee (1915) and the Royal Commission of Agriculture in India (1928) focused on the expansion of co-operatives in the country.
- The RBI Act, 1934, made provisions to establish an Agriculture Credit Department in the bank and extend refinancing facilities to the co-operative credit system. All India Rural Credit Survey in 1951 recommended the creation of an efficient system of agricultural finance and the development of a sound co-operative credit structure.
- The All-India Rural Credit Review Committee (1969) recommended the adoption of a multi-agency approach toward agriculture and rural credit, and CBs were expected to complement the efforts of co-operatives to enhance the quantum of credit in the rural economy.
- The cooperative system in India has been organized into short-term and long-term credit structure. The short-term credit structure is based on a three-tier structure. At the lowest tier are primary agriculture cooperatives (PACs) which are organized at village level. At the second tier

are central cooperative banks (CCBs) that are organized at district level. At the third and upper-most tier are the state cooperative banks (SCBs) which are organized at state level.

- The long-term credit structure is based on a two-tire system: State cooperative agriculture rural development banks (SCARDBs) and primary cooperative agriculture rural development banks (PCARDBs). PCARDBs function at tuluka level or local level, whereas SCARDBs function at state level. In some states, SCARDBs have many branches. SCARDBs supervise and provide financial assistance to PCARDBs. The share of cooperatives in agricultural loans has decreased from 62% in 1980-81 to 13.4% in 2016–17.

5.1.3 REGIONAL RURAL BANKS

- On the recommendations of the working group on rural banks, the government established RRBs in the year 1975.
- The RRBs are owned by the Central Government, the State Government, and the Sponsor Bank whose shares are held at the ratios of 50, 15, and 35%, respectively.
- At present, there are 56 RRBs covering 525 districts with a network of 14,494 branches. The government is planning to consolidate RRBs and bring down their tally from the existing 56 to 36 so as to ensure better scale-efficiency, higher productivity, robust financial health, improved financial inclusion, and greater credit flow to rural areas.
- The share of RRBs in total institutional credit has increased from 3.4% in 1990-91 to 11.6% in 2016-17.

5.1.4 COMMERCIAL BANKS

- The predominance of cooperatives in agriculture credit was termed by many as uni-agency approach which was insufficient to meet the demands of agriculture credit. The All-India Rural Credit Review Committee (1969) recommended multi-agency approach to the rural and especially agricultural credit.
- The Lead Bank Scheme was introduced in 1969 under which a larger bank in the district is entrusted with the lead responsibility for that district. The lead bank acts as a leader for coordinating the efforts of all credit institutions in the allotted districts to increase the flow of credit to agriculture and other priority sectors.

- The Service Area Approach (SAA) was a scheme launched by the RBI in 1989 for an orderly development of the rural areas of the country. Under the SAA, all rural and semi-urban branches of banks were allocated specific villages, generally in geographical difficult areas, the overall development and the credit needs of which were to be taken care of by the respective branches.
- Under priority sector lending norm, the CBs are mandated to achieve certain targets. Under such norms, the banks are required to provide 40% of aggregated net bank credit (ANBC) to certain priority sectors such as agriculture, SSI, and microfinance and the share of agriculture is 18% of ANBC.
- Apart from all such measures mentioned above, the systematic efforts of CBs in the field of financial inclusion resulted in an increase in the share of CBs in agricultural loans. The share of CBs in total institutional lending has increased from 38% in 1980-81 to 75% in 2016-17.

Agriculture Insurance

Agriculture insurance is a risk management tool that farmers can use in the eventuality of floods, drought, pests, disease, and a plethora of other natural disasters. In India, there are primarily four agriculture insurance schemes.

- **Pradhan Mantri Fasal Bima Yojana:** The Pradhan Mantri Fasal Bima Yojana (Prime Minister's Crop Insurance Scheme) was launched by Prime Minister of India on February 13, 2016. The new Crop Insurance Scheme is in line with One Nation–One Scheme theme and incorporates the best features of all previous schemes, and at the same time, all previous shortcomings/weaknesses have been removed. The following are the salient features of the scheme:

  There will be a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In the case of annual commercial and horticultural crops, the premium to be paid by farmers will be only 5%. The premium rates to be paid by farmers are very low, and the balance premium will be paid by the government to provide full insured amount to the farmers against crop loss on account of natural calamities. There is no upper limit on the government subsidy. Even if balance premium is 90%, it will be borne by the government.

Technology will be used for the better implementation of the program. Smart phones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop-cutting experiments.

- **Restructured Weather Based Crop Insurance Scheme (RWBCIS):** The RWBCIS was launched on February 18, 2016 by Prime Minister of India. RWBCIS intends to provide insurance protection to the farmers against adverse weather conditions, such as deficit and excess rainfall, high or low temperature, and humidity, which are deemed to impact adversely the crop production. It has advantage to settle the claims within shortest possible time.9
- **Unified Package Insurance Scheme (UPIS):** Introduced in Kharif 2016 season, the Unified Package Insurance Scheme (UPIS) aims at providing financial protection to citizens associated in agriculture sector, thereby ensuring food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from financial risks. The Loanee farmers will be covered through banks/financial institutions, whereas non-loanee farmer shall be covered through banks and/or insurance intermediaries. The policy contains seven sections, viz., crop insurance, personal accident insurance, life insurance, building and contents insurance, agriculture pump set insurance, student safety insurance, and agriculture tractor insurance.
- **Coconut Palm Insurance Scheme (CPIS):** The Coconut Palm Insurance Scheme (CPIS) is implemented since the year 2009–2010. The scheme is administered by Coconut Development Board. The scheme is meant for coconut cultivator who grows at least five healthy nut bearing palms of all varieties.

5.2 RURAL INDEBTNESS AND FARMERS' SUICIDES IN INDIA

The phenomenon of suicide by farmers is especially worrisome for India because the majority of the workforce is dependent on agriculture for its livelihood. Between 1995 and 2006, the government official sources indicate that 166,304 farmers died by suicide in India (16,000 per year). In 2015–2016, 12,602 cases of farmer suicides were reported across the country as per National Crime Records Bureau (NCRB) data sources. It means on the average three farmers commit suicide every day.

Following are the causes of farmer suicides in India.

- NCRB has classified agriculturists into farmers/cultivators and agricultural laborers. In 2015–2016, out of 12,602 farmer suicides, 70% of the suicides were reported for farmers/cultivators and 30% for agriculture laborers. Indebtedness and farming related issues constitute more than 50% among different causes of farmers' suicides. However, if we consider suicide among agriculture laborers, family problems (40.1%) and illness (19%) are the major causative factors. Majority of suicides committed by farmers/cultivators were reported in Maharashtra, Telangana, and Karnataka, accounting for 37.8, 17.0, and 14.9% of total such suicides during 2015–2016. The states of Maharashtra, Madhya Pradesh, and Tamil Nadu accounted for 56% of total suicides by agricultural laborers.
- Against the general perception, the study has also found that there is no clear link between farmer suicides and poverty. Suicide mortality rates are higher in the relatively wealthy states of Maharashtra, Karnataka, and Tamil Nadu than in poorer states like Bihar and Uttar Pradesh. Further, it is not the poorer farmers who are killing themselves but the richer farmers. Nearly 90% of the farmers who committed suicide in Maharashtra owned more than two acres of land. Six out of 10 owned more than four acres. Farmer suicides are a big- ger problem in states with greater access to formal credit such as Maharashtra than the ones like Bihar, where money lenders hold more sway. Therefore, the issue requires an in-depth analysis of the factors behind what is now a systemic crisis in India's farms.12 For example, a study in Kerala highlighted that farmers' suicide was more in those districts which are concentrating more on the cultivation of export-oriented commercial crops.13
- While indebtedness has been rising as a cause of farmer/cultivators' suicides, the most commonly cited causes of suicide in India for agricultural laborers are "family problem" or "illness." The latter especially has seldom received enough policy attention in the past decades. Access to psychological counselling, healthcare, and better rural infrastructure obviously plays a role in the overall well-being of the farmers. It is not only the male farmers who are committing suicides but female suicide cases have also been reported. The prevalence of suicide rate in the case of female agriculture laborers (12.5% of total suicides) is higher than that of female farmers/cultivators (5.5% of total suicides).

- The most effective and least distortionary way to support them would be through direct benefit transfers. The new National Health Protection Mission (Ayushman Bharat) should improve rural healthcare. Free LPG connections for poor households should lower their energy burdens while improving the respiratory health of women (smoke from cooking fires is a leading cause of death in many parts of India).
- Loan waivers are the temporary solutions not the panacea they are made out politically. Loan waivers can help the rich farmers as only the big loans are waived off. Those who want to help India's farmers should be working much harder to figure out what they really need.

5.3 CREDIT SUBSIDY

Credit subsidy denotes the difference between interest charged from farmers, and actual cost of providing credit, plus other costs such as write-offs bad loans or loan waivers. Credit subsidy is offered by the government to farmers in order to protect their larger interest. The following are the factors responsible for the credit subsidy in India:

- crop failure due to exogenous reasons like inadequate rainfall, floods, and pest or insect attack;
- institutional sources do not fulfil unproductive loan needs, and therefore, farmers are forced to approach to local money lenders;
- farmers not getting remunerative price of their produce due to glut in the market resulting into decline in their income;
- massive loan waivers announced by the states from time to time because of farmers lobbying aggressively in political circles especially during election times; and
- decline in public investment in agriculture over the period of time, which has influenced agrarian economy in multiple ways.

5.3.1 Types of Credit Subsidy

There are generally two popular measures of credit subsidy: interest subvention scheme and farm loan waivers.

Interest Subvention

Interest subvention is the subsidy offered on interest rates. It is a form of waiver of some percentage of interest that promotes some particular industry and general public interest. To promote agriculture credit, the government launched interest subvention scheme in 2006–2007. The government provides interest subvention of 2% per annum to public sector banks, private sector scheduled CBs, cooperative banks, and RRBs for short-term crop loans up to `3 lakh per farmer, if the lending institutions provide short-term credit at 7% per annum to farmers. The farmers, who promptly repay their crop loans as per the repayment schedule fixed by the banks, are extended loans up to `3 lakh for a maximum period of 1 year at an effective interest rate of 4% per annum (with interest subvention of 3%).15

Farm Loan Waiver

A farm loan waiver takes place when the government waives off the part or full amount of loan taken by the farmer from the bank. Though the government has provided credit subsidy in one form or other in the past, the agriculture debt waiver was first used as an election strategy in the year 2008, when the then UPA government waived off farm loans worth 60,000 crore. Since then, it became a political culture in the country. During 2018–2019, eight State Governments in India gave farm loan waivers worth `1.9 trillion. Though, National commission on farmers headed by M.S. Swaminathan in its report suggested farm loan waiver in the distressed districts of the country, for politicians, it has become a regular feature to woo the voters.

The policy of farm loan waiver affects economy in the following manner:

- It disrupts credit discipline as farmers turn into wilful defaulters. They wait for the next loan waiver scheme, which is bad for economy.
- The honest farmers who had repaid the loans within time feel cheated. It is also a fraud with the tax payers because loans will be waived with taxpayers' money.
- Farm loan waivers are not a panacea for all problems facing Indian farmers. They provide immediate relief but help little to solve the fundamental problem of rising costs and falling profitability in agriculture.
- In the anticipation of loan waiver, the borrowers stop repaying the outstanding loan amount. The non-payment of three EMIs turn the loan into non-performing asset (NPA). Though the State

Governments pay banks but payment is staggered in nature which means more NPAs. Higher NPAs cause lending freeze as banks' corpus for next fiscal lending to farmers would go down as banks do not have a financial margin to pump more money and they only circulate the repayments back as fresh loans.

- Rich farmers too may take loans even if there is no need, with the hope of the next loan waiver scheme. This will impact the farmers who are genuinely in need of loans.
- Loan waivers increase the fiscal deficit of the states and eventually restrict them from spending money on infrastructure building and welfare schemes, thus impacting employment opportunities and wages.17
- The loan waivers do not cover millions of farmers who lend from sources that are outside the formal economy. According to the NSSO report (2012–2013), approximately 2.5 million agriculture households in Madhya Pradesh borrow from money-lenders. Likewise, about a million farmers in Chhattisgarh are estimated to be outside the formal banking system.

5.4 AGRICULTURE AND ITS POLICY IN INDIA

5.4.1 AGRICULTURE MARKETING IN INDIA

Traditionally, agricultural marketing involved essentially the buying and selling of agricultural production. But in modern times the agricultural marketing system is defined in broadest terms, as physical and institutional set up to perform all activities involved in the flow of products and services from the point of initial agricultural production until they are in the hands of ultimate consumers. This includes assembling, handling, storage, transport, processing, wholesaling, retailing, and export of agricultural commodities as well as accompanying supporting services such as market information, establishment of grades and standards, commodity trade, financing and price risk management, and the institutions involved in performing the above functions.

5.4.1.1 TYPES OF AGRICULTURE MARKETS

Rural Primary Markets

There are around 650,000 small and large villages in India. These villages are inhabited by about 850 million consumers making up for about 70% of population and contributing around half of the country's

gross domestic product (GDP).2 Rural primary markets include mainly the periodical markets known as Haats, Shandies, Painths and Fairs which are estimated to be more than 21,000 to a maximum of 47,000 in the country. Located in rural and interior areas, they serve as focal points to a great majority of the farmers mostly small and marginal for marketing their farm produce and for purchase of their consumption needs. The commodities collected in these markets find their way to the wholesale assembling markets in the process of movement to consumers. It is estimated that 90% of the total marketable surplus in the remote areas is sold through these markets. According to the report of Marketing and Research Team (MART), New Delhi one Haat caters to approximately 14 villages. It was observed that 50% Haats were organized by the panchayats or town administration. Despite the benefits associated with rural primary markets, very little efforts have been made so far by the government agencies/market authorities to develop the rural primary markets. Only 15% of these markets have been brought under the ambit of regulation.

The Wholesale/Assembling Markets

The Wholesale/Assembling Markets or the secondary markets constitute the basic link in the market structure of the country. They are better organized than the rural primary markets and present divergent picture with regard to facilities offered and services provided. The whole- sale markets are located in the district and taluk headquarters, important trade centers, and nearby railway stations, and perform assembling and distribution functions. In most of these markets, a large number of commodities are traded. Specialized single commodity markets are not many except few markets for cotton, jute, oilseeds, fruits, and vegetables. The management of such markets is done by a market committee which has nominees of the state government, local bodies, arhatiyas, brokers, or farmers. Most of the states have already enacted legislations (Agriculture Produce Marketing Committees Act) to provide for regulation of agriculture-produce markets. There are presently 7,246 markets in India. The business is conducted according to market practices established by age old customs, or as per the regulations of Agriculture Produce Marketing Committees (APMC) Act wherever regulated. These markets play an important role in determining the prices of agricultural produce assembled there and as such have a governing impact on terms of trade between agriculture versus other sectors of economy.

Terminal Markets

The scheme of Terminal Markets Complex (TMC) has been conceptualized and introduced as a new model under National Horticulture Mission. It is implemented in a Public–Private Partnership (PPP) mode in a Hub (Main Market) and Spokes (Collection Centers) format by private enterprise. The project aims at helping the farmers in reaping the benefit through better price realization, reducing wastages, and creating opportunities of rural employment in addition to regular supply of agricultural commodities including fruit and vegetables. Terminal markets are quite popular in developed countries and the idea is expected to gain ground in India. The Safal complex of NDDB is one such format, located at Bangalore. They are expected to be located nearer to big cities and terminal points providing the final link in the market structure. The sellers are usually the traders and not the growers in these markets unlike the primary and secondary markets. The terminal markets provide multiple options to farmers for disposal of produce. Such markets are expected to reduce post-harvest losses and increase farmers' realization.

Retail Markets

Famously called as "MOM and POP" stores, retail markets directly serve the common man and constitute last links in the marketing chain. Generally, the small-sized retailers are located in the entire length and breadth of the country and serve the needs of inhabitants in a particular locality. In recent times, there is tremendous interest in setting up of retail chains for food items including fresh produce. Few MNCs and large number of private players have entered in the retail segment and are expected to revolutionize the system of handling of agricultural produce. Modern organized retail can take several forms, from small neighbourhood stores (like Mother Dairy outlets) to air-conditioned malls (like Big Bazaar). The modern organized retail offers better prices to both consumers and producers and reduces the gap between the two. Modern retailers are able to offer better prices to consumers and producers because of the economies of scale in procurement, handling, and logistics.6

5.4.1.2 CHARACTERISTIC FEATURES OF AGRICULTURE MARKETING IN INDIA

After independence, GOI took plethora of steps to promote agriculture marketing in India. Following are the salient features of Agriculture Marketing in India:

Agricultural Produce Market Committee

Agricultural Produce Market Committee (APMC) is a statutory market committee constituted by a State Government in respect of trade in certain notified agricultural or horticultural or livestock products, under the Agricultural Produce Market Committee Act issued by that state government. Under Constitution of India, agricultural marketing is a state subject. While intra- state trades fall under the jurisdiction of state governments, inter-state trading comes under Central or Federal Government. Thus, agricultural markets are established and regulated mostly under the various State APMC Acts. The whole geographical area in the state is divided and each one is declared as a market area which is managed by the APMC constituted by the state government. States also constitute a Market Board which supervises these market committees. APMCs generally consist of representatives of farmers, traders, warehousing entities, registrar of co-operative societies, etc. No person or agency is allowed to freely carry on wholesale marketing activities and the first sale in the notified agricultural commodities produced in the region such as cereals, pulses, edible oilseed, fruits, and vegetables and even chicken, goat, sheep, sugar, fish etc., can be conducted only under the aegis of the APMC, through its licensed commission agents.

Functions of APMCs are ensuring transparency in pricing system and transactions, providing extension services to farmers, ensuring timely payment for agricultural produce to farmers, promoting agricultural processing activities, publicizing data on arrivals and rates of agricultural produce, and promoting PPP in the management of agricultural markets. There are about 2,477 principal regulated markets based on geography (the APMCs) and 4,843 sub-market yards regulated by the respective APMCs in India.

However, with time, such APMCs developed into restrictive agencies which instead of promoting and safeguarding the interest of farmers turned into manipulative and exploiter bodies. Let us understand, how:

- APMC Act restricts the farmer from entering into direct contract with any processor/ manufacturer/bulk processor acquiring the status of restrictive and monopolistic markets and thus harming the farmers.

- APMCs charge multiple levies and taxes viz. statutory levies/mandi tax, VAT, a licensing fee from the commissioning agents, a small licensing fees from a whole range of functionaries such as warehousing agents and loading agents which add up to hefty amounts, create market distortions with cascading effects, and strong entry barriers. All this has led to a highly fragmented and high cost agricultural economy, which prevents economies of scale and unbroken movement of agriculture goods across district and state borders.
- APMC operations are hidden from scrutiny as the fee collected, which are at times exorbitant, is not under State legislature's approval. Agents in an APMC many times form cartel creating monopsony like situation. Produce is procured at manipulatively low price (from farmers) and sold at higher price (to consumers), defeating the very purpose of APMCs.
- APMCs play dual role of regulator and market. Consequently, their role as regulator is undermined by vested interest in lucrative trade. Generally, member and chairman are nominated/elected out of the agents operating in that market.
- Exporters, processors, and retail chain operators cannot procure directly from the farmers as the produce is required to be channelized through regulated markets and licensed traders. Monopolistic practices and modalities of the state-controlled markets have prevented private investment in the sector which has further prevented development of a competitive marketing system on a pan-India basis.

Grading and Standardization

Government established the Directorate of Marketing and Inspection (DMI) in 1935 to implement the agricultural marketing policies and programmes for the integrated development of marketing of agricultural and other allied produce in the country. Agricultural Produce (Grading and Marketing) Act was passed in 1937 which was later amended in 1986. Head office of DMI is located at Faridabad, Haryana. It has 11 regional offices at Delhi, Mumbai, Chennai, Kolkata, Hyderabad, Chandigarh, Jaipur, Lucknow, Bhopal, Kochi, and Guwahati, and the Central Agmark Laboratory at Nagpur. Besides, there are 27 sub-offices and 11 Regional Agmark Laboratories (RALs) spread all over the country. Agmark is the acronym for Agriculture Marketing and important commodities are graded for internal trade and export. In total, 222 commodities have been graded so far till date.8 Apart from

Agmark, the Food Safety and Standards Authority of India (FSSAI) also regulates the quality and safety of food business in India.

Changes in Standard Weights and Measures

The standard weights act was passed by government in 1939 so as to discourage the Arhatiyas and brokers who used to cheat the farmers. The act encouraged many state governments to pass legislations thereafter. In 1958, the Indian government enacted a new legislation and the metric system of measures was adopted. The metric system replaced all the old systems of weight and measures and has introduced uniformity with respect to weight and measures in the country. The Standards of Weights and Measures Act, 1976 provides necessary powers to the government to inspect weighing and measuring instruments during their use to prevent fraudulent practices, regulation of inter-state trade and commerce in weights and measures, and regulation of export and import of weights and measures and commodities in packaged form.9

Godown and Storage Facility

According to the working group report, about 30% farm produce is stored under open condition, leading to wastage and distress sales. The godown and storage infrastructure provides safety cushion to farmers as they are not compelled to sell their produce immediately after the harvesting of crops. It increases farmers' bargaining power and save them from the distress sale. Keeping such considerations in view, the Rural Credit Survey Committee (1954) suggested establishment of a three-tire storage system in the country at (1) national level, (2) state and district level, and (3) village and rural level. On the basis of such recommendations, Central Warehousing Corporation (CWC) was set up in 1957 and this was followed by State Warehousing Corporations in a number of states.

Development of Market Information Infrastructure

Agriculture is a highly unorganized sector and farmers remain unaware about the nation-wide price trend of agriculture commodities. Government has come out with many measures to overcome such shortcoming. Special talks and programmes are organized by Doordarshan and All India Radio and agriculture market price trends are reviewed regularly. Presently, wholesale price of 300 commodities and about 2,000 varieties are reported on the Agriculture Marketing Information Network

(AGMARKNET) portal from more than 1,800 markets covering all major agricultural and horticultural produce.

Agriculture Price Policy

To bring certainty in agriculture and make farming full proof from the vagaries of marker fluctuations, government announces minimum support price policy every year for around 24 major crops. The prices are fixed in accordance with the recommendation of Commission for Agriculture Cost and Prices (CACP).

Institutional Support

CCS National Institute of Agricultural Marketing: Chaudhary Charan Singh National Institute of Agricultural Marketing (NIAM) was established by GOI in 1988 with the objective to augment the agricultural marketing infrastructure of the country through programme of teaching, research, and consultancy services.

Small Farmers' Agribusiness Consortium: Small Farmers' Agribusiness Consortium (SFAC) was set up as a registered society in 1994. It provides a platform for increased accessibility and cheaper availability of agricultural inputs to small and marginal farmers and in establishing forward and backward linkages in supply chain management. This initiative has triggered mobilization of farmers for aggregation across the country with ultimate aim of sustainable business model and augmented incomes. SFAC has pioneered the formation and growth of Farmer Producer Organizations (FPOs)/Farmer Producer Companies (FPCs), which is now being implemented across the length and breadth of the country. SFAC offers schemes such as Equity Grant and Credit Guarantee Fund Scheme to FPCs to improve availability of working capital and development of business activities. SFAC promotes development of small agribusiness through its Venture Capital Assistance (VCA) Scheme for value-added processing and marketing linkages. SFAC is also implementing the National Agri- culture Market Electronic Trading (e-Nam) platform. The purpose is to provide single unified market for agricultural products with much higher price discovery for farmers.

Agricultural Marketing Infrastructure

Under the Agricultural Marketing Infrastructure (AMI) sub-scheme, there are two components (1) Storage Infrastructure and (2) Marketing Infrastructure other than Storage. The main objectives of

the AMI scheme are promoting innovative and latest technologies, encouraging private and co-operative sector investments, direct marketing, creating scientific storage capacity, and providing training to farmers

5.4.2 AGRICULTURAL POLICY AND NEW DEVELOPMENT IN AGRICULTURE

5.4.2.1 NATIONAL COMMISSION ON FARMERS

In February 2004, the Government of India constituted a National Commission on Farmers to examine various issues confronting the Indian farmers and to suggest appropriate interventions for improving the economic viability and sustainability of diversified agriculture, including horticulture, livestock, dairy and fisheries and for doubling the farmers' income. The Commission was reconstituted in November, 2004 and its terms of reference also modified to address the larger issues relating to working out a comprehensive medium-term strategy for food and nutrition security, enhancing productivity based on an agro-ecological and agroclimatic approach, bringing about synergy between technology and public policy, attracting educated youth to farming, enhancing investment in Agri-research, etc. The reconstituted National Commission on Farmers is headed by Dr M. S. Swaminathan submitted five reports through the period December 2004 to October 2006. The following are the salient features of the report:

- **Land Reforms:** Land reforms in India signify structural change in land usage, redistribution, and ownership and hence linked with agrarian reforms. The suggestions made by committee in this regard are distributing ceiling-surplus and waste lands; inhibiting diversion of prime agricultural land and forest to corporate sector for non-agricultural purposes; ensuring grazing rights and seasonal access to forests, to tribals and pastoralists, and access to common property resources; setting up a mechanism to regulate the sale of agricultural land, based on quantum of land, nature of proposed use, and category of buyer.
- **Increasing Irrigation Potential:** Irrigation is an indispensable input for Indian Agriculture. The commission recommends sustained and equitable access to water; rainwater harvesting and recharging aquifers; implementation of "million wells recharge program," developing minor irrigation techniques.

- **Adequate Supply of Funds:** For timely and adequate supply of credit, the commission recommends expanding the outreach of the formal credit system to poor and needy; reducing the rate of interest for crop loans to 4%; moratorium on debt recovery, including loans from non-institutional sources, and waiver of interest on loans in distress hotspots and during calamities, till capability is restored; setting up an "agriculture risk fund" to provide relief to farmers in the aftermath of successive natural calamities; issuing KCCs to women farmers, introducing an integrated credit-cum-crop-live- stock-human health insurance package; setting up a "Rural Insurance Development Fund" to take up development so as to spread rural insurance and forming and strengthening producers' organizations such as SHGs.
- **Increase in Agriculture Production and Productivity**: In India, the productivity level of many crops is below world average. For the long term and sustained increase in agriculture, the commission recommended out of box measures like significant increase in public investment in agriculture-related infrastructure particularly in irrigation, drainage, land development, water conservation, research development, and road connectivity; a national network of advanced soil testing laboratories with facilities for detection of micro- nutrient deficiencies and promotion of conservation farming, which will help farm families to conserve and improve soil health, water quantity and quality, and biodiversity.
- **Providing Food Security:** India is the home for world's largest number of poor and hungry people. Food security has always remained a challenge for policy makers. The commission felt that by raising demand for food grains as a result of increased consumption, we will not only help poor by satiating their hunger but the economic conditions essential for further agricultural progress can also be created. The commission recommended universalization of PDS reorganizing the delivery of nutrition support programs on a life-cycle basis with the participation of panchayats and local bodies; eliminating micronutrient deficiency induced hidden hunger through an integrated food cum fortification approach; setting up of more "Community Food and Water Banks" operated by Women SHGs, starting a Rural Non-farm Livelihood Initiative to better the lives of small and marginal farmers; formulating a National Food Guarantee Act.

- **Arresting Farmers' Suicides**: To arrest the incidences of farmers' suicides, the commission recommended providing affordable health insurance and revitalizing primary healthcare centers; setting up State-level Farmers' Commission with representation of farmers for ensuring dynamic government response to farmers' problems; restructuring micro finance policies to serve as Livelihood finance; covering all crops by crop insurance with the village and not block as the unit for assessment; extending the "National Rural Health Mission" to suicide hotspot locations on priority basis providing for a Social Security net with provision for old age support and health insurance; decentralize water use planning and every village should aim at Jal Swaraj with gram sabhas serving as pani panchayats; ensure the availability of quality seed and other inputs at affordable costs and at the right time and place; recommending low risk and low cost technologies which can help to provide maximum income to farmers because they cannot cope with the shock of crop failure, particularly those associated with high cost technologies like Bt cotton; focused "Market Intervention Schemes" (MIS) in the case of life-saving crops such as "cumin" in arid areas; setting up a price stabilization fund in place to protect the farmers from price fluctuations; setting up Village Knowledge Centers (VKCs) or Gyan Chaupals in the farmers' distress hotspots, and spearheading public awareness campaigns to make people identify early signs of suicidal behavior.
- **Making Agriculture Competitive and Remunerative:** In India, majority of farmers are small and marginal farmers, and for such farmers, agriculture is not a competitive and remunerative profession. To make farming competitive and remunerative, the commission recommends the following:
  i. promotion of commodity-based farmers' organizations such as "Small Cotton Farmers' Estates" to combine decentralized production with centralized services, such as post- harvest management, value addition, and marketing, for leveraging institutional support and facilitating direct farmer-consumer linkage.
  ii. MSP policy needs to be more inclusive, and for that, MSP needs to be put in place for crops other than wheat and rice also. The commission also recommended millets and other nutritional cereals to be permanently included in PDS.
  iii. MSP should be at least 50% more than the weighted average cost of production.

iv. The availability of data about spot and future prices of commodities should be available through the Multi-Commodity Exchange (MCD) and the NCDEX and the APMC electronic networks covering 93 commodities through 6,000 terminals and 430 towns and cities.

v. APMC Acts relating to marketing, storage, and processing of agriculture produce need to shift to one that promotes grading, branding, packaging, and development of domestic and international markets for local produce, and move toward a Single Indian Market.

- **Increasing Employment Opportunities of Rural Community**: The share of agriculture in country's employment was 75.9% during 1960–1961, and thereafter, came down dramatically. At present, it provides employment to nearly 45% of workforce. The huge dependence on agriculture leads to disguised unemployment and generates lower productivity per capita. Taking stock of such situation, the commission recommends creating productive employment opportunities in industry and services (viz., trade, restaurants and hotels, transport, construction, repairs, and certain services) and improving the "quality" of employment in such sectors so that real wages rise with the increase in productivity. The emphasis should be on relatively more labour-intensive sectors and inducing a faster growth of these sectors; and improving the functioning of labor markets through without eroding the core labor standards. The "net take home income" of farmers should be comparable to those of civil servants.
- **Preservation of Biosecurity:** India has a rich flora and fauna and blessed with bio-resources that are paramount for the nutrition and livelihood of millions of rural Indians. The report recommends preserving traditional rights of access to biodiversity, which include access to non-timber forest products including medicinal plants, gums and resins, oil yielding plants, and beneficial micro-organisms; conserving, enhancing, and improving crops and farm animals as well as fish stocks through breeding; encouraging community-based breed conservation (that is, conservation through use); and, allowing export of indigenous breeds and import of suitable breeds to increase the productivity of ordinary animals.

5.4.2.2 NATIONAL POLICY FOR FARMERS, 2007 (NPF)

The Government of India approved the National Policy for Farmers in 2007. The Policy provisions, inter alia, include:

- Asset reforms in respect of land, water, livestock, fisheries and bio-resources
- Provide support services and inputs like application of frontier technologies
- Agricultural bio-security systems
- Supply of good quality seeds and disease-free planting material, improving soil fertility and health and integrated Pest management systems
- Support services for women like crèches, child care centres, nutrition, health and training
- Timely, adequate and easy reach of institutional credit at reasonable interest rates and farmer-friendly insurance instruments
- Use of information and communication technology and setting up of farmers' schools to revitalise agricultural extension
- Effective implementation of MSP across the country, development of agricultural market infrastructure and rural non-farm employment initiatives for farm households
- An integrated approach for rural energy.

Many of the provisions of the NPF are being operationalised through various schemes and programmes which are being implemented by different Central Government departments and ministries. For the operationalisation of the remaining provisions of the Policy, an action plan has been finalised and circulated to the ministries and department

5.4.2.3 REHABILITATION PACKAGE FOR DISTRESSED FARMERS

The incidence of suicide by farmers has been reported mainly from the states of Andhra Pradesh, Karnataka, Maharashtra and Kerala. As reported by state governments, broadly, the causes for committing suicide by farmers are crop failure, indebtedness, drought/crop failure and social and economic insecurity. To ameliorate the condition of the farmers, the Government of India approved a rehabilitation package for 31 suicide-prone districts in the four states of Andhra Pradesh (16 districts), Maharashtra (six districts), Karnataka (six districts) and Kerala (three districts). The package involves a total amount of Rs. 16,978.69 crore, consisting of H10,579.43 crore as subsidy/grant and H6,399.26 crore as loan. The state-wise break-up is: Andhra Pradesh H9,650.55 crore, Karnataka H2,689.64 crore, Kerala H765.24 crore and Maharashtra Rs. 3,873.26 crore. The rehabilitation package aims at establishing a sustainable and viable farming and livelihood support system through different

interventions, which include the improved supply of institutional credit, assured irrigation facilities, watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying, fisheries, etc. concerned as well as to all states and UTs for necessary follow up action. An inter-ministerial committee has also been constituted to monitor the progress of the plan of action for the operationalization of the NPF.

5.4.3 LOOKING AHEAD

Though the share of agriculture and allied sector in gross value added (GVA) is on decline, the latest Economic Survey 2017-18 suggests that in the process of inclusive growth in the country, the sector will remain an engine of broad-based growth. This will not only reduce inequalities and poverty but will also strengthen food security. At present, the agriculture sector of the country is experiencing structural changes which are opening up new challenges and opportunities. The initiatives taken by the Government in this regard are multi-dimensional and oriented towards transforming the sector—

- Agricultural marketing
- Initiation of technology
- Adoption of Direct Benefit Transfer (DBT) mode for timely delivery of extension services, credit and other inputs to small and marginal farmers.
- Push in favour of farm diversification so that risks to farm income can be reduced—by facilitating the development of agricultural sub-sectors like livestock and fisheries.

To transform agriculture and allied sector the Economic Survey 2017-18 has suggested the Government to take appropriate policy actions in the following areas—

- Prices of the farm products should remain remunerative to the farmers.
- Agricultural trade should be interlinked in such a way that the benefit of globalisation reaches the farmers.
- Adoption of climate smart agriculture to secure the livelihood and income security of the farmers.
- Need of increased focus on small, marginal and women farmers.

Aimed at making farming remunerative a major announcement, the Union Budget 2018-19 did a major announcement—fixing the minimum support prices (MSP) of the crops 50 per cent above their production cost. Though, the methodology for the calculation of the production cost is yet to be made public by the Government. Experts take this policy initiative as a big boost to the farm sector. As around 85 per cent of farmers in the country don't have marketable surplus (as they are small farmers owning less than five acres of land), experts believe that 'input subsidies' will serve greater purpose in this regard. The delivery of input subsidies to the farm sector needs rationalisation and emphasis through the direct benefit transfer.

5.5 CHECK YOUR PROGRESS

1. NABARD stands for:
    a. National business for agriculture and rural development.
    b. New bank for agricultural and rural development.
    c. National bank of agriculture and rural development.
    d. Nation bank for agriculture and rural development.
2. GDP stands for :
    a. Gross domestic product.
    b. Goods domestic product.
    c. Gross domestic price.
    d. Gross debt price.
3. NAABRD established on:
    a. June 12, 1982
    b. July 12, 1982
    c. may 14, 1983
    d. July 12, 1981
4. KCC Stands for:
    a. Kisan credit card.
    b. Kisan card credit.
    c. Known credit card.

d. Knowledge credit card.

5. APMC stands for:
   a. Agriculture produces market committee
   b. Allied produces market committee
   c. Agriculture product market committee
   d. Allied produces market committee

5.6 SUMMARY

Indian agriculture is the backbone of the entire economy. Economic transformation of a developing country like India crucially depends on performance of its agriculture and its allied sector. This sector plays a significant role in rural livelihood, employment and national food security. The growth of agriculture sector required financial support and government initiatives because agriculture sector facing problems like inadequate resources and lack of advance technology and reducing interest of peoples in agriculture. Farmers can borrow from non-institutional agencies as well as institutional agencies i.e. NABARD, Co-operative Credit Society and RRB. There are various agriculture insurance schemes Pradhan Mantri Fasal Bima Yojana (PMFBY), Restructured Weather Based Crop Insurance Scheme (RWBCIS), Unified Package Insurance Scheme (UPIS), Coconut Palm Insurance Scheme (CPIS) launched by the government to protect the farmer interest. In short, Credit is an important mediating input for agriculture to improve productivity and access to institutional credit enables the farmer to enhance productivity by investing in machinery and purchase of variable inputs like fertilizers, quality seeds, and manure and providing funds till the farmer receives payment from sale of produce, which is at times delayed and staggered.

5.7 KEYWORDS

1. Finance: Finance is a term for matters regarding the management, creation, and study of money and investments.

2. Indebtness: Indebtness is the condition of owing money, or the amount of money owed.

3. Subsidy: ***Subsidy*** is a transfer of money from the government to an entity

4. Agricultural insurance: Agricultural Insurance is a valuable business risk management tool that provides farmers with financial protection against production losses caused by natural perils, such as drought, excessive moisture, hail, frost, wind and wildlife.

5. Agricultural marketing: *agricultural marketing* acts as a process of organizing and managing the production of agricultural products.

5.8 SELF-ASSESSMENT TEST

Q.1 Explain NABARD and its functions in detail.

Q.2 Explain in detail:

1. Co-operative credit society
2. Regional rural banks
3. Commercial banks

Q.3 Explain in detail about agricultural insurance.

Q.4 Explain National Policy for Farmers, 2007 (NPF).

Q.5 Explain agricultural marketing and its types in detail.

5.9 ANSWER TO CHECK YOUR PROGRESS

1. C, 2. A, 3. B, 4. A, 5. A

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: 6 **Industrial Development during the Planning Period and Industrial Policy**	Vetter: **Prof. Anil Kumar**

Structure

6.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To study the objectives of five-year plans.
- To understand the various industrial policies developed in the post-Independence period and need for the same
- To understand the disinvestment and its types.

6.1 INTRODUCTION

Various western economies have already adopted industrialisation which accelerated their economic growth and development by the time India became an independent economy. Independent India needed to revive its economy from a bottom stage. The country had many challenges in front of it—mass poverty, shortage of food grains, healthcare, etc., calling for instant actions. The other areas of attention included industry, infrastructure, science and technology and higher education, to name a few. All these areas of development required heavy capital investment. Increasing the growth of the economy and that too with a faster pace was the urgent need of the economy. As the government had decided upon an active role for the governments in the economy, naturally, the industrial sector was to have a dominant state role. Once this idea of state's role in the economy went for radical change industrial policies of the country. Here we have a brief review of the various five-year plan.

- The First Five Year Plan (1951 to 1956) was formulated with agriculture as high priority sector, in order to reduce the country's dependence on food grain imports, solve the food crisis and ease the raw material problem, particularly in jute and cotton. Almost 45% of the resources was allocated to agriculture, while industry got a paltry 4.9%.
- In the Second Five Year Plan, (1956 to 1961) agriculture was on second priority and more emphasis was on industrial sector, especially heavy goods industry. Agricultural programs were aimed at meeting the raw material requirements of the industry, besides meeting the food needs of the increasing population. Industrial sector was perceived as the leading sector which could enable the economy to grow at a rapid pace.

- In the third Five Year Plan (1961 to 1966), once again agriculture was on top priority. Also, allocation to power sector was enhanced considerably to 14.6% of the total outlay. Power generation was considered an important factor in ensuring rapid growth of the industrial sector, which could lead to a self-sustaining economic growth.
- Instead of the fourth plan, three annual plans were introduced. The economy, which was already in the recession, had to fought with another drought in 1966–67.
- In the Fourth Five Year Plan (1969–70 to 1973–74) more emphasis was given to provide essential benefits to the less privileged and weaker sections of the society through employment and education. The plan also aimed at accelerating the momentum of economic development and improving stability of food grain production.
- The Fifth Five Year Plan (1974–75 to 1978–79), therefore, concentrated on controlling inflation and achieving stability in the economic situation. It also aimed at improving the quality of life of especially the downtrodden section of the economy. Several new economic and non-economic variables, such as nutritional requirements, health and family planning, were incorporated in the planning process.
- The Sixth Five Year Plan (1978–79 to 1982–83 and 1980–81 to 1984–85), sought to achieve higher production targets with increase in employment opportunities for the poorest section of the society. The plan aimed at rapid growth in food grain production, higher employment levels etc., and several special programs were introduced.
- In the Eighth Five Year Plan (1992–93 to 1996–97) several structural adjustment policies were introduced in order to put the country on a higher growth path and remedy the precarious balance of payments situation. These included a substantial devaluation in the value of rupee, dismantling of licensing requirements, reducing trade barriers, reforms in the financial sector and tax systems.
- The purpose of the Ninth Five Year-Plan (1997–98 to 2001–02) was to enhance the living standards of the poor and arrange adequate employment opportunities for them. There were serious efforts to increase the level of agricultural and rural incomes. The plan also intended to control the growth rate of population.

- The Tenth Five Year Plan (2002 to 2007) was framed with the government's vision of doubling per capita income in the country and creating 100 million job opportunities in the next ten years.

6.2 AN OVERVIEW OF INDUSTRIAL POLICIES IN INDIA

For a better understanding of the Indian economy, it is advisable to look into the various industrial polices. The official stances keep changing with every upcoming industrial policy. Understanding these policies become even more important to understand the finer aspects of the reform process which the country will commence by the early 1990s. Here, a brief review of India's industrial policies is being discussed to serve the purpose.

Industrial Policy of 1948

Announced on 8 April, 1948, this policy defined the broad contours of the policy delineating the role of the State in industrial development both as an entrepreneur and authority.

- It made clear that India is going to have a Mixed Economic Model.
- It classified industries into four broad areas:
    - **Strategic Industries** (Public Sector): It included three industries in which Central Government had monopoly. These included Arms and ammunition, Atomic energy and Rail transport.
    - **Basic/Key Industries** (Public-cum-Private Sector): 6 industries viz. coal, iron & steel, aircraft manufacturing, ship-building, manufacture of telephone, telegraph & wireless apparatus, and mineral oil were designated as "Key Industries" or "Basic Industries".
        - These industries were to be set-up by the Central Government.
        - However, the existing private sector enterprises were allowed to continue.
    - **Important Industries** (Controlled Private Sector): It included 18 industries including heavy chemicals, sugar, cotton textile & woollen industry, cement, paper, salt, machine tools, fertiliser, rubber, air and sea transport, motor, tractor, electricity etc.
        - These industries continue to remain under private sector however, the central government, in consultation with the state government, had general control over them.

- **Other Industries** (Private and Cooperative Sector): All other industries which were not included in the above mentioned three categories were left open for the private sector.

- The Industries (Development and Regula-tion) Act was passed in 1951 to implement the Industrial Policy Resolution, 1948.

Industrial Policy of 1956

The government was encouraged by the impact of the industrial policy of 1948 and it was only after eight years that the new and more crystallised policies were announced for the Indian industries. The new industrial policy of 1956 had the following major provisions.

- It was regarded as the "Economic Constitution of India" or "The Bible of State Capitalism".
- The 1956 Policy emphasised the need to expand the public sector, to build up a large and growing coop-erative sector and to encourage the separation of ownership and management in private industries and, above all, prevent the rise of pri-vate monopolies.
- It provided the basic framework for the government's policy in regard to in-dustries till June 1991.
- IPR, 1956 classified industries into three categories
    - Schedule A consisting of 17 industries was the exclusive responsibility of the State. Out of these 17 industries, four industries, namely arms and ammunition, atomic energy, railways and air transport had Central Government monopolies; new units in the remaining industries were developed by the State Governments.
    - Schedule B, consisting of 12 industries, was open to both the private and public sectors; however, such industries were progressively State-owned.
    - Schedule C- All the other industries not included in these two Schedules constituted the third category which was left open to the pri-vate sector. However, the State reserved the right to undertake any type of indus-trial production.
- The IPR 1956, stressed the importance of cottage and small scale industries for expand-ing employment opportunities and for wider decentralisation of economic power and activity

- The Resolution also called for efforts to maintain industrial peace; a fair share of the proceeds of production was to be given to the toiling mass in keeping with the avowed objectives of democratic socialism.
- Criticism: The IPR 1956 came in for sharp criticism from the private sector since this Resolution reduced the scope for the expan-sion of the private sector significantly.
    - The sector was kept under state control through a system of licenses.
- Industrial Licenses
    - In order to open new industry or to expand production, obtaining a license from the government was a prerequisite.
    - Opening new industries in economically backward areas was incentivised through easy licensing and subsidization of critical inputs like electricity and water. This was done to counter regional disparities that existed in the country.
    - Licenses to increase production were issued only if the government was convinced that the economy required more of the goods.

Industrial Policy of 1973

The Industrial Policy Statement of 1973 introduced some new thinking into the economy with major ones being as follows:

- A new classificatory term i.e., a core industry was created. The industries which were of fundamental importance for the development of industries were put in this category such as iron and steel, cement, coal, crude oil, oil refining and electricity. In the future, these industries came to be known as basic industries, infrastructure industries in the country.
- Out of the six core industries defined by the policy, the private sector may apply for licences for the industries which were not a part of schedule A of the Industrial Policy, 1956. The private firms eligible to apply for such licences were supposed to have their total assets at Rs. 20 crore or more.
- Some industries were put under the reserved list in which only the small or medium industries could be set up.15

- The concept of 'joint sector' was developed which allowed partnership among the Centre, state and the private sector while setting up some industries. The governments had the discretionary power to exit such ventures in future. Here, the government wanted to promote the private sector with state support.
- The Government of India had been facing the foreign exchange crunch during that time. To regulate foreign exchange, the Foreign Exchange Regulation Act (FERA) was passed in 1973.16 Experts have called it a 'draconian' Act which hampered the growth and modernisation of Indian industries.
- A limited permission to foreign investment was given, with the multinational corporations (MNCs) being allowed to set up subsidiaries in the country.

Industrial Policy of 1977

- In December 1977, the Janata Government announced its New Industrial Policy through a statement in the Parliament.
- The main thrust of this policy was the effective promotion of cottage and small industries widely dispersed in rural areas and small towns.
- In this policy the small sector was classified into three groups—cottage and household sector, tiny sector and small scale industries.
- The 1977 Industrial Policy prescribed different areas for large scale industrial sector- Basic industries, Capital goods industries, High technology industries and Other industries outside the list of reserved items for the small scale sector.
- The 1977 Industrial Policy restricted the scope of large business houses so that no unit of the same business group acquired a dominant and monopolistic position in the market.
- It put emphasis on reducing the occurrence of labour unrest. The Government encouraged the worker's participation in management from shop floor level to board level.
- Criticism: The industrial Policy 1977, was subjected to serious criticism as there was an absence of effective measures to curb the dominant position of large scale units and the policy did not envisage any socio-economic transformation of the economy for curbing the role of big business houses and multinationals.

Industrial Policy of 1980

The year 1980 saw the return of the same political party at the Centre. The new government revised the Industrial Policy of 1977 with few exceptions in the Industrial Policy Resolution, 1980. The major initiatives of the policy were as given below:

i. Foreign investment via the technology transfer route was allowed again (similar to the provisions of the IPS, 1973).
ii. The 'MRTP Limit' was revised upward to Rs. 50 crore to promote setting of bigger companies.
iii. The DICs were continued with.
iv. Industrial licencing was simplified.
v. Overall liberal attitude followed towards the expansion of private industries.

Industrial Policy of 1991 or New Industrial Policy

It was the industrial policies of past which had shaped the nature and structure of the Indian economy. The need of the hour was to change the nature and structure of the economy by early 1990s. The Government of India decided to change the very nature of the industrial policy which will automatically lead to change in the nature and scope of the economy. And here came the New Industrial Policy of 1991. With this policy the government kick-started the very process of reform in the economy, that is why the policy is taken more as a process than a policy.

Background: India was faced with severe balance of payment crisis by June 1991. Basically, in early 1990s, there were inter-connected set of events, which were growing unfavourable for the Indian economy:

i. Due to the Gulf War (1990–91), the higher oil prices were fastly23 depleting India's foreign reserves.
ii. Sharp decline in the private remittances from the overseas Indian workers in the wake of the Gulf War, specially from the Gulf region.
iii. Inflation peaking at nearly 17 per cent.
iv. The gross fiscal deficit of the Central Government reaching 8.4 per cent of the GDP. By the month of June 1991, India's foreign exchange had declined to just two weeks of import coverage.

India's near miss with a serious balance of payments (BOP) crisis was the proximate cause that started India's market liberalisation measures in 1991 followed by a gradualist approach. As the reforms were induced by the crisis of the Bop. The initial phase focussed on macroeconomic stabilisation while the reforms of industrial policy, trade and exchange rate policies, foreign investment policy, financial and tax reforms as well as public sector reforms did also follow soon.

The financial support India received from the IMF to fight out the BOP crisis of 1990–91 were having a tag of conditions to be fulfilled by India. These IMF conditionalities required the Indian economy to go for a structural re-adjustment. As the nature and scope of the economy were moulded by the various industrial policies India did follow till date, any desired change in the economic structure had to be induced with the help of another industrial policy. The new industrial policy, announced by the government on 23 July, 1991 had initiated a bigger process of economic reforms in the country, seriously motivated towards the structural readjustment naturally obliged to 'fulfill' IMF conditionalities. The major highlights of the policy are as follows:

1. De-reservation of the Industries: The industries which were reserved for the Central Government by the IPR, 1956, were cut down to only eight. In coming years many other industries were also opened for private sector investment. At present there are only two industries which are fully or partially reserved for the Central Government:
    i. Atomic energy and nuclear research and other related activities, i.e., mining, use management, fuel fabrication, export- import, waste management, etc., of radioactive minerals (none of the nuclear powers in the world have allowed entry of private sector players in these activities, thus no such attempts look logical in India, too).
    ii. Railways (many of the functions related to the railways have been allowed private entry, but still the private sector cannot enter the sector as a full-fledged railway service provider).
2. De-licencing of the Industries: The number of industries put under the compulsory provision of licencing (belonging to Schedules B and C as per the IPR, 1956) were cut down to only 18. Reforms regarding the area were further followed and presently there are only five industries30 which carry the burden of compulsory licencing:
    i. Aerospace and defence related electronics

ii. Gun powder, industrial explosives and detonating fuse
iii. Dangerous chemicals
iv. Tobacco, cigarette and related products
v. Alcoholic drinks

3. Abolition of the MRTP Limit: The MRTP limit was Rs. 100 crore so that the mergers, acquisitions and takeovers of the industries could become possible. In 2002, a competition Act was passed which has replaced the MRTP Act. In place of the MRTP commission, the Competition Commission has started functioning (though there are still some hitches regarding the compositional form of the latter and its real functions and jurisdictions).
4. Promotion to Foreign Investment: Functioning as a typical closed economy, the Indian economy had never shown any good faith towards foreign capital. The new industrial policy was a path breaking step in this regard. Not only the draconian FERA was committed to be diluted, but the government went to encourage foreign investment (FI) in both its forms—direct and indirect. The direct form of FI was called as the foreign direct investment (FDI) under which the MNCs were allowed to set up their firms in India in the different sectors varying from 26 per cent to 100 per cent ownership with them— Enron and Coke being the flag-bearers. The FDI started in 1991 itself. The indirect form of foreign investment (i.e., in the assets owned by the Indian firms in equity capital) was called the portfolio investment scheme (PIS) in the country, which formally commenced in 1994.31 Under the PIS the foreign institutional investors (FIIs) having good track record are allowed to invest in the Indian security/stock market. The FIIs need to register themselves as a stock broker with SEBI. It means India has not allowed individual foreign investment in the security market still, only institutional investment has been allowed till now.
5. FERA Replaced by FEMA: The government committed in 1991 itself to replace the draconian FERA with a highly liberal FEMA, which same into effected in the year 2000–01 with a sun-set clause of two years.
6. Location of Industries: Related provisions were simplified by the policy which was highly cumbersome and had time- consuming process. Now, the industries were classified into

'polluting' and 'non-polluting' categories and a highly simple provision deciding their location was announced:

i. Non-polluting industries might be set up anywhere.
ii. Polluting industries to be set up at least 25 kms away from the million cities.

7. Compulsion of Phased Production Abolished: With the compulsion of phased production abolished, now the private firms could go for producing as many goods and models simultaneously. Now the capacity and capital of industries could be utilised to their optimum level.
8. Compulsion to Convert Loans into Shares Abolished: The policy of nationalisation started by the Government of India in the late 1960s was based on the sound logic of greater public benefit and had its origin in the idea of welfare state—it was criticised by the victims and the experts alike. In the early 1970s, the Government of India came with a new idea of it. The major banks of the country were now fully nationalised (14 in number by that time), which had to mobilise resources for the purpose of planned development of India. The private companies who had borrowed capital from these banks (when the banks were privately owned) now wanted their loans to be paid back. The government came with a novel provision for the companies who were unable to repay their loans (most of them were like it)—they could opt to convert their loan amounts into equity shares and hand them over to the banks. The private companies which opted this route (this was a compulsory option) ultimately became a government-owned company as the banks were owned by the Government of India—this was an indirect route to nationalise private firms. Such a compulsion which hampered the growth and development of the Indian industries was withdrawn by the government in 1991.

6.2.1 OUTCOMES OF NEW INDUSTRIAL POLICIES

- The 1991 policy made 'Licence, Permit and Quota Raj' a thing of the past. It attempted to liberalise the economy by removing bureaucratic hurdles in industrial growth.
- Limited role of Public sector reduced the burden of the Government.
- 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, Export Processing Zones, Agri-Export Zones, Special Economic Zones and lately National Investment and Manufacturing Zones emerged. All these have benefitted the export sector of the country.

6.2.2 LIMITATIONS OF INDUSTRIAL POLICIES IN INDIA

- Stagnation of Manufacturing Sector: Industrial policies in India have failed to push manufacturing sector whose contribution to GDP is stagnated at about 16% since 1991.
- Distortions in industrial pattern owing to selective inflow of investments: In the current phase of investment following liberalisation, while substantial investments have been flowing into a few industries, there is concern over the slow pace of investments in many basic and strategic industries such as engineering, power, machine tools, etc.
- Displacement of labour: Restructuring and modernisation of industries as a sequel to the new industrial policy led to displacement of labour.
- Absence of incentives for raising efficiency: Focussing attention on internal liberalisation without adequate emphasis on trade policy reforms resulted in ‘consumption-led growth’ rather than ‘investment’ or ‘export-led growth’.
- Vaguely defined industrial location policy: The New Industrial Policy, while emphasised the detrimental effects of damage to the environment, failed to define a proper industrial location policy, which could ensure a pollution free development of industrial climate.

6.3 WAY FORWARD

- Industrial policies in India have taken a shift from predominantly socialistic pattern in 1956 to Capitalistic since 1991.
- India now has a much liberalised industrial policy regime focusing on increased foreign investment and lesser regulations.

- India ranked 77th on World Bank's Doing Business Report 2018. Reforms related to insolvency resolution (Bankruptcy and Insolvency Act, 2017) and the Goods and Services Taxes (GST) are impressive and will result in long-term gains for the industrial sector.
- Campaigns such as Make in India and Start up India have helped to enhance the business ecosystem in the country.
- However, electricity shortages and high prices, credit constraints, high unit labour costs due to labour regulations, political interference and other regulatory burdens continue to remain challenges for firm growth of the industrial sector in India.
- There is a need for a new Industrial Policy to boost the manufacturing sector in the country. Government in December 2018 also felt the need to introduce a new Industrial Policy that would be a road map for all business enterprises in the country.

6.4 DISINVESTMENT

Disinvestment is a process of selling government equities in public sector enterprises. Disinvestment in India is seen connected to three major inter- related areas, namely—

- A tool of public sector reforms
- A part of the economic reforms started in mid-1991. It has to be done as a complementary part of the 'de- reservation of industries'.
- Initially motivated by the need to raise resources for budgetary allocations.

The approach towards public sector reforms in India has been much more cautious than that of the other developing countries. India did not follow the radical solution to it—under which outright privatisation of commercially viable PSUs is done and the unviable ones are completely closed. There was an emphasis on increasing functional autonomy of public sector organisations to improve their efficiency in the 1980s in India as part of the public sector reforms. Once the process of economic reforms started in the early 1990s, disinvestment became a part of the public sector reforms. The C. Rangarajan Commission on Disinvestment of the Public Sector Enterprises (1991) went on to suggest the government on the issue in a highly commendable and systematic way, taking empirical notes from the experiences of disinvestment around the world. The government started the process of disinvestment in 1991 itself. In 1997 the government did set up a Disinvestment Commission to advice upon the

various aspects of the disinvestment process. The financial year 1999– 2000 saw a serious attempt by the government to make disinvestment a political process to expedite the process of disinvestment in the country—first a Disinvestment Department and later a full- fledged Ministry of Disinvestment was set up. The new government (UPA) dismantled the Ministry of Disinvestment and today only the Department of Disinvestment is taking care of the matter, working under the Ministry of Finance

6.4.1 TYPES OF DISINVESTMENT

Since the process of disinvestment was started in India (1991), its consisted of two official types. A brief discussion on them is given below:

1. Token Disinvestment: Disinvestment started in India with a high political caution in a symbolic way known as the 'token' disinvestment (presently being called as 'minority stake sale'). The general policy was to sell the shares of the PSUs maximum upto the 49 per cent (i.e., maintaining government ownership of the companies). But in practice, shares were sold to the tune of 5–10 per cent only. This phase of disinvestment though brought some extra funds to the government (which were used to fill up the fiscal deficit considering the proceeds as the 'capital receipts') it could not initiate any new element to the PSUs, which could enhance their efficiency. It remained the major criticism of this type of disinvestment, and experts around the world started suggesting the government to go for it in the way that the ownership could be transferred from the government to the private sector. The other hot issue raised by the experts was related to the question of using the proceeds of disinvestment.
2. Strategic Disinvestment: In order to make disinvestment a process by which efficiency of the PSUs could be enhanced and the government could de-burden itself of the activities in which the private sector has developed better efficiency (so that the government could concentrate on the areas which have no attraction for the private sector such as social sector support for the poor masses), the government initiated the process of strategic disinvestment. The government classifying the PSUs into 'strategic' and 'non-strategic' announced in March 1999 that it will generally reduce its stake (shareholding) in the 'non-strategic' public sector enterprises (PSEs) to 26 per cent or below if necessary and in the 'strategic' PSEs (i.e., arms and ammunition; atomic energy and related activities; and railways) it will retain its majority holding. There was a

major shift in the disinvestment policy from selling small lots of share in the profit-making PSUs (i.e., token disinvestment) to the strategic sale with change in management control both in profit and loss-making enterprises. The essence of the strategic disinvestment was—

- The minimum shares to be divested will be 51 per cent, and
- The wholesale sale of shares will be done to a 'strategic partner' having international class experience and expertise in the sector.

This form of disinvestment commenced with the Modern Food Industries Ltd. (MFIL). The second PSU was the BALCO which invited every kind of criticism from the opposition political parties, the Government of Chhattisgarh and experts, alike. The other PSUs were CMC Ltd, HTL, IBPL, VSNL, ITDC (13 hotels), Hotel Corporation of India Ltd. (3 hotels), Paradeep Phosphate Ltd (PPL), HZL, IPCL, MUL and Lagan Jute Manufacturing Company Ltd. (LJMC)—a total number of 13 public sector enterprises, were part of the 'strategic sale' or 'strategic disinvestment' of the PSEs. The new government at the Centre did put this policy of strategic disinvestment on the hold practically and came up with a new policy in place.

6.4.2 CURRENT DISINVESTMENT POLICY

The disinvestment policy of India has been evolving after the introduction of New Industrial Policy 1991. The philosophy behind the policy is:

- Public ownership of PSUs to be promoted as they are wealth of nation
- Government to hold minimum 51 per cent shares in case of 'minority stake sale
- Up to 50 per cent or more shares might be sold off under 'strategic disinvestment'

The current policy of disinvestment followed by the government is as given below:

A. Minority stake sale (the policy of November 2009 continues):
    - Listed PSUs to be taken first to comply to minimum 25 per cent norm;
    - New PSUs to be listed which have earned net profit in three preceding consecutive years;
    - 'Follow-on' public offers on case by case basis once capital investment needed; and
    - DIPAM (Department of Investment and Public Asset Management) to identify PSUs and suggest disinvestment in consultation with respective ministries.

B. Strategic Disinvestment i.e., selling 50 per cent or more shares of the PSUs (announced in February 2016):

- To be done through consultation among Ministries/Departments and NITI Aayog;
- NITI Aayog to identify PSUs and advice on its different aspects; and
- CGD (Core Group of Secretaries on Disinvestment) to consider the recommendations of NITI Aayog to facilitate a decision by the CCEA (Cabinet Committee on Economic Affairs) and to supervise/monitor the implementation process.
- The disinvestment policy is now appears as an effort of the Government's all-inclusive management of its investment in the PSUs. In this policy, the Government considers its investment in PSUs as a significant asset for increasing the speed of economic growth. Further, Government is dedicated to effective use of disinvestment to achieve best return through the leveraging of assets, capital and financial restructuring; collecting fresh investments by improving investors' confidence; and efficient management through rationalization of decision making process.

6.5 CHECK YOUR PROGRESS

1. An "open economy" is an economy in which:

   a) Foreign investment is allowed
   b) Export as well as import take place
   c) Foreigners can stay for an indefinite time period
   d) License is not required to start a business

2. Which of the following was not an objective of 1956 industrial policy:

   a) Develop heavy and machine making industry
   b) Development of cooperative sector
   c) Expansion of public sector
   d) None of the above

3. Which of the following industries require compulsory licensing?

   a) Drugs and pharmaceuticals

b) Alcohol

c) Tobacco

d) All of the above

4. Which of the following industries were de-reserved in 1993?

a) Atopic minerals

b) Mining of copper and zinc

c) Atomic energy

d) Railways

5. The industrial policy,1991 was criticized on number of points. Which of the following was not one of them?

a) Misplaced faith in foreign investment

b) Erratic industrial growth

c) Neglect of agricultural sector

d) Threat from foreign investment

6. Who is the nodal agency for disinvestment in India?

a) Department of Economic Affairs

b) Department of Financial Services

c) Department of Revenue

d) Department of Investment and Public Asset Management

7. Where do proceeds from disinvestment of public sector enterprises is credited into?

a) Consolidated Fund of India

b) Contingency Fund of India

c) National Investment Fund

d) Both in 1 and 2 option

6.6 SUMMARY

Industrial development in India is based on the introduction of industrial policies because

industrial policies are formed with the objectives of industrial growth. If past data are observed then it can be found that introduction of industrial policies results into tremendous changes in the Indian Economy. This growth can be verified from 1970s to 1980s when average annual growth rate was continuously increasing. Further, industrialization plays an important role in the economic development of developing country like India. Industrial development is required for increase in GDP, standard of living, balanced economic growth and increase in per capita income. We can conclude from the above discussion that industrial growth is primary requirement of a country and it is based on the industrial policies which are formed time to time. Industrial policies are very advantageous for India but there is nothing without drawbacks. However, Government of India is trying best to remove these drawbacks. Further, various schemes such as Start-up India, Skill India, Digital India, Smart City and Atal innovation scheme were started by the government to uplift the manufacturing sector. In 2014 "Make in India" was announced by our Prime Minister Sh. Narendra Modi to make India a global manufacturing hub.

Government takes necessary steps for the uplifting the Indian Economy but no one is perfect. Thus, sometimes these steps and decision went wrong and results into financial loss. To overcome this loss, government choose the option of disinvestment which was started in1991. Thus, Government opt every possible option that can helpful for industrial development and reject those decision which are not beneficial for economic development.

6.7 KEYWORDS

- **Industry:** is a group of manufacturers or businesses that produce a particular kind of goods or services.
- **Disinvestment:** Disinvestment is a process of selling government equities in public sector enterprises.
- **Foreign Direct Investment**: A foreign direct investment is an investment in the form of a controlling ownership in a business in one country by an entity based in another country**.**
- **Foreign portfolio investment:** A foreign portfolio investment is a grouping of assets such as stocks, bonds, and cash equivalents. Portfolio investments are held directly by an investor or managed by financial professionals.

- **Liberalisation:** Liberalisation refers to eliminating government regulations and restrictions and is a practice to make laws, systems less severe.

6.8 SELF-ASSESSMENT TEST

Q.1 What are the silent features of New Industrial Policy, 1991?

Q.2 Describe disinvestment and its various types.

Q.3 What are the various limitations of Industrial Policies in India?

Q.4 Explain the outcomes of implementation of Industrial Policies.

Q.5 Elaborate various schemes launched by the Govt. of India to provide pace to the Industrial Policy, 1991.

Q.6 Discuss the pre reform period in industrial sector.

Q.7 What is meant by industrialization? Discuss the role of industrialization.

Q.8 State in brief the objectives of the New Industrial Policy, 1991.

Q.9 Identify the key policy parameters need to be taken into consideration for new economic strategy.

Q.10 What policy changes should be made in India's trade and industrial policies to ensure rapid growth of GDP, while maintaining adequate macro-economic balance?

6.9 ANSWERS TO CHECK YOUR PROGRESS

1 b)

2. d)

3. b)

4 c)

5. d)

6. d)

7. c)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: 7 **National manufacturing Policy**	Vetter: **Prof. Anil Kumar**

Structure

7.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To know the meaning of National Manufacturing Policy.
- To know the objectives of NMP.
- To understand the Key policy initiatives.

7.1 NATIONAL MANUFACTURING POLICY

The Government of India has announced a national manufacturing policy with the objective of enhancing the share of manufacturing in GDP to 25% within a decade and creating 100 million jobs. It also seeks to empower rural youth by imparting necessary skill sets to make them employable. Sustainable development is integral to the spirit of the policy and technological value addition in manufacturing has received special focus. The share of manufacturing in India's GDP has stagnated at 15-16% since 1980 while the share in comparable economies in Asia is much higher at 25 to 34%. Inadequate physical infrastructure, complex regulatory environment and inadequate availability of skilled manpower have constrained the growth of manufacturing in India.

7.2 OBJECTIVES OF NMP

- Increase manufacturing sector growth to 12–14% over the medium term to make it the engine of growth for the economy and enable it to contribute at least 25% of the National GDP by 2022.
- Create 100 million additional jobs by 2022.
- Create appropriate skill sets among the rural migrant and urban poor to make growth inclusive.
- Increase domestic value addition and technological depth in manufacturing.
- Enhance global competitiveness of Indian manufacturing through appropriate policy support.
- Ensure sustainability of growth, particularly with regard to the environment Including energy efficiency, optimal utilization of natural resources, and restoration of damaged/ degraded eco-systems.

7.3 POLICY INSTRUMENTS

7.3.1 RATIONALIZATION AND SIMPLIFICATION OF BUSINESS REGULATIONS

- The policy notes that on an average, a manufacturing unit needs to comply with nearly 70 laws and regulations. Apart from facing multiple inspections, these units have to file sometime as many as 100 returns in a year.

- This kind of compliance burden puts-off young entrepreneurs and they are not willing to take up an entrepreneurial role. As a result, a large number of people who could have been self-employed and would contribute to further employment and enhance economic activity, end up accepting jobs much below their potential.
- The policy suggests that Central/ State Governments may provide exemptions subject to fulfilment of conditions as provided in the statute. SPV may act as a facilitator in this regard. Mechanisms may be developed for cooperation of public or private institutions with government inspection services under the overall control of statutory authorities.
- In respect of laws and regulations pertaining to environment, Central/State Governments may delegate the power as allowed by the relevant statutes to an official of the State Pollution Control Board (SPCB) posted in the zone.
- The Environmental Clearances for NIMZ units under the EIA Notification, 2006 shall be considered on a high priority, and the units thereon will be exempted from public hearing provided under the EIA Notification, 2006 in cases where such estates have undergone public hearing as a whole. Further, facilitative instructions and guidelines may be issued at the Central and State level from time to time aiming at promotion of NIMZ investment while safeguarding environmental integrity.

7.3.2 SIMPLE AND EXPEDITIOUS EXIT MECHANISM

Continuation of non-viable businesses leads to locking of funds and capital assets, which can be more productively deployed for generation of higher output, incomes and employment. An expeditious exit mechanism is therefore essential for investments locked up in businesses. The National Manufacturing Policy seeks to introduce policy measures to facilitate the expeditious redeployment of assets belonging to non-viable units, while giving full protection to the interests of the employees.

7.3.2.1 JOB LOSS POLICY

Under Section 25FFF of the Industrial Disputes Act there is a mandatory requirement to pay compensation equivalent to fifteen days' average pay for every completed year of continuous service, or any part thereof in excess of six months. Under the Job Loss Policy, it is for firms operating in the NIMZs to insure workers against loss of employment in the event of a unit requiring to close down, or

to reduce the workforce, due to financial constraints. This policy will be utilized for payment of compensation to workers at the time of closure or right sizing of the company if circumstances require them to do so.

7.3.2.2 SINKING FUND

As an alternative to job loss policy, the SPV can opt for a sinking fund mechanism to be funded by contributions as decided by the SPV. The terms and conditions for the creation and operation of the fund will be notified by the Central Government /State Governments. A certain minimum level of money commensurate with the expected liabilities will at all times be maintained in the sinking fund. The fund shall be continuously recouped in case money is drawn from the same. In case of the sinking fund route also, the worker compensation may be equivalent to twenty days' average pay for every completed year of continuous service or any part thereof in excess of six months.

7.3.2.3 COMBINATION OF THE TWO MECHANISMS

The SPV may opt either for a job loss policy or a sinking fund or a combination of the two for example the SPV may buy a policy out of the sinking fund. The SPV can evolve any other suitable option/arrangement also. The SPV will be responsible to ensure that other statutory payments like EPF contribution and ESI are kept up to date. Subject to such arrangements being in place, to the satisfaction of Government, the assets of any sick unit could be allowed to be redeployed by freeing from the charge of the labour dues.

7.3.2.4 ASSET REDEVELOPMENT

The transfer of assets belonging to a firm which has been declared sick will be facilitated by the SPV of the concerned NIMZ. Such facilitation will be part of the contractual agreement between the SPV and the firm at the time of allotment of land and shall be initiated by the SPV provided the concerned firm is able to provide a 'Non- Encumbrance Certificate' after clearing all the dues, including statutory dues, to its creditors and to its employees. The mediation undertaken by the SPV will be aimed at realising the best value for the assets which can then be re-deployed for other productive purposes.

7.3.2.5 EXEMPTION FROM CAPITAL GAINS TAX

Relief from capital gains tax on sale of plant and machinery of a unit located in a nimz will be granted in case of re-investment of sale consideration within a period of three years for purchase of new plant & machinery in any other unit located in the same nimz or another nimz. This measure is proposed to encourage re-investment of income generated from the disposal of assets (other than land) owned by a company operating within the nimz, in the manufacturing sector.

7.3.3 TECHNOLOGY ACQUISITION AND DEVELOPMENT

Technology development and upgradation is critical in attaining the stated objectives of the policy. Going up the technology ladder is the quickest way to become globally competitive and ensure sustained growth of the manufacturing sector. This will depend not just on development of indigenous technological expertise, but also on the ability to make crucial technology acquisitions in the global market. In today's world, green technology is not a choice but an imperative for sustainable development. Availability of affordable technologies has always been a constraint on our manufacturing growth. Adoption and/or adaptation of these technologies entail costs which are substantial especially for smes. Hence, there is a need for supporting adoption of green technologies and resource conservation practices.

- The national manufacturing policy will leverage the existing incentives/schemes of the government of india and also introduce new mechanisms to promote green technologies
- This will necessitate specification of clear definitions/eligibility criteria for what can be categorized as 'clean and green'. The system for defining and implementing greener and cleaner technology shall be devised which would address the following issues:
  - Objective criteria will be prescribed by a Committee called the Green Manufacturing Committee (GMAC) comprising representatives from the concerned Ministries/Departments of the Central Government and relevant sectoral experts from outside government. The criteria will be consistent with the objective of the national action plan on climate change and the strategy for inclusive sustainable development.
  - The criteria will be reviewed by the Committee annually as technology is

dynamic and evolving constantly.

- SPV of NIMZ will be enjoined with the responsibility of ensuring project compliance with the above-mentioned criteria set-up by the Committee and also put up the cases for incentives after due diligence. The onus of proving 'cleaner'/'greener'/'energy efficient' will be on the claimant subject to third party certification by an agency/expert drawn from a panel approved by the GMAC. The claimant will provide clear, objective information on the product/technology throughout the lifecycle from manufacture to disposal. **In case of industrial areas/establishments located outside the NIMZ, the administrative body established through relevant statutes of the Central/State Governments shall perform the role of the SPV.**

7.3.3.1 TECHNOLOGY ACQUISITION AND DEVELOPMENT FUND (TADF)

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 equipment's used for controlling pollution and reducing energy consumption.

- Operation, Monitoring and Review of the Fund will be done by the Green Manufacturing Committee. Green Manufacturing Committee will be comprised of representatives from the concerned Ministries/Departments of the Central Government and relevant sectoral experts from outside government. GMAC will give incentives for Green Manufacturing.
- **Technology Acquisition and Development Fund** will also function as an autonomous patent pool and licensing agency. It will purchase Intellectual Property (IP) rights to inventions from patent holders. Any company that wants to use the IP to produce or develop products can seek a license from the pool against the payment of royalties. This company may then produce the product for use in specified geographical areas subject to meeting agreed quality standards. The TADF would reserve the right to license more than one company for a particular patent.

7.3.3.2 GREEN MANUFACTURING – INCENTIVES

i) Environmental Audit	
Environmental audit will be mandatory for industrial and institutional units in NIMZs	Audit will be carried out by the industrial/institutional units through external auditors/firms drawn from an approved panel of environmental auditors. The panel as approved by the GMAC will be maintained by the SPV. 25% grant to SMEs for expenditure incurred on audits subject to a maximum of Rs.1 lakh and subject to improvements/correctives effected. Third party certification in this case will cover certification of the corrective action. The audit for each industrial/institutional unit will be done as per applicable legislations and rules.
ii) Water Conservation	
Water Audit will be mandatory for industrial and institutional units in NIMZ	(i) Audit will be carried out mandatorily by the industrial/institutional units through external auditors/firms drawn from an approved panel of environmental auditors. The panel as approved by the GMAC will be maintained by the SPV. (ii) 25% grant to SMEs for expenditure incurred on audits subject to maximum of Rs.1 lakh. (iii) The water audit will be done as per applicable legislations and rules (iv) Exemption from water cess: Sec.16 of the Water Cess (Amendment) Act, 2003, provides *inter alia* that the Central Government may by notification exempt any industry

	consuming water below the quantity specified in the notification from the levy of water cess.
iii) Wastewater treatment	(i) Mandatory treatment of waste-water by every industry as per CPCB and PCB norms. (ii) Units practicing zero water discharge will be eligible for 10% one-time capital subsidy on the relevant equipment/systems subject to actual usage for one year and third-party certification (panel approved by GMAC). (iii) Rebate on Water Cess to industries setting-up wastewater recycling facilities as per Water Cess Act, 1977.
iv) Rain Water Harvesting	Will be compulsory for the developer, all industrial/ institutional units as per guidelines to be formulated by the GMAC.
v) Renewable Energy	Appropriate incentives under the existing schemes of Government of India and State Governments will be available for specific projects.
vi) Green buildings	All buildings (more than 2,000 sqm built up area) in the NIMZ including industrial/institutional/ commercial/residential which obtain green rating under the Indian Green Building Council (IGBC/LEED) or GRIHA systems will be eligible for an incentive of Rs.2 lakhs.

7.3.3.3 COMPULSORY LICENSING

- On occasion, a company may be unable to access the latest patented green technology, which can substantially reduce its carbon footprint, because of its inability to obtain a voluntary license from the patent holder. This could arise for two reasons. First, the cost of obtaining such voluntary license could be a barrier for the company. Second, the patent holder could be unwilling to part with the license, or it is not available at reasonable rates or it is not being worked in India.

- To address the first issue, the Technology Acquisition and Development Fund will also function as an autonomous patent pool and licensing agency. It will purchase Intellectual Property (IP) rights to inventions from patent holders. Any company that wants to use the IP to produce or develop products can seek a license from the pool against the payment of royalties. This company may then produce the product for use in specified geographical areas subject to meeting agreed quality standards. The TADF would reserve the right to license more than one company for a particular patent.
- To address the second issue, the Fund will have the option to approach the Government for issue of a Compulsory License for the technology which is not being provided by the patent holder at reasonable rates or is not being worked in India to meet the domestic demand in a satisfactory manner. Such compulsory licenses will be issued only within the provisions of TRIPS. Reasonable royalty will be paid to the patent holder.

7.3.4 INDUSTRIAL TRAINING AND SKILL UPGRADATION MEASURES

It is estimated that between 2007-2017, 85 million persons will be added to the labour force. The growth of total employment during this period, based on the assumptions about employment elasticity and sectoral GDP growth rates, is estimated at 116 million. With incremental job opportunities in agriculture being negative, entire projected increase in workers will be accommodated in the manufacturing and services sectors. Additional job opportunities in manufacturing alone are estimated at 24.5 million during 2006-2017 . All these jobs would require sector and skill specific trained workforce. Since only 6% of the Indian workforce receives any form of vocational training currently, there is a pronounced 'skill gap' both in terms of quality and quantity. Overall skill gap would be significantly larger than the incremental workforce as even the existing workforce would need retraining/skill specific training. Recognizing the urgency of interventions needed to address both the qualitative and quantitative gaps in skill development, the National Manufacturing Policy proposes to create a three-tier structure for skill development, namely:

I. Skill building among large number of minimally educated workforce;

II. Relevant vocational and skill training through establishment of ITIs in PPP mode.

III. Specialized skill development through establishment of Polytechnics;

IV. Establishment of Instructor's Training Centre in each NIMZ.

7.3.4.1 SKILL-BUILDING AMONG THE MINIMALLY EDUCATED WORKFORCE

I. Skill-building in this segment would include 'farm to work', and 'school to work' programmes targeted at the minimally educated workforce entering the non- agricultural sector for the first time and seeking seasonal employment. This group will be trained for low skill categories as loaders, cleaners, etc., as well as for skills of basic operations on the factory shop-floor, basic machine operations, and compliance with safety and quality requirements based on the ability and aptitude of trainees and the area specific skill gaps identified. Skill- building will also cover behavioral aspects pertaining to the urban-industrial work culture — timeliness, reporting, and ability to work in an organized set-up.

II. These will be demand driven short-term training courses based on modular employable skills (mes) prescribed by dget. The courses will be of short duration so that the opportunity cost of being away from productive work opportunities during training period is minimized.

III. Efforts of private sector companies/institutions, directly or through their nonprofit arms, on skill upgradation, will be scaled up with appropriate incentives and infrastructural support, through a mix of viability gap funding and weighted deductions. To encourage private sector to effectively participate in the skill development initiative, the government will provide a weighted standard deduction of 150% of the expenditure (other than land or building) incurred on public private partnership (ppp) projects for skill development in manufacturing sector in separate facilities in coordination with nsdc.

IV. Training and course content in local languages will be ensured.

V. The apprenticeship concept is the most important intermediary step for improving employability of the workers. There hardly exists any institutionalized infrastructure

which matches an apprenticeship candidate to an employer; an employer to a candidate; and a trained apprentice to a job. The apprenticeship programme will be remodeled so that it becomes effective on the job training rather than mere compliance with the act without any focus on the outcome. Its scope will be widened to cover most sectors of the economy in consultation with industry and industry associations. This remodeling of the apprenticeship programme will be done by the ministry of labour and employment.

VI. In a nimz, the spv will undertake skill upgradation in co-ordination with the national skill development corporation (nsdc):

A) Preference will be given to the local residents in the first five years of operation and training will be extended to others only if all the available seats are not filled up by the local residents.

B) Independent certification and assessment by third party agencies acceptable to the industry will be mandatory to ensure quality standards and employment.

C) The spv and the service provider will undertake appropriate awareness and publicity campaign in local electronic/print media and organise meetings in different locations for mobilization and selection of trainees.

D) Wherever necessary, boarding and lodging facilities will be provided to the trainees by the spv and service provider for trainees from the remote locations. In other cases, trainees will be provided with to-and- fro transport and food.

7.3.4.2 ESTABLISHMENT OF POLYTECHNICS

Initiatives in this area would include setting up of institutes of specialized learning such as a specialized Polytechnic for the automobile sector, or a Polytechnic focused on high-tech manufacturing and semi- conductors for the electronics sector, or one that fosters innovation and product development in the IT/ITES sector. These institutes will be crucible for specialized skills in the workforce as well as for upgrading skills of the existing workforce. Central Government will give Viability Gap Funding for setting up of these polytechnics covering the capital cost as per the VGF guidelines of the Ministry of Finance. Such funding will also be available to SPV in NIMZ. The mode

of operationalization will be the same as discussed above for ITIs. Accreditation will be done as per the existing norms of the government.

7.3.4.3 ACCESS TO FINANCE

One of the major challenges faced by SMEs is inadequate access to adequate and timely finance, mainly due to lack of financial information and non-formal business practices. They are largely dependent on promoters' resources and loans from financial institutions and banks.

- **Capital Markets:** are difficult to access, due to high costs, difficulties in complying with regulatory requirements etc.
- **Promoters' equity:** by its very nature, can provide only limited access to funding.
- **Bank finances:** access is limited, due to the inability of SMEs to create tangible assets, as also the debt-equity ratio norms followed by banks. Inadequate capital infusion, resulting in denial of adequate bank finance, is one of the basic reasons of sickness in such units.
- **Venture Capital/ Private Equity Funds:** First generation entrepreneurs, investing in SMEs, have also found access to VC funds difficult, despite the Venture Capital (VC) and Private Equity (PE) market having grown considerably in India. As per industry sources, there are over 250 VC/PE firms operating in India and the total private equity investments in the calendar year 2010, until September, 2010, stood at $7.18 billion. However, VC/PE firms exhibit a marked preference to invest in medium and large sized firms. The reasons for this include greater costs of monitoring of SME units, non-formal operating structures, inadequate levels of disclosure, etc.

7.3.5 POLICY PROPOSALS FOR IMPROVING ACCESS TO FINANCE FOR SMES IN THE MANUFACTURING SECTOR.

A. Rollover relief from long term capital gains tax to individuals on sale of a residential property (house or plot of land) in case of re-investment of sale consideration in the equity of a new start-up sme company in the manufacturing sector for the purchase of new plant and machinery. This would enable a large number of entrepreneurs to raise equity by selling of ancestral properties and to raise the level of investments in the smes

in the manufacturing sector, apart from boosting employment.

B. Tax pass-through status for venture capital funds(vcf) with a focus on smes in the manufacturing sector. These vcfs will be required to be registered under the securities and exchange board of india (venture capital funds) regulations 1996 and appropriately notified under the income tax act.

C. Liberalization of rbi norms for banks investing in venture capital funds with a focus on smes in the manufacturing sector, will be taken up in consultation with rbi.

D. Liberalization of irda guidelines to provide for investments by insurance companies in venture capital funds with a focus on smes in the manufacturing sector, will be taken up in consultation with irda.

E. Setting up of a stock exchange for smes and implementation of sebi's *'framework for recognition and supervision of stock exchanges/ platforms of stock exchanges for smes",* which is expected to boost the access of vc funds to small and medium enterprises.

F. Implementation of the recommendations made by the *'task force on micro small and medium enterprises (msme)',* presented to the prime minister on 31 january, 2010.

7.3.5.1 SERVICE ENTITY FOR COLLECTION AND PAYMENT OF STATUTORY DUES OF SMES

The compliance burden of laws and regulations is particularly severe on smes. By their very nature, smes have limited manpower and resources which could be used more fruitfully in production activities if there is a mechanism to take care of the statutory compliances. For instance, there are a number of payouts which a company has to make under the epf act; employees' pension scheme; esi act; payment of gratuity act; personal injuries act; workman's compensation act; etc. It is proposed that the setting up of one or more service organizations will be considered to undertake the responsibility of collecting dues from the companies and making the necessary payouts in return for a charge linked to the wage bill of the company. If this role can be played by an insurance company, the exit mechanism as envisaged in chapter 3 can also be part of the functions of this organization. Such an organization(s) can be licensed

by the government and the industry will have the option to use the services of such licensed organization. The statutory liabilities under the laws would however be of the companies themselves.

7.3.6 SPECIAL FOCUS SECTORS

- While the proposals in this policy paper are sector neutral, it is proposed to identify special focus sectors where india can be cost competitive and which would generate maximum employment. These sectors would need sector specific policy interventions. Some of these sector specific policy interventions are already in place. Their efficacy would need to be examined and wherever necessary additional measures would need to be introduced. The priority sectors as identified in the planning commission and nmcc papers are:
    a) Employment intensive industries like textiles and garments; leather and footwear; gems and jewellery; and food processing.
    b) Capital goods like machine tools; heavy electronic equipment; heavy transport, earth moving and mining equipment; high technology equipment like telecom, power, ICT and electronic hardware.
    c) Strategic industries like aerospace; shipping; IT and electronic hardware; renewable energy; solar wind etc., defence equipment.
    d) Industries where India enjoys a comparative advantage like automotive; pharmaceuticals.
- UNIDO has identified textiles; chemicals; basic metals; machinery and equipment and electrical machinery, as sectors in which India leads among developing countries
- This is an illustrative list of sectors which could be amended from time to time in keeping with the evolving economic situation. Ministries/Departments dealing with these sectors would need to come out with specific policy interventions to ensure that Indian industry is cost competitive viz-a-viz the other major players in those fields.

7.3.7 LEVERAGING INFRASTRUCTURE DEFICIT AND GOVERNMENT PROCUREMENT

- Government procurement is a major policy instrument for strengthening

manufacturing industry and development of technological competence. Historically many countries have used it in their path to development. Some countries have resorted to it in response to the recent economic crisis.

- Government procurement with stipulation of local value addition will be used in areas where we can club Government procurement needs over a number of years to create the volumes and scales which would enable the development of domestic manufacturing capabilities; in particular, capabilities in critical technological areas like LED, solar energy equipment, IT hardware and IT based security systems and fuel efficient transport equipment such as hybrid and electric automobiles.
- Similar steps will be taken in respect of the infrastructure sectors where government agencies are importing equipment to a large extent. The infrastructure deficit and requirement of equipment in each area viz power; roads and highways; railways; aviation; and ports can be assessed over a number of years to create the volumes and scales which would enable the development of domestic manufacturing capabilities in these areas as well. On the basis of a very rough calculation, it can be said that if the infrastructure deficit is leveraged to the extent of the required equipment, the manufacturing sector growth could be enhanced by close to 3 percentage points per annum which is a substantial increase

7.3.8 CLUSTERING AND AGGREGATION, THAT IS, ESTABLISHMENT OF NATIONAL INVESTMENT AND MANUFACTURING ZONES (NIMZS)

The National Investment and Manufacturing Zones (NIMZs) will be developed as integrated industrial townships with state-of-the art infrastructure and land use on the basis of zoning; clean and energy efficient technology; necessary social infrastructure; skill development facilities, etc., to provide a productive environment to persons transitioning from the primary sector to the secondary and tertiary sectors. These NIMZs would be managed by SPVs which would ensure master planning of the Zone; pre-clearances for setting up the industrial units to be located within the zone and undertake such other functions as specified in the various sections of this policy. To enable the NIMZ to function as a self-governing and autonomous

body, it will be declared by the State Government as an Industrial Township under Art 243 Q(c) of the Constitution. In sum, the NIMZs would be large areas of developed land, with the requisite eco-system for promoting world class manufacturing activity. They would be different from SEZs in terms of size, level of infrastructure planning, and governance structures related to regulatory procedures and exit policies.

7.3.8 LAND FOR NIMZS

a) **Size of land for NIMZ** – An NIMZ would have an area of at least 5000 hectares in size.

b) **Availability of land**- The State Government will be responsible for selection of land suitable for development of the NIMZ including land acquisition if necessary. The land may constitute:

I. Government owned land;
II. Private lands falling within the proposed NIMZ, to be acquired by the State Government;
III. Land under existing industrial areas/estates/sick and defunct units including PSUs.

Guiding principles- Following guiding principles will be applied by the State Government for the purpose

I. Preferably in waste lands; infertile and dry lands not suitable for cultivation;
II. Use of agricultural land to the minimum;
III. All acquisition proceedings to specify a viable resettlement and rehabilitation plan;
IV. Reasonable access to basic resources like water;
V. It should not be within any ecologically sensitive area or closer than the minimum distance specified for such an area.

c) **Ownership** – It is left to the State Government to adopt a model that it considers most workable. It may:

I. Keep the ownership with state government itself;
II. transfer the ownership to a state government undertaking;
III. Have joint ownership with a private partner
IV. Adopt any other appropriate model.

d) Irrespective of the model adopted, the state government will ensure that the land can be mortgaged by the prospective allottees for securing financial assistance from banks/FIs.

e) After identification of the land, it will be the responsibility of the state government to get the environmental impact study conducted for a prospective NIMZ. DIPP in consultation with Ministry of Environment and Forests will notify designated agencies for conducting the study.

f) At least 30% of the total land area proposed for the NIMZ will be utilized for location of manufacturing units. The states may reserve a certain percentage of the land as appropriate, in a zone, for MSMEs.

g) The State Government will bear the cost of the resettlement and rehabilitation package for the owners of acquired lands, if any. An arrangement to recover the costs could be put in place in collaboration with the SPV.

7.3.8.1 ADMINISTRATIVE STRUCTURE FOR NIMZS

The administrative structure of NIMZ will comprise of a Special Purpose Vehicle, a developer, State Government and the Central Government.

7.3.8.2 SPECIAL PURPOSE VEHICLE (SPV):

The Central Government shall, by notification in the Official Gazette, notify an NIMZ. An SPV will be constituted to exercise the powers conferred on, and discharge the functions assigned to it under this Policy to manage the affairs of the NIMZ. Every SPV shall be a legal entity by the name of the NIMZ. This SPV can be a company, including a Section 25 company depending upon the MOU between stakeholders.

7.3.8.3 CONSTITUTION OF SPV

Keeping in view the financial participation of different stakeholders (govt., public sector or private participants), an appropriate financial and administrative structure of the SPV will be agreed to among different stakeholders giving due representation to nominees of different stakeholders on the Board of SPV. The CEO of the SPV will be a senior Central/State government official. The SPV will include an official/expert conversant with the work relating to pollution control/environmental protection. There shall be a provision to have a suitable representation of the allottees and subsequently the industrial

units.

7.3.8.4 FUNCTIONS OF SPV

I. Each SPV will undertake such tasks/measures as it thinks fit for the development, growth, operation and management of the NIMZ. These tasks/measures will include:

II. Master planning of the Zone.

III. Preparation of a strategy for development of the Zone and an action plan for self-regulation to serve the purpose of the policy. These shall be submitted to the Board of Approval.

IV. Selection of Developer/Co-developers for the development and maintenance of infrastructure internal to the NIMZ;

V. Formulation of rules and procedures for development, operation, regulation and management of the NIMZ and enforcement of the above rules and Master Plan.

VI. Obtaining prior environmental clearance under the provisions of EIA Notification 2006, if the area is more than 500 ha and the clearances under the Air and Water Act as applicable to an individual unit, which clearances would be expedited/facilitated by SPV.

VII. Working out an arrangement with the State Government regarding revenue streams including levy of user or service charges or fees or rent for the use of infrastructure/properties in the NIMZ and creation of specific mechanisms for specialized services. As far as possible, land to manufacturing industry will be provided on land cost plus development charge basis with the option of payment in installments. Workers' housing will be provided at reasonable rates with cross subsidization from high end residential/commercial areas, if necessary.

VIII. Promotion of investment, both foreign and domestic, into the NIMZ;

IX. Implementation of Resettlement and Rehabilitation package; Any other function as may be decided mutually between state government and other stakeholders.

7.3.9.5 State Government

7.3.9.5.1 Water Requirement

In keeping with the overall master plan, the SPV will work out the requirement of water both for industrial and housing activities. The state government, as far as possible, will allocate surface water from sources from which it would be viable to draw water for the NIMZ. The NIMZ would be enabled to have/own facilities for tapping/extraction, treatment and distribution of water. There should be a long-term agreement with SPV on water rate payable on raw water linked to WPI or any other suitable index.

7.3.9.5.2 Power connectivity-

The generation, transmission and distribution of electricity in NIMZ will be facilitated as follows:

I. State Government will facilitate the creation of captive power plants by Private Players (including the SPV of the NIMZ) with full authority for generation, transmission and distribution. The units will also be allowed to seek open access as per the regulations of the State Electricity Regulatory Commission;

II. The SPV or its agent, for the NIMZ shall be deemed to have license to supply electricity and develop the distribution network for the same and shall be deemed to be a licensee under section 14 of Electricity Act, 2003;

III. The SPV or its agent will have an option to purchase electricity for NIMZ from any State Electricity Company/Corporation or any other generator of electricity including Central PSU.

7.3.9.5.3 Central Government

The Department of Industrial Policy and Promotion will act as the nodal agency for the central government in matters pertaining to the NIMZs. The application for setting-up of NIMZ will be forwarded by the state to the DIPP for approval. DIPP will constitute a Board of Approval, which will consider all applications for establishment of NIMZs and approve such proposals as are found feasible. Each NIMZ will be notified separately by DIPP. In case an amendment is required to the concept and design of the project, as encapsulated in the preliminary project report submitted by the State Government, the same will be considered by the Board of Approval.

Role:

I. The central government will bear the cost of master planning for the nimz;

II. The central government will improve/provide external physical infrastructure linkages to the nimzs including rail, road (national highways), ports, airports, and telecom, in a time bound manner. This infrastructure will be created/upgraded through public private partnerships to the extent possible. Viability gap funding through existing schemes will be provided. Wherever necessary, requisite budgetary provisions for creation of these linkages will also be made;

III. The central government through its institutions and schemes will provide institutional infrastructure for productivity, quality (testing facilities etc.) And design capabilities, encouraging innovation and skill development within the nimz;

IV. The central government will undertake, along with the state government concerned, the promotion of domestic as well as global investments in nimzs;

V. Any other role as mentioned in specific sections of this policy.

7.3.9.5.4 FUNDING OF INTERNAL INFRASTRUCTURE IN AN NIMZ

Infrastructure development in an nimz would require large investments which cannot be drawn solely from public financing. Such projects have long gestation periods and substantial lead time before income streams commence. While latent demand may exist for the zone, its actual materialization will take place only when the infrastructure projects have been implemented and technical tie-ups have been made. It is envisaged that the infrastructure development of the zone will in a large number of cases be undertaken by private developers. Given the afore-stated nature of this activity, there is a need to provide appropriate financial support/incentives to the developers.

FOR THIS PURPOSE:

I. Viability Gap Funding (VGF): Under the Ministry of Finance 'Scheme for Support to Public Private Partnerships in Infrastructure' in the form of capital grant at the stage of project construction will be given as per the VGF guidelines. The total Viability Gap Funding under this scheme shall not exceed twenty percent of the total project cost. Additionally, the State Government or its agencies may also provide funding out of

their budget as may be feasible.

II. Long term soft loans from multilateral financial institutions: Soft loans from multilateral institutions will be explored for funding infrastructure development in NIMZ. Assistance would be provided for negotiating non-sovereign multilateral loans by providing back-to-back support, if necessary.

III. External Commercial Borrowings: The developers of NIMZs will be allowed to raise ECBs for developing the internal infrastructure of the NIMZs.

7.3.9 TRADE POLICY

- Trade policy impacts significantly on the domestic production level and profile. The import and export regime, whether tariffs or export promotion measures constitute important policy instruments which shape a country's production profile. With increasing globalization and international engagement, it is critical that these policy instruments be aligned carefully so that domestic manufacturing is not adversely impacted.
- Trade policy is no longer restricted to border measures. International trade rules now encompass measures which are more internal to an economy than just border measures, for example, public/government procurement. Government procurement can be a significant domestic policy instrument by which industry can be seeded/supported through local value addition requirements.
- The policy will take active measures to protect export of products and services from India from border taxes or other border measures that may be imposed by partner countries on the grounds of protection of environment including those related to GHG emissions reduction.
- NMCC will be authorized to examine and make recommendations on duty structures and other measures to the extent that they impact the manufacturing sector in order to ensure that changes therein do not adversely affect the manufacturing sector.

7.4 CHECK YOUR PROGRESS

Q.1 The transfer of assets belonging to a firm which has been declared sick will be facilitated by the SPV is termed as?

1. Assets Acquisition.

2. Assets Transfer

3. Asset Redevelopment

4. Assets innovation

Q.2 What includes in Composition of administrative structure of NIMZs?

1. Special Purpose Vehicle

2. State Government and the Central Government

3. Developer

4. All the above

Q.3 At least Size requirement of Land for NIMZ?

1. 20000 hectares

2. 70000 hectares

3. 30000 hectares

4. 50000 hectares

Q.4 Exemption from Capital Gains Tax subjects to provision under NMP.

1. 50% exemption on capital gain

2. 100% on reinvestment of capital gain

3. Fully taxable

4. Fully exempted without any condition

Q.5 SPV will work out the requirement of water from state government?

1. Industrial activities

2. Industrial and housing activities

3. Housing activities

4. None of above

7.5 SUMMARY

The contribution of services sector in GDP has been improved continuously after the independence but manufacturing sectors growth is not up to marks. The government of India announced National Manufacturing Policy 2011 to boost up the share of manufacturing sector in GDP upto 25% by the end of 2022. The policy focused on empower rural youth by providing skills development training and target to create 100 million jobs. National Investment and Manufacturing Zones was another important instrument of NMP to develop world class industrial townships. The government of India wants to increase the contribution of the manufacturing sector in GDP with the help of NMP.

7.6 KEYWORDS

- **Job Loss Policy:** This policy will be utilized for payment of compensation to workers at the time of closure or right sizing of the company if circumstances require them to do so.
- **Asset Redevelopment:** The mediation undertaken by the SPV will be aimed at realising the best value for the assets which can then be re-deployed for other productive purposes.
- **Technology Acquisition and Development Fund (TADF):** 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 equipment's used for controlling pollution and reducing energy consumption.
- **NIMZs:** National Investment and Manufacturing Zones are an important instrument of manufacturing policy. The objective of the NIMZ policy is to spur the manufacturing sector by bringing in domestic and foreign investments.
- **SPV:** special purpose vehicle will be constituted to exercise the powers conferred on, and discharge the functions assigned to it under this Policy to manage the affairs of the NIMZ.

7.7 SELF- ASSESSMENT TEST

1. What is National Manufacturing Policy? Define the objectives of NPM.

2. Explain the exit mechanism of National Manufacturing Policy.

3. Define the Technology Acquisition and Development under NPM.

4. Define the National Investment and Manufacturing Zones (NIMZs).

5. Define the Special Purpose Vehicle and also explain the purpose of SPV.

7.8 ANSWER TO CHECK YOUR PROGRESS

1. Asset Redevelopment
2. All the above
3. 50000 hectares
4. 100% on reinvestment of capital gain
5. Industrial and housing activities

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **8** **MSME: Importance, Problems and Govt. Policy**	Vetter: **Prof. Anil Kumar**

Structure

8.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To understand the role of MSMEs in Indian Economy
- To study the problems of MSMEs in India
- To study the recent development in MSMEs in India.

8.1 INTRODUCTION

The Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. It contributes significantly in the

economic and social development of the country by fostering entrepreneurship and generating large employment opportunities at comparatively lower capital cost, next only to agriculture. MSMEs are complementary to large industries as ancillary units and this sector contributes significantly in the inclusive industrial development of the country. The MSMEs are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets.

The Micro, Small and Medium Enterprises Development (MSMED) Act was notified in 2006 to address different issues affecting MSMEs, inter alia, the coverage and investment ceiling of the sector. The MSMED Act seeks to facilitate the development of these enterprises as also enhance their competitiveness. The MSMED Act has the following key provisions:

- Establishment of a National Board for Micro, Small and Medium Enterprises headed by the Minister for MSME. The role of the Board is to examine the factors affecting the promotion and development of MSMEs, review the policies and programmes of the Central Government and make recommendations in regard to facilitating the promotion and development and enhancing their competitiveness.
- It provides the legal framework for recognition of the concept of "enterprise" which comprises both manufacturing and service entities. It defines medium enterprises for the first time and seeks to integrate the three tiers of these enterprises, namely, Micro, Small and Medium.
- It empowers the Central Government to undertake programmes and issue guidelines and instructions to develop and enhance the competitiveness of MSMEs.

In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small and Medium Enterprises (MSME) are classified as below:

Existing and Revised Definition of MSMEs

Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment<Rs. 25 lac	Investment<Rs. 5 cr.	Investment <Rs. 10 cr.
Services Enterprise	Investment<Rs. 10 lac	Investment< Rs. 2 cr.	Investment<Rs. 5 cr.

Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment< Rs. 1 cr. and Turnover < Rs.5 cr.	Investment< Rs. 10 cr. and Turnover < Rs.50 cr.	Investment< Rs. 20 cr. and Turnover < Rs.100 cr.

Source: msme.gov.in

I. a micro enterprise, where the investment in plant and machinery or equipment does not exceed one crore rupees and turnover does not exceed five crore rupees;

II. a small enterprise, where the investment in plant and machinery or equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees; and

III. a medium enterprise, where the investment in plant and machinery or equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

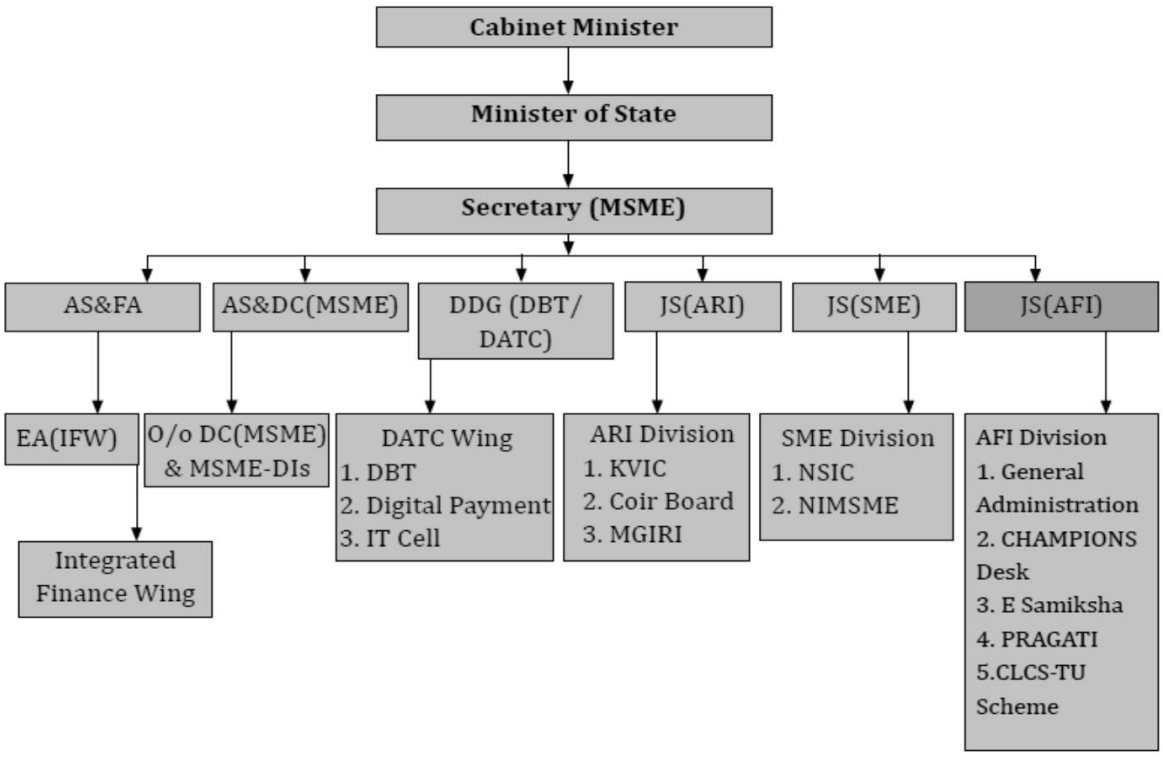
The new classification has come into effect from 1st July, 2020. The earlier criterion of classification of MSMEs under MSMED Act, 2006 was based on investment in plant and machinery / equipment. It was different for manufacturing and services units. It was also very low in terms of financial limits. Since then, the economy has undergone significant changes. A revision in MSME criteria of classification was announced in the Atamnirbhar Bharat package on 13th May, 2020. This has been done in order to be realistic with time and to establish an objective system of classification and to provide ease of doing business.

As a result, a new composite criteria of classification for manufacturing and service units has been notified on 26.06.2020, with guidelines regarding composite criteria to facilitate the present and prospective entrepreneurs. Now, there will be no difference between manufacturing and service sectors. Also, a new criterion of turnover has been added in the previous criteria of classification based only on

investment in plant and machinery. The new criterion is expected to bring about many benefits that will aid MSMEs to grow in size. It has also been decided that the turnover with respect to exports will not be counted in the limits of turnover for any category of MSME units whether micro, small or medium. This is yet another step towards ease of doing business. This will help in attracting investments and creating more jobs in the MSME sector. The change in criteria of classifying the MSMEs is set to offer major relief to the exporters. With this change in criteria of classification of MSMEs the Government has also done away with the difference between manufacturing and services.

The primary responsibility of promotion and development of MSMEs is of the State Governments. However, the Government of India, supplements efforts of the State Governments through various initiatives. The role of the Ministry of MSME and its organisations is to assist the States in their efforts to encourage entrepreneurship, employment and livelihood opportunities and enhance the competitiveness of MSMEs in the changed economic scenario.

ORGANISATIONAL STRUCTURE OF MSME



Source: https://msme.gov.in/

8.1.1 ROLE OF MSMES IN INDIAN ECONOMY

The Micro, Small & Medium Enterprises (MSMEs) have been contributing significantly to the expansion of entrepreneurial endeavours through business innovations. The MSMEs are widening their domain across sectors of the economy, producing diverse range of products and services to meet demands of domestic as well as global markets. As per the data available with Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the contribution of MSME sector in Country's Gross Value Added (GVA) and Gross Domestic Product (GDP) at current prices from 2014-15 to 2018-19 is presented in table below:

Table 8.1-Share of Gross Value Added (GVA) of MSME in all India GDP

Year	Total MSME GVA	Growth (%)	Total GVA	Share of MSME in GVA (%)	All India GDP	Share of MSME in All India GDP (in %)
2014-15	3658196	-	11504279	31.80	12467959	29.34
2015-16	4059660	10.97	12574499	32.28	13771874	29.48
2016-17	4502129	10.90	13965200	32.24	15391669	29.25
2017-18	5086493	12.98	15513122	32.79	17098304	29.75
2018-19	5741765	12.88	17139962	33.50	18971237	30.27

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

The contribution of Manufacturing MSMEs in the country's total Manufacturing GVO (Gross Value of Output) at current prices has also remained constant at around 33% i.e. one-third during the period from 2014-15 to 2018-19.

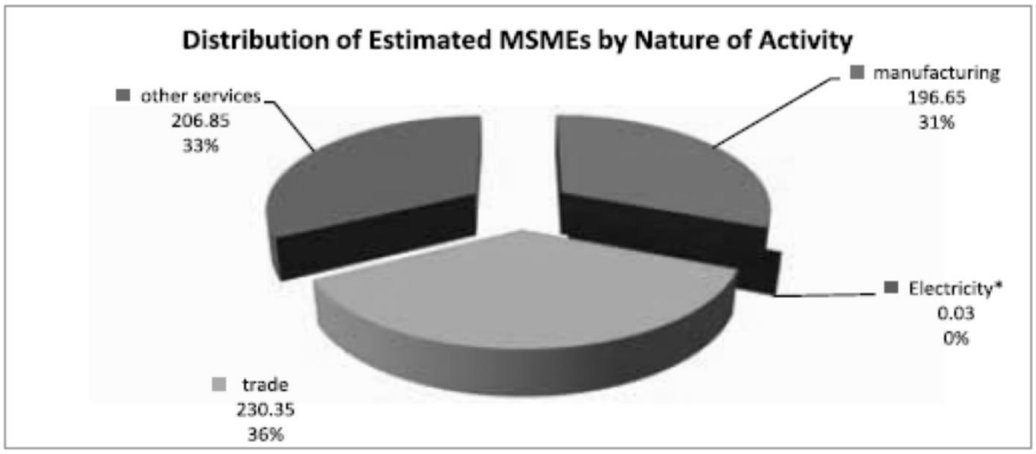
The MSMEs in India are playing a crucial role by providing large employment opportunities at comparatively lower capital cost than large industries as well as through industrialization of rural & backward areas, inter alia, reducing regional imbalances, assuring more equitable distribution of national income and wealth. Table 8.2 shows the distribution of MSMEs activity wise. As per the National Sample Survey (NSS) 73rd round, conducted by National Sample Survey Office, Ministry of Statistics & Programme Implementation during the period 2015-16, there were 633.88 lakh

unincorporated non-agricultural MSMEs in the country engaged in different economic activities-196.65 lakh in Manufacturing, 0.03 lakh in Non-captive Electricity Generation and Transmission, 230.35 lakh in Trade and 206.85 lakh in Other Services) excluding those MSMEs registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948, Companies Act, 1956 and Construction activities falling under Section F of National Industrial Classification (NIC) 2008.

Table 8.2-Estimated Number of MSMEs (Activity Wise)

Activity Category	Estimated Number of Enterprises (in lakh)			Share (%)
	Rural	Urban	Total	
(1)	(2)	(3)	(4)	(5)
Manufacturing	114.14	82.50	**196.65**	**31**
Electricity*	0.03	0.01	**0.03**	**0**
Trade	108.71	121.64	**230.35**	**36**
Other Services	102.00	104.85	**206.85**	**33**
All	**324.88**	**309.00**	**633.88**	**100**

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation



Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

Micro sector with 630.52 lakh estimated enterprises accounts for more than 99% of total estimated number of MSMEs. Small sector with 3.31 lakh and Medium sector with 0.05 lakh estimated

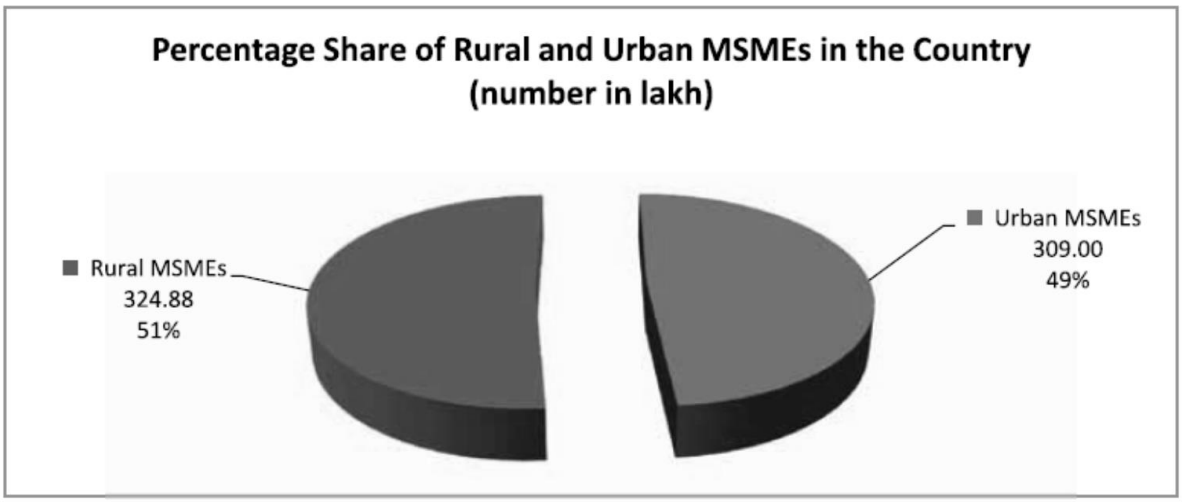
MSMEs accounted for 0.52% and 0.01% of total estimated MSMEs, respectively. Out of 633.88 estimated number of MSMEs, 324.88 lakh MSMEs (51.25%) are in rural area and 309 lakh MSMEs (48.75%) are in the urban areas. Statement No. 2.2 and figure 2.2 shows the distribution of enterprises in rural and urban Areas.

The socially backward groups owned almost 66.27% of MSMEs. Bulk of that was owned by OBCs (49.72%). The representation of SC and ST owners in MSME sector was low at 12.45% and 4.10% respectively. In rural areas, almost 73.67% of MSMEs were owned by socially backward groups, of which 51.59% belonged to the OBCs. In urban areas, almost 58.68% belonged to the socially backward groups, of which 47.80% belonged to the OBCs.

Table 8.3-Percentage Distribution of enterprises by social group of owners in rural and urban Areas

Sector	Micro	Small	Medium	Total	Share (%)
(1)	(2)	(3)	(4)	(5)	(6)
Rural	324.09	0.78	0.01	324.88	51
Urban	306.43	2.53	0.04	309.00	49
All	**630.52**	**3.31**	**0.05**	**633.88**	**100**

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation



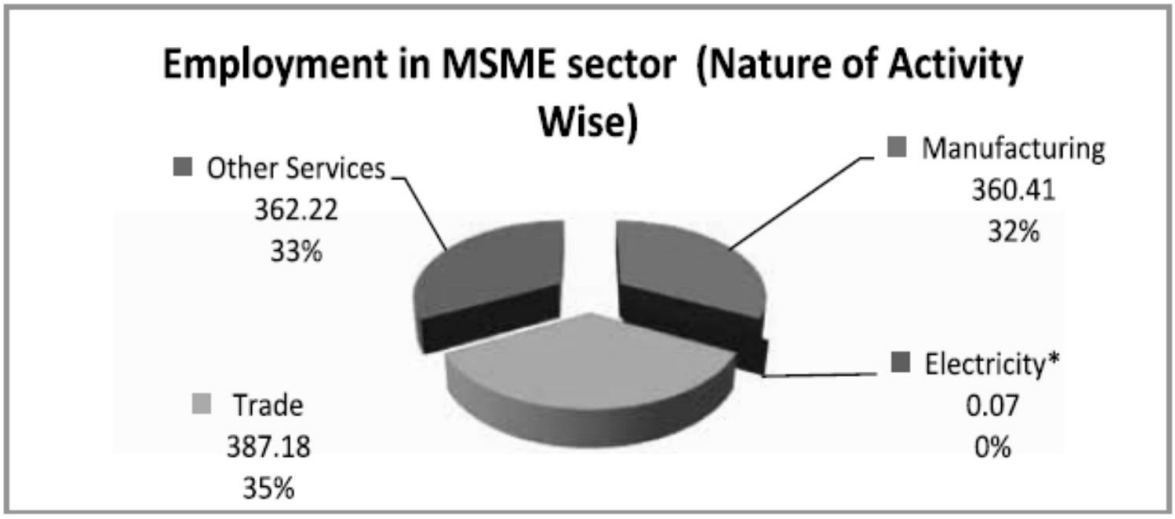
Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

As per the National Sample Survey (NSS) 73rd round conducted during the period 2015-16, MSME sector has been creating 11.10 crore jobs (360.41 lakh in Manufacturing, 0.07 lakh in Non-captive Electricity Generation and Transmission, 387.18 lakh in Trade and 362.82 lakh in Other Services) in the rural and the urban areas across the country.

Table 8.3-Estimated Employment in the MSME Sector (Activity Wise)

Broad Activity Category	Employment (in lakh)			Share (%)
	Rural	Urban	Total	
(1)	(2)	(3)	(4)	(5)
Manufacturing	186.56	173.86	360.41	32
Electricity*	0.06	0.02	0.07	0
Trade	160.64	226.54	387.18	35
Other Services	150.53	211.69	362.22	33
All	**497.78**	**612.10**	**1109.89**	**100**

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation



Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

Micro sector with 630.52 lakh estimated enterprises provided employment to 1076.19 lakh persons that in turn accounts for around 97% of total employment in the sector. Small sector with 3.31 lakh and Medium sector with 0.05 lakh estimated MSMEs provided employment to 31.95 lakh (2.88%) and 1.75 lakh (0.16%)persons of total employment in MSME sector, respectively. Out of 1109.89 lakh employees in MSME sector, 844.68 (76%) are male employees and remaining 264.92 lakh (24%) are females. Table 8.4 shows the distribution of employment sector wise in Rural and Urban Areas.

Table 8.4- Distribution of employment by type of Enterprises in Rural and Urban Areas

Sector	Micro	Small	Medium	Total	Share (%)
Rural	489.30	7.88	0.60	**497.78**	**45**
Urban	586.88	24.06	1.16	**612.10**	**55**
All	1076.19	31.95	1.75	**1109.89**	**100**

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

State of Uttar Pradesh had the largest number of estimated MSMEs with a share of 14.20% of MSMEs in the country. Top 10 States accounted for a share of 74.05% of the total estimated number of MSMEs in the country.

8.1.2 PROBLEMS OF MSMES IN INDIA

1. Inadequacy of finance: India's MSME sector faces a major problem in terms of getting adequate credit for expansion of business activities. Out of the total credit disbursed to the industry by banking sector, MSME sector receives only 17% and large-scale industry receives around 83%.48 Banks have also been mandated to provide 40% of aggregated net bank credit to priority sector comprising agriculture, small-scale industry, microfinance, etc. Though priority sector targets are accomplished by banks on paper, banks are reluctant to lend to small-scale sector because of low recovery rates. And whenever they lend to MSMEs, banks insist against the spirit of RBI guidelines. The government in order to meet the structural adjustment program conditionality imposed credit restrictions on small-scale industries during the post-reform phase,

which placed the small-scale firms in triple bind. The first bind was credit squeeze, second bind was bias against lending the small firms, and the third bind was large firms buying intermediate goods and other inputs from small firms delayed payments to small firms because of credit squeeze.

2. Industrial sickness: In India, there were 4,80,280 sick MSMEs with outstanding loan of 32,674 crore. Among the various reasons for industrial sickness, the three major reasons were lack of demand, shortage of working capital, and marketing problems. Among all the registered units declared sick, lack of demand accounted for sickness in 72% of MSMEs, whereas shortage of working capital and marketing problems accounted for sickness in 48% and 45% of MSMEs, respectively. For unregistered units, these figures are 84, 47, and 41%, respectively.
3. External competition: In India, the small-scale sector was provided with special protection and patronage through reservation policy in 1967. The number of reserved items stood at 836 during 1989. The de-reservation during post-reform period and dumping by China created a non-level playing field causing loss and closure of small-scale units in India. Removal of quantitative restrictions and lowering of tariff turned tides against Indian firms and they lost market because of cheaper imports. The MSMEs characterized as they are by unviable scale, obsolete technology, supply chain inefficiencies, and unskilled workers are urged by the new policy paradigm to transform to innovative and globally competitive businesses. Least they miss this moment—the moment that promises a great leap forward. What is perhaps forgotten is that the plight of Indian MSMEs is a sheer reflection of the informal and fragmented economic and social framework within which they function. Reforming MSMEs, hence, becomes part of the fundamental project of redrawing political strategies to address the structural infirmities in resource distribution and use.
4. Infrastructural constraints: A SIDBI report in 2010 conducted a survey on 200 MSMEs across the country and found that the major concern to MSMEs from the point of view of their growth and development is non-availability of infrastructure support. Lack of proper infrastructural facilities can cause serious damages to an enterprise's value chain process, like production, consumption, and distribution of the products. There is a need for common infrastructure projects for MSMEs. MSMEs, through coming together and sharing the costs of infrastructure,

which are otherwise prohibitive for individual MSMEs, could benefit from economies of scale, synergy, and collective bargaining by collaborating with each other particularly on aspects of common infrastructure, common facilities, raw material procurement, marketing and transportation of finished goods, testing laboratory, common tooling/machining, research and development, etc.

5. Technological constraints: Technology plays a vital role in an economy, particularly in its developmental phase. In this era of globalization, the MSME sector needs to compete not just at the local or the national level but also at the global level. Access to modern technology is acting as a serious threat to the growth of the sector. Unless the sector equips itself with the latest technologies, processes, and machinery, it will not be in a position to meet the stringent quality standards set by the international buyers. Though India has a vast pool of technical talent with a well-developed intellectual infrastructure, the country still scores low in the matter of developing and adopting new technologies in the MSME sector. The MSME sector today needs an effective information system to support and deliver information to different users. Such information systems will be used to provide an effective interface between users and computer technology and will also provide information for managers on the day-to-day operations of the enterprises.
6. Marketing problems: To withstand the onslaught of competition from large enterprises within and outside, MSMEs need to respond promptly to the evolving marketing needs and innovations. The sector needs to be provided better market access facilities in order to sustain and further enhance its contribution toward output, employment generation, and exports. Even today, most small businesses in India are set up by first generation entrepreneurs. They often have a product or service idea and some fervor to work hard. However, the limited market access namely capital access, brand promotion solutions, marketing support, logistics and sales support, and information and communication technology (ICT) support stalls the fervor to take the enterprise to next level. MSMEs in India are broadly unaware of technology solutions as less than 6% of Indian MSMEs have access to personal computers and advertise online.

8.1.3 GOVERNMENT SCHEMES FOR THE DEVELOPMENT OF MSMES

1. Prime Minister's Employment Generation Programme (PMEGP): The scheme was launched on August 15, 2008 and aims at generating employment opportunities in rural as well as urban areas of the country through setting up of new self-employment ventures or microenterprises. The scheme also aims to help arrest the migration of rural youth to urban areas and increasing the wage-earning capacity of artisans.
2. Credit Linked Capital Subsidy Scheme (CLCSS): Launched on October 01, 2000, the objective of the Scheme is to facilitate technology upgradation in Micro and Small Enterprises (MSEs) by providing capital subsidy of 15% (limited to maximum of `15.00 lakhs) on institutional finance availed by them for induction of well-established and improved technology. Maximum limit of eligible loan for calculation of subsidy under the scheme is investment in approved plant and machinery up to 1.00 crore for induction of well- established and improved technologies.
3. Credit Guarantee Trust Fund for MSEs (CGTMSE) -Provision of collateral free credit for MSMEs: Guarantees are provided for extending collateral-free lending to micro and small enterprises through banks and financial institutions (including NBFCs). The scheme covers collateral free credit facility to new and existing MSMEs up to `200 lakh per borrowing unit. The guarantee cover provided is up to 75% of the credit facility up to `50 lakh (85% for loans up to `5 lakh provided to microenterprises, 80% for MSEs owned/operated by women and all loans to NER) with a uniform guarantee at 50% of the credit exposure above `50 lakh and up to `200 lakh. A composite all in annual guarantee fee of 1.0% per annum of the credit facility sanctioned (0.75% for credit facility up to `5 lakh and 0.85% for above `5 lakh and up to 200 lakh for women, micro enterprises and units in NER including Sikkim) is charged.
4. A Scheme for Promotion of Innovation, Rural Industry, and Entrepreneurship (ASPIRE): ASPIRE was launched by Government of India in 2015 with an objective to set up a network of technology centers, incubation centers to accelerate entrepreneur- ship and also to promote start-ups for innovation and entrepreneurship in rural and agriculture-based industry.
5. Scheme of Fund for Regeneration of Traditional Industries (SFURTI): SFURTI scheme was launched in the year 2005 for making traditional industries more productive and competitive by organizing the traditional industries and artisans into clusters. Government revamped SFURTI in the year 2015 and under the revamped scheme there will be three types of clusters and the

clusters are (1) heritage clusters (1,000–2,500 artisans), (2) major clusters (500–1000 artisans), and (3) mini clusters (up to 500 artisans).

6. Financial support to MSMEs in ZED certification: Launched in 2016, the scheme will be implemented in 22,222 MSMEs with the total project cost of `491 crore. The scheme envisages promotion of Zero Defect and Zero Effect (ZED) manufacturing amongst MSMEs. The objective will be achieved by developing an ecosystem for Zero Defect manufacturing in MSMEs, promoting adaption of quality tools/systems and energy efficient manufacturing, enabling MSMEs to manufacture of quality products and to encourage MSMEs to upgrade their quality standards in products and processes with adoption of Zero Defect production processes and without impacting the environment, etc.

8.1.4 RECENT DEVELOPMENTS

1. Framework for Revival and Rehabilitation of MSMEs: In order to provide a simpler and faster mechanism to address the stress in the accounts of MSMEs and to facilitate the promotion and development of MSMEs, the Ministry of Micro, Small and Medium Enterprises, Government of India, vide its Gazette Notification dated May 29, 2015 notified a 'Framework for Revival and Rehabilitation of Micro, Small and Medium Enterprises'. Further, Reserve Bank of India has also issued guidelines to the Banks on 17.3.2016. Under these guidelines, Banks have created mechanism for finalising corrective action plan for revival & rehabilitation of MSMEs.
2. MSME Data Bank: For facilitating the promotion and development and enhancing the competitiveness of MSMEs, the Ministry of MSME vide Gazette Notification No. 750(E) dated 29.07.2016 had notified the MSME Development (Furnishing of information Rules, 2016) under which all MSMEs are to furnish information relating to their enterprises online to the Central Government in the data bank maintained by it at www.msmedatabank.in. This data bank will enable Ministry of MSME to streamline and monitor the schemes and pass on the benefits directly to MSMEs. It will also provide the real-time information about the status of MSMEs under various parameters. Data Bank is helpful to MSME units, who can now update their enterprise information as and when required without visiting any government office and also update information about their products / services, which can be accessed by government departments to do procurement under Public Procurement Policy of Government of India.

3. My MSME: To facilitate the enterprises to take benefits of various schemes, the Office of Development Commissioner (MSME) has launched a web-based application module, namely, My MSME. This can also access through a mobile app. Entrepreneurs can make their applications and track it as well on their mobile itself.
4. Direct Benefit Transfer in the M/o MSME: All welfare and subsidy schemes of Governments of India have been brought under Direct Benefit Transfer (DBT) with the aim of improving delivery system by re-engineering the existing process for welfare and subsidy schemes, for simpler and faster flow of funds and to ensure accurate targeting of the beneficiaries, de-duplication and reduction of fraud. A nodal point for the implementation of the DBT programmes, DBT Cell has been constituted in the Ministry. The schemes have been categorized based on the benefit type to the beneficiary's i.e., Cash, Kind or Composite (i.e. Cash and Kind
5. Digital Payments: Government of India is making efforts for promoting cash less economy and to provide the facility of seamless digital payment to all citizens of India in a convenient manner. Promotion of digital payments has been accorded highest priority by the Government of India to bring each and every segment of our country under the formal fold of digital payment services. The Vision is to provide facility of seamless digital payment to all citizens of India in a convenient, easy, affordable, quick and secured manner
6. Special Measure under Atamnirbhar Bharat Abhiyaan In the aftermath of COVID-19 pandemic, Hon'ble Prime Minister was quick to recognize the role of MSMEs in building the Nation. As such, MSMEs formed a very prominent part of the announcements made under the Atamnirbhar Bharat Abhiyaan. Under this package, the MSME sector has not only been given substantial allocation but has also been accorded priority in implementation of the measures to revive the economy. To provide immediate relief to MSME sector, various announcements have been made under the Package.
    a. In line with Government of India's top focus on energising MSMEs in the country, The Ministry of MSME is focusing on all aspects, in addition to the existing credit related schemes and other announcements, the following two announcements were made under the Atamnirbhar Bharat Package to provide better access to finance for MSMEs:
    b. Rs 20,000 crores Subordinate Debt for Stressed MSMEs:

c. Government of India will provide a support of Rs. 4,000 Cr. to Credit Guarantee Trust for Micro and Small Enterprise. It will make provisioning of Rs 20,000 crore as subordinate debt to provide equity support to the stressed MSMEs.

d. Credit Guarantee Scheme for Subordinate Debt (CGSSD) for Stressed MSMEs has been Finalized and Launched on 24th June, 2020. As on 31.12.2020 12 banks have been extended guarantees amounting of Rs. 17.66 crore to 178 borrowers. Rs 50,000 cr. Equity infusion for MSMEs through Fund of Funds

e. On 13th May 2020, Hon'ble Finance Minister announcement a fund for MSMEs Scheme, this will infuse Rs. 50,000 crore for MSMEs as Equity for MSME. This will establish a framework to help MSMEs in capacity augmentation. This will also provide an opportunity for MSMEs to get listed in stock exchanges. Ministry of MSME has approved and issued the Guidelines on Self-reliant India (SRI) Fund scheme. NSIC Venture Capital Fund Ltd., a subsidiary company of National Small Industry Corporation Ltd. (NSIC) incorporated under Companies Act 2013. It has been identified as SPV for Fund of Funds.

f. SBI Cap Ventures Ltd and Khaitan and Company has been selected as Fund Manager/ Asset Management Company and Legal Advisor for SRI Fund Ministry is taking further steps for operationalization of the fund of Funds. The SRI Fund scheme is in initial stage of implementation. These initiatives will help in attracting investments as Debt as well as Equity and creating more jobs in the MSME sector.

8.2 CHECK YOUR PROGRESS

1. What does ZED stand for in the context of MSME:
   a) Zero defect zero effect
   b) Zero effect zero defect
   c) Zero delays zero effect
   d) Zero effectiveness zero defectiveness
2. MSME is defined under which act?
   a) MSME act,2004

b) MSMED act,1999
c) MSME act, 2001
d) MSMED act,2006

3. The National Board for micro, small and medium enterprises meet once in every _____ month in a year.
   a) 6
   b) 3.9
   c) 4.5
   d) 2.3
4. Helpline "Udyami" is meant for:
   a) Large capital industries
   b) Female entrepreneur
   c) Micro, small and medium enterprises
   d) Farmers using technology in farming
5. Which enterprise helps towards the industrialisation of rural and backwards areas?
   a) MSME
   b) Large scale industries
   c) Small scale industries
   d) Entrepreneurs
6. With respect to the 'Micro, Small and Medium enterprises', consider the following statements:
   1. A manufacturing unit is considered micro enterprise if its investment in plant and machinery does not exceed Rs. 25 Lakh
   2. Handicrafts and Handloom products are reserved in India for MSME sector

   Which of the above is / are correct?
   a) Only 1
   b) Only 2
   c) Both 1 & 2
   d) Neither 1 nor 2

7. Which among the following scheme is exclusively for Micro, small & medium enterprises?

a) Credit Linked Capital Subsidy Scheme
b) Duty Entitlement Pass Book
c) Duty Free Replenishment Card
d) Focus Product Scheme

8. Which of the following is the apex financial institution responsible for development of Micro, Small and Medium Enterprises in India?

a) IDBI
b) SIDBI
c) NABARD
d) EXIM

9. Which of the following is not a product under the Pradhan Mantri MUDRA Yojana (PMMY)?

a) Shishu
b) Kishore
c) Tarun
d) Vridh

10. One of the biggest threats Indian MSME sector faces is ————————

a) Lack of financial assistance
b) Lack of Marketing Skills
c) Quality of products still to meet International standards
d) lack of bilateral trade

8.3 SUMMARY

MSME sector also known as 'engine of growth' has been become backbone of the Indian economy and playing crucial role in socio-economic development of the nation. It has generated approximate 70 million employment opportunities to uplift the backward and rural areas. As per the official data as of

31st Aug 2021, there are presently approximately 6.3 crore MSMEs in India. Directly or indirectly MSME sector has come up with about 45% of manufacturing output and 40% of exports. Various recent developments have been there under this sector i.e., MSME bank for the developing and enhancing the Competitiveness among various MSME. The MSMEs produce around 6000 products of different varieties to satisfy the domestic and international market demand. MSMEs help in the promotion of growth and development of Khadi, Village, and Coir Industries, in co-operation with concerned ministries, state governments, and stakeholders. MSME promoted innovation by providing an opportunity to budding entrepreneurs to help them build creative products and boost competition in business. Small industrial bank of India (SIDBI) collaborated with Global Alliance for Mass Entrepreneurs (GAME) to extend services to MSME.

8.4 KEYWORDS

- **MSME:** Micro, small and medium enterprises which is enacted by the Government of India under Micro, small and medium enterprises development (MSMED) act, 2006.
- **Prime Minister's Employment Generation Programme (PMEGP):** This scheme was launched by Govt. of India with the aim to generate the employment opportunities in the country by setting up self-employment ventures.
- **Digital payments:** Government of India is making efforts to make a cashless economy and providing all the digital facilities to facilitate the people to make payments from anywhere and at any time.
- **Credit Linked Capital Subsidy Scheme (CLCSS):** This Scheme is to facilitate technology upgradation in Micro and Small Enterprises (MSEs) by providing capital subsidy of 15% (limit up to maximum of 15 lakhs) on institutional finance availed by them for improving technology.
- **Zero Defect and Zero Effect (ZED):** zero defect manufacturing was enabled in MSME sector to encourage the no defect and energy efficient manufacturing to enhance the quality of products that are being manufactured by this sector.

8.5 SELF-ASSESSMENT TEST

Q.1 Describe micro, small and medium enterprises in detail.

Q.2 What are problems faced by the MSME sector?

Q.3 Discuss the role of MSME in providing the quality products to the people of nation.

Q.4 Shower some light on the schemes launched by the government of India in assisting the MSME sector.

Q.5 What support is provided by the ministry for enabling MSMEs to get credit rating?

Q.6 How do small scale industries contribute to the socio-economic development of India? Discuss.

Q.7 Describe the role of small business in rural India.

Q.8 Discuss the problems faced by small scale industries.

Q.9 What measures has the government taken to solve the problem of finance and marketing in the small scale sector?

Q.10 'Innovation is integral to MSME'. Discuss giving reasons to your answer.

Q.11 'Creativity and Innovation is the key to MSME'. Justify the statement.

8.6 ANSWERS TO CHECK YOUR PROGRESS

1. a)
2. d)
3. a)
4. c)
5. a)
6. a)
7. a)
8. b)
9. d)
10. c)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **9** **Large scale industries: iron , steel , cement and petrochemicals**	Vetter: **Prof. Anil Kumar**

STRUCTURE

9.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

1. To know the meaning of large scale industries.
2. To know the types of large scale industries.
3. To know the various problems faced by large scale industries.

9.1 INTRODUCTION TO LARGE SCALE INDUSTRIES

The different forms of business organizations comprise sole proprietorship and large scale businesses that employ over a thousand employees. Various classification of industries can be done on the basis of scale, these are small scale industries, large scale industries, public sector enterprises and MNCs.

Large Scale Industries

As the name indicates, large scale industries comprise everything in bulk or in large amount weather it is raw material, work force or capital large scale industries are described as those industries that maintain or keep huge infrastructure, raw material, high manpower and large capital. These industries comprise fixed asset worth 10 crore or more and hence these are considered as large scale industries. These industries played a vital role in growth of economy as these industries bring foreign reserve in country, generate employment opportunities and all these lead to economic growth of the country.

9.1.1 STRUCTURE OF LARGE SCALE INDUSTRIES

- The licenses to Large Scale Industries are granted under the provisions of the Industrial Development (Regulation) Act, 1951 of Govt. of India.
- For setting up an industrial undertaking for the products, which are under licensing purview, the permission is required from the Secretariat for Industrial Assistance, Ministry of Industry and Commerce, Department of Industrial Policy & Promotion, Govt. of India, New Delhi.
- The promoters willing to set up a large scale industry, which is outside the purview of the licensing provisions, have to file an application for Industrial Entrepreneur's Memorandum (IEM) for obtaining the acknowledgement, which is deemed to be a permission / registration for setting up the project.

- Generally large scale industries are Public Sector/Company (State or Central Government) or Joint Sector Company (Jointly owned by Government and private company/institution or entrepreneur).

9.1.2 LARGE SCALE INDUSTRIES IN INDIA

In India, large scale industries can be categorized as:

1 .Iron and Steel Industry

2. Textile Industry

3. Automobile Industry

4. Jute Industry

5. Silk Industry

6. Cement Industry

7. Fertilizer Industry

8. Paper Industry

9. Telecommunication Industry

10. Information Technology Industry

11. Petroleum and Natural Gas Industry

9.1.3 ADVANTAGES OF LARGE SCALE INDUSTRIES

The following are the advantages of a large-scale industry.

1. **Economical Production:** The large-scale industry usually installs the latest machinery and it leads to economical bulk production. Latest machinery work continuously and reap benefits for the enterprises.
2. **Labour economy:** Generally large scale industries employed skilled labour and skilled labor's best effort performance leads to growth of industries as well as economy.

3. **Buying and selling at large scale:** The large scale industries involve massive production and bulk purchase of raw materials. Thus results in high net profit to large scale businesses by adding small profits.
4. **Low Overhead Charges:** Due to large scale production, administration and distribution expenses are comparatively less due to economies of scale.
5. **Economical Rent:** In large scale industries, bulk products utilize the whole space and it leads to low per unit cost for rent
6. **Expenditure on Research and Analysis**: large scale industry can spend more money on research and development due to availability of large funds at their disposal. Expenditure incurred on successful research and analysis fetches greater profits in the future
7. **Reuse of the By-products:** The extracted by-product or waste material in the process of production of finished goods is utilized for further purposes. As in sugar industry the molasses produced as a by- product kept for other uses or purposes. This process results in lower cost of production.
8. **Benefit to Employees:** All workers in large scale industries get high salaries and other benefits and it leads to job satisfaction among employees.

9.2 INDEX OF INDUSTRIAL PRODUCTION

- Index of industrial production predicts short-term changes in the volume of production of industrial products.
- It is collected and published monthly by the Central Statistical Organization (CSO) six weeks after the reference month ends.
- The Eight Core Industries - Electricity, steel, refinery products, crude oil, coal, cement, natural gas and fertilizers - comprise nearly 38 % of IIP

9.2.1 INDIAN IRON AND STEEL INDUSTRY

A century ago, The Indian iron and steel industry, with Tata Iron & Steel Co as the first integrated steel plant to be set up in 1907. The steel industry is expanding worldwide. There is rise in demand for steel due to the economic modernization process. Also demand for steel raises globally as well as domestic

leads upswing the Indian economy. India's rapid economic growth and soaring demand by sectors like infrastructure, real estate and automobiles, at home and abroad, has put Indian steel industry on the global map. According to the latest report by International Iron and Steel Institute (IISI), India is the seventh largest steel producer in the world.

The iron and steel industry in India has three categories - main producers, other major producers and the secondary producers. SAIL, TISCO AND RINL main producers and 2004-05, the main producers had a combined capacity of around 50% of India's total steel production capacity and production. ESSAR, ISPAT and JVSL are also main producers account for around 20% of the total steel production capacity. India was the third largest producer of raw steel during 2014-15 produced 91.46 million tons of total finished steel. The National Steel Policy 2005 is currently being reviewed keeping in mind the rapid developments in the domestic steel industry (both on the supply and demand sides) Price regulation of iron & steel was abolished on 16.1.1992. Since then steel prices are determined by the interplay of market forces.

FACTS

- First steel industry at Kulti, Near Jharia in West Bengal - Bengal iron works company in 1870.
- First large scale steal plant TISCO at Jamshedpur in 1907 followed by IISCO at Burnpur in 1919. Both belonged to private sector.
- The first public sector unit was "Vishveshvaraya Iron and Steel works" at Bhadrawati.

PUBLIC SECTOR STEEL PLANTS

Location	Assistance
1.Rourkela (odissa)	Germany
2.Durgapur(WB)	UK
3.Bhilai (MP)	Russia
4.Burnpur(WB)	Acquired from private sector in 1976
5.Bokaro (jharkhand)	Russia

6.Vishakhapattnum(AP)	Russia
7.Salem(Tamil nadu)	GOI(no external assistance)
8.Bhadrawati(Karnataka)	Nationalization of Vishveshvaraya iron and steel limited (owned by central and state government)
9.Vijai nagar (Karnataka)	Government of india

https://www.pwc.in/assets/pdfs/consulting/technology/the-indian-steel-industry-growth-challenges-and-digital-disruption.pdf

- All these plants are managed by SAIL (at the time all important steel plants except TISCO, are under public sector)
- To develop the steel industries, SAIL (steel authority of India) was established in 1974
- Presently India is the eighth largest steel producing country in the world.

9.2.2 CEMENT INDUSTRY

The systematic manufacturing of cement was initiated in 1914 by India Cement Company limited located at Porbundar, Guajrat. Although it was started in Tamil Nadu in 1904. At present in India, 124 large cement units and 300 mini cement plants are established by government. Total installed capacity of these cement units is about 151.0 million tonnes. Total production of cement in the country also rose from a mere 2.7 million tonnes in 1950-51 to 51.7 million tonnes in 1991-92 and. Total employment generation by cement industry is about more than 2 lakh. In 1981, the government had announced guidelines to set up mini-cement plant in order to ensure that such cement plants are set up primarily for exploiting limestone reserves available in different remote and inaccessible parts of the country. The production capacity of these mini-cement plants varies between 50 tonnes to 200 tonnes a day. These mini cement plants are mostly established in the backward areas of Andhra Pradesh and Madhya Pradesh. India's overall cement production capacity was nearly 545 million tonnes (MT) in FY20 and accounted for over 8% of the global installed capacity in FY20.

(**Source:** https://www.ibef.org/industry/cement-india.aspx)

9.2.2.1 CURRENT SCENARIO

India is the second largest producer of cement in the world. It accounts for more than 7% of the global installed capacity. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is expected to largely benefit from it. Some of the recent initiatives, such as development of 98 smart cities, are expected to provide a major boost to the sector.

Aided by suitable Government foreign policies, several foreign players such as Lafarge-Holcim, Heidelberg Cement, and Vicat have invested in the country in the recent past. A significant factor which aids the growth of this sector is the ready availability of raw materials for making cement, such as limestone and coal. Cement production reached 329 MT in FY20 and is expected to reach 381 MT in FY22. India's overall cement production accounted for 262 million tonnes (MT) in FY21*

9.2.2.2 MARKET SIZE

Cement production reached 329 million tonnes (MT) in FY20 and is projected to reach 381 MT by FY22. However, the consumption stood at 327 MT in FY20 and will reach 379 MT by FY22. The cement production capacity is estimated to touch 550 MT by 2020. As India has a high quantity and quality of limestone deposits through-out the country, the cement industry promises huge potential for growth.

According to CLSA (institutional brokerage and investment group), the Indian cement sector is witnessing improved demand. Key players reported by the company are ACC, Dalmia and Ultratech Cement. In the second quarter of FY21, Indian cement companies reported a sharp rebound in earnings and demand for the industry increased, driven by rural recovery. With the rural markets normalizing, the demand outlook remained strong. For FY21, CLSA expects a 14% YoY increase in EBITDA in the cement market for its coverage stocks.

9.2.2.3 INVESTMENTS

According to the data released by Department for Promotion of Industry and Internal Trade (DPIIT), cement and gypsum products attracted Foreign Direct Investment (FDI) worth US$ 5.28 billion between April 2000 and September 2020.

In 2021, working remotely is being adopted at a fast pace and demand for affordable houses with ticket size below Rs. 40-50 lakh is expected to rise in Tier 2 and 3 cities, leading to an increase in demand of cement.

Some of the major investments in Indian cement industry are as follows:

- In March 2021, Ultratech Cement acquired 3B Binani Glassfibre Sarl Luxembourg, a subsidiary of Binani Industries
- In February 2021, IBM collaborated with Shree Cement to run their database and core business applications using AIX and Red Hat on IBM POWER9-based IBM Power Systems. The implementation will allow Shree Cement to seamlessly enhance its productivity and enable supply chain efficiencies across its manufacturing plants.
- In January 2021, the company announced its plan to invest US$ 137 million to increase production capacity of its integrated cement plant in Guwahati, Assam, by 2 MTPA. The expansion plan is likely to complete by mid-2023.
- In April 2021, ACC announced the expansion plan of its grinding unit in Tikaria with a 1.6 MTPA cement capacity.
- In January 2021, ACC commissioned its new grinding unit at Sindri, in Dhanbad District of Jharkhand, adding an additional capacity of 1.4 million tonnes per annum to the existing 3 MTPA unit.
- In December 2020, Dalmia Cement announced a capacity addition of 2.3 MTPA at its Bengal Cement Works (BCW) unit in West Midnapore with an investment of Rs. 360 crores (US$ 49.47 million).
- In December 2020, the company planned to invest Rs. 5,477 crore (US$ 776.99 million) to raise its capacity by 12.8 mtpa. The expansion includes existing approval for the cement plant at Pali in Rajasthan, in addition to capacity expansion of 6.7 mtpa that is currently underway in Uttar Pradesh, Odisha, Bihar and West Bengal.

9.2.2.4 GOVERNMENT INITIATIVES

In order to help private sector companies, thrive in the industry, the Government has been approving their investment schemes. Some of the initiatives taken by the Government off late are as below:

- In Union Budget 2021-22, the Government of India extended benefits, under Section 80-IBA of the Income Tax Act, until March 31, 2021, to promote affordable rental housing in India.
- As per the Union Budget 2021-22, the government approved an outlay of Rs. 1, 18,101 crore (US$ 16.22 billion) for the Ministry of Road Transport and Highways, and this step is likely to boost the demand for cement.
- As per the Union Budget 2021-22, National Infrastructure Pipeline (NIP) expanded to 7,400 projects from 6,835 projects.
- The Union Budget allocated Rs. 13,750 crore (US$ 1.88 billion) and Rs. 12,294 crore (US$ 1.68 billion) for Urban Rejuvenation Mission: AMRUT and Smart Cities Mission and Swachh Bharat Mission, respectively and Rs. 27,500 crore (US$ 3.77 billion) has been allotted under Pradhan Mantri Awas Yojana.

9.2.2.5 ROAD AHEAD

The eastern states of India are likely to be the newer and untapped markets for cement companies and could contribute to their bottom line in future. In the next 10 years, India could become the main exporter of clinker and gray cement to the Middle East, Africa, and other developing nations of the world. Cement plants near the ports, for instance the plants in Gujarat and Visakhapatnam, will have an added advantage for export and will logistically be well armed to face stiff competition from cement plants in the interior of the country. India’s cement production capacity is expected to reach 550 MT by 2025.

Due to the increasing demand in various sectors such as housing, commercial construction and industrial construction, cement industry is expected to reach 550-600 million tonnes per annum (MTPA) by the year 2025.

Numbers of foreign players are also expected to enter the cement sector owing to the profit margins and steady demand.

Source: https://www.ibef.org/industry/cement-india.aspx

9.2.2.6 PROBLEMS

The cement industry in India has been suffering from different problems.

These include:

(a) Inappropriate utilization of production capacity due to drastic power cuts, coal shortages, lack of furnace oil and inadequate availability of wagons;

(b) Cost upsurge and rigid pricing leading to low profitability;

(c) Not full control on pricing and dual pricing;

(d) Heavy burden of excise duty, lack of adoption of cost-efficient technology; and

(e) Unrealistic distribution policies adopted by the government.

With motive to improve the conditions of this industry, the governments take steps and introduced partial decontrol in February, 1982. As a result of this policy incentive, the installed capacity and production of cement increased significantly and the country attained self-sufficiency in the production of cement. After few years, from March 1989, the government withdrew all price and distribution control. Moreover, as the MRTP companies have been offered licenses to produce cement thus many industrial houses viz., Larsen and Toubro, DCM, Raymond, Woolen Mill, Coromondal Fertilizers, I.K. Synthetic etc., have already entered into the production of cement.

With the view to increase the production of cement in India, modernization and expansion programme of Rs 2400 crore is chalked out by the cement industry. Eleventh Plan has set the target to increase the production of cement to 269 MT at the end of the Plan

9.2.3 CHEMICAL INDUSTRY

Chemical industry is a capital intensive industry. It plays a vital role in the global economic and social development. It is mainly a human resource intensive industry and hence employs a large number of people. At global level, more than 20 million people are expected to be employed in this industry. This industry is very large and well diversified and has more than eighty thousand commercial products. Indian chemical industry comprises of both small scale as well as large scale units. The large scale units

set up capital intensive projects with longer time periods. While the fiscal incentives provided to small scale units earlier led to development of large number of small and medium enterprises (SME). Over the last five years Indian chemical industry has started to increase rapidly. With a large talent pool available, the focus has also been towards investments in R&D. India's competence in this knowledge intensive industry is increasing however, the tapped potential is very limited. The current low per capita consumption (10 kgs for polymers in India as compared to world average of 25 kgs) suggests that the demand potential is also yet to be realized. Moreover, India has a very strong outlook for the key end user industries (e.g. Packaging is expected to grow at 15% p.a. over the next five years, Electronic is expected to grow at 12% p.a. over the next five years, Construction and Automotive both sectors are expected to grow at 12% p.a. over the next five years). Hence, going ahead the demand of chemical products is expected to surge at 7-8 % p.a. over the next five years.

9.2.3.1 INDUSTRY SEGMENTS

Chemical industry is broadly classified as the following sub groups:

1. Bulk Chemicals: Basic organic (methanol, acetic acid etc.) and inorganic chemicals (caustic soda, chlor alkali etc.) are included in it

2**. Specialty Chemicals**: these are also known as performance chemicals, are low-volume but high-value compounds. These chemicals are extracted from basic chemicals and are sold on the basis of their function. Paint, adhesives, electronic chemicals, oilfield chemicals are some examples of specialty chemicals.

3. **Agro Chemicals**: Chemicals mainly meant for protecting agriculture crops against insecticides and pesticides are included in it.

4. **Petrochemicals:** Petrochemicals are chemical products extracted from petroleum. The two most common petrochemical variants are olefins (including ethylene and propylene) and aromatics (including benzene, toluene and xylene isomers).

5. **Fertilizers**: Fertilizer includes organic or inorganic substance that supplies chemical elements which is required for plant growth. Fertilizer sector manufactures critical raw materials for agriculture which is a major occupation of the country.

Of the five segments, Bulk chemicals (39% share) is the largest followed by agro chemicals (20%) and then specialty chemicals (19%). In terms of potential growth, specialty chemicals are the fastest growing segment followed by bulk chemicals.

9.2.3.2 PETROCHEMICALS

Petrochemicals plays important role in economic growth and development of a country. The growth of this industry is closely linked to economic growth of a country. Petrochemicals growth leads growth of other sectors of the economy. Today, petrochemical products pervade the entire gamut of daily use items and cover almost every sphere of life like clothing, housing, automobiles, furniture household items, agriculture, horticulture, irrigation, construction, packaging, medical appliances, electronics and electrical etc. Petrochemicals are derived from various chemical compounds, mainly hydrocarbons. These hydrocarbons are derived from crude oil and natural gas. Among the various fractions produced by distillation of crude oil, petroleum gases, naphtha, kerosene and gas oil are the main feed-stocks for the petrochemical industry. Unconventional feed stocks are also gradually coming up like shale gas, coal, CBM, pet coke etc.

Ethane, propane, butane and Natural Gas Liquid (NGL) obtained from the natural gas are the other important feed-stocks used in the petrochemical industry. The basic building blocks olefins (ethylene, propylene & butadiene) and aromatics (benzene, toluene and xylene) are the major raw materials from which most of the chemicals are derived.

The two major segments for petrochemicals are:

- Basic petrochemicals and
- End-product petrochemicals

The feed stocks are used to derive the basic petrochemicals. Basic petrochemicals can be reclassified as olefins (ethylene, propylene and butadiene) and aromatics (benzene and xylene). These basic petrochemicals are then used to produce end product petrochemicals.

9.2.3.3 INDIAN PETROCHEMICALS INDUSTRY

The petrochemicals industry is a significant industry for the Indian economy. The Indian basic petrochemicals market (including end products market which includes polymers, synthetic fibers,

elastomers and surfactants) the total petrochemical market has grown at a CAGR of 11% from USD 19.3 billion in FY11 to USD 24 billion in FY13.

By global standards, its contribution to global market size is not very large, primary reason being low per capita consumption of polymers in India, only 9.7 kgs, compared to world average of 25 kgs.

The total installed capacity of major basic petrochemicals (ethylene, propylene, butadiene, styrene, benzene & toluene) in FY13 is 12.2 million metric tons per annum (mmtpa) against the total demand of12.5 mmtpa (Fig 5). In FY12, there was a surplus capacity of 1 mmtpa, but in the last two years overall demand has crossed the installed capacity. Imports have grown at a CAGR of 17% between FY09 and FY13, whereas the exports have grown at a higher rate of 19% in the same period (Fig 6).

9.2.3.4 KEY TRENDS

Market Trends

Indian petrochemical sector is highly dependent on exports (40%), making it strongly correlated with the global markets. Following are some of the global trends which are expected to shape the Indian petrochemical industry:

- **Increase in global demand**: Global demand for ethylene is forecasted to grow at a CAGR of 5-6% and that of propylene to grow at a CAGR of 5.5% between period 2014 and 2018. Ethylene and propylene will continue to have major share (70-75%) of total petrochemicals demand.
- **Capacity expansion**: Between 2014 and 2018 ethylene capacity additions are expected to grow by 30 million tonnes globally. Major capacity builds up is happening in US, China and Middle East.
- **Depressed margins**: With oversupply hinging in the global petrochemicals market, margins will increasingly come under pressure.

Technology Trends

1. Product switch: Linear low density polyethylene is increasingly replacing the usage of low density polyethylene in India. Only 1 ton of ethylene is required to produce 1 ton of LLDPE whereas > 1 ton of ethylene is required to produce 1 ton of LDPE.

2. Change in feedstock mix: With increased availability of shale gas, natural gas and new gas finds the dependency on naphtha as major feedstock for petrochemicals complexes have reduced. In Middle East, substantial capacity additions will be based on ethane as a feedstock.

Regulatory Trends

Reduced fiscal benefits: As India is fast becoming a refining and petrochemical surplus nation; Government has also taken away the income tax holidays and other fiscal benefits from the industry. Only oil exploration companies now enjoy the benefits based on the profit-sharing mechanism with the government.

9.2.3.5 KEY CHALLENGES

- **Volatility in raw material prices**: More than 50% of global petrochemical capacities are based on naphtha, a crude oil derived product. The prices of crude oil products have witnessed significant volatility, thereby making petrochemicals prices highly volatile.
- **Increased competition**: Large capacity additions taking place in ethane rich Middle East and shale gas rich US. Shale gas brought a renewed competitive advantage to the US petrochemical sector. Out of the 30 million tons of ethylene capacity additions expected during period 2014 and 2018, 12.5 million tons is expected in the US alone. Since, ethane& shale gas based petrochemical products are cheaper than petrochemical products in India; domestic producers are expected to witness margins pressure.
- **High entry barriers**: Given the capital intensive nature of the petrochemical plant and tariff barriers, new entrants and small and medium size companies are prohibited from easily entering into the market.
- **Low capacity utilization**: Due to oversupply in global markets, prices of petrochemicals have taken a steep decline, thereby forcing the domestic companies to underutilize their plants operating levels. The average capacity utilization has fallen from 95% levels before global economic crisis to 80% in 2013.

9.2.3.6 KEY OPPORTUNITIES

- **Backward & forward integration**: Given the volatility of crude oil prices and India's heavy dependency on oil imports, there is opportunity for oil and oil related companies to reap benefits of increase its presence across the value chain. For e.g. Reliance Industries Ltd. successfully backward integrated from refining and petrochemical company to oil and gas exploration. ONGC which is primarily an exploration company recently built a Greenfield petrochemical project (OMPL).
- **Improved feedstock supply**: Availability of feedstock dictates the location of the plant. Domestic products are uncompetitive due to high costs of naphtha when compared with ethane based products from Middle East. One needs to improve the competitiveness of the domestic products by improving the infrastructure support as is the case in Middle East, China and Singapore. Also going forward, as more natural gas becomes available in India, the domestic players are likely to shift from naphtha to cheaper natural gas thereby increasing their competitiveness in the market.
- **More value-added products in portfolio**: Demand for performance plastics such as biodegradable polymers are expected to be on rise across the world including India. Given the environment concerns with traditional plastics, companies should look at expanding their portfolio and include more value add products.
- **Increased geographical presence**: Given the capital intensive nature of the project and high costs associated in India (due to no duty waivers, no/ very less tax exemptions and high interest costs), the domestic companies may also look outside for organic and inorganic opportunities. Many western companies such as Dow, Shell, etc. are increasing their presence in energy rich countries like Saudi Arabia, Kuwait, Qatar, etc. and setting up manufacturing facilities.
- **Opportunity for reverse SEZ**: Industry players can work closely with the Indian government to set up reverse SEZs in countries like Mozambique, Iran and Myanmar. As a part of this, the Indian company can setup a gas cracker to produce ethylene and its derivatives which can be sent to India for the manufacture of further downstream value added products or they can coinvest in upcoming plants with off-take agreements.

Government has to take initiative in incentivizing the imports from these countries; also it has to work closely with these governments to safeguard the Indian investments.

9.2.3.7 FUTURE OUTLOOK

The demand for basic petrochemicals is expected to grow at a CAGR of 10% to reach 16 mmtpa (Million Metric Tonnes per Annum) by FY18. At this point the market will be oversupplied to the tune of ~0.9 mmtpa (Million Metric Tonnes per Annum). The demand growth will be driven by olefins segment including ethylene, propylene and butadiene. Demand as well as capacity growth in aromatics such as benzene and toluene will be marginal compared to overall market size.

9.3 CHECK YOUR PROGRESS

1. What are large scale industries?

   A. industries having net worth of rupees 5 crore

   B. industries having net worth of rupees 10 crore

   C. industries having net worth of rupees 8 crore

   D. industries having net worth of rupees 6 crore

2. Which is not large scale industry in India?

   A. iron and steel industry

   B. cement industry

   C. petrochemicals

   D. cottage cheese

3. Index of industrial production measure

   A. Long term changes in industrial production
   B. Mid-term changes in industrial production
   C. Short term changes in industrial production
   D. Production capacity of industries.

4. License to large scale industries granted under which act?

   A. Industrial development regulation act, 1951
   B. Industrial production regulation act , 1951
   C. Industrial finance corporation act ,
   D. Industries regulation act ,1951

5. Public sector steel plant located in Bhilai got assistance from which country?

   A. Russia
   B. U.K
   C. Germany
   D. Netherland

6. Which one of the followiilg industry was non-existent at the time of independence?

   A. Cement
   B. Cotton-Textile
   C. Iron and Steel
   D. Fertilisers

7. Which is the largest sponge iron producer in the world?

   A. Algeria
   B. India
   C. Iran
   D. Saudi Arabia

8. Which one of the following factors plays the most important role in the location of an industry in a particular region?

   A. Raw material
   B. Market
   C. Least production cost
   D. Transport

9. Which of the following industries is not a heavy industry.

   A. Cotton textile
   B. Cement
   C. Iron and Steel
   D. Ship building

9.4 SUMMARY

Large scale industries can be classified with their huge infrastructure, raw material, high manpower and large capital. In India, the minimum investment in fixed assets for large scale industry is one hundred million rupees or 10 crore. The Indian economy relies heavily on such industries for economic growth, generation of foreign currency, and the creation of job opportunities for millions of Indians. The main major large scale industry of India includes iron and steel industry, textile industry, automobile manufacturing industry, cement industry. The performance of these industry is not upto mark due to inadequate infrastructure, restrictive labour laws, complicated business environment, slow technology adoption, low productivity etc. The govt. should adopt a comprehensive, actionable, outcome oriented industrial policy which will enable Industry to deliver a larger role in the economy.

9.5 KEYWORDS

- **Industry:** Industry is a group of companies related to each other based on their primary business activities.
- **Large scale industries**: industry comprises fixed asset worth 10 crore or more.
- **Core industries:** Core industries are the main or key industry in the economy.
- **IIP:** Predicts short-term changes in the volume of production of industrial products.
- **CSO:** Central statistical organization measure short term changes in industrial production.

9.6 SELF-ASSESSMENT TEST

Q.1 What are the main requirements of large scale industries?

Q.2 What are the main problems faced by large scale industries?

Q.3 Explain in brief about iron and steel industry. Cement industries and petrochemicals industry.

Q.4 How are integrated steel plants different from mini steel plants? What problems does the industry face? What recent developments have led to a rise in the production capacity?

Q.5 Briefly explain the physical factors for the location of the industry.

Q.6 What are the major Human factors for the location of an industry? Explain any three with example.

Q.7 Name the important raw materials used in the manufacturing of cement? Where would it be economically viable to set up the cement manufacturing units?

Q.8 What have been the major changes in structure of the Indian cotton textile industry during the last twenty years?

Q.9 1ndia enjoys many advantages in the production of iron and steel over many other countries. Justify the statement.

Q.10 What are the major problems faced by Petrochemical industries in India? How can these problems be solved?

9.7 ANSWERS TO CHECK YOUR PROGRESS

1- B

2- C

3- C

4- A

5- A

6- D

7- B

8- C

9- A

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **10** **Service Sector in India**	Vetter: **Prof. Anil Kumar**

Structure

10.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To know the characteristic features of India's service sector
- To learn the reasons for rise in service sector of India
- to understand sustainability of service sector growth.
- To know the case for service-led growth and against the growth

10.1 INTRODUCTION TO SERVICE SECTOR

Services are the major part for the development of any nation. For last 200 years, we have seen a drastic transformation in economy changing from agriculture sector to manufacturing and now Service sector is making boom. Expansion of the service sector was seen as giving rise to stagnant growth. Earlier services were considered as low skilled, low productive, low wages & with low innovation skills. But today services can be seen in most dynamic sectors of economy, even in Poor countries. Service sector is much diversified sector today ranging from housemaids to neurosurgeons. Services are the fastest growing sector globally nearly 70% of the global economy is now accounted for services. The share of service exports in increasing consistently in developing nations & growth is exceeded that of rich countries during last two decades. From last three decades Growth in service sector gives robust performance in India.

10.1.1 FEATURES OF SERVICE SECTOR IN INDIA

1) Increasing share of services in GDP

After independence, Agriculture was the main contributor to GDP of India during the first three decades 1950s, 1960s & 1970s. The role of industries increased only for four decades after independence but turned stagnant thereafter. The declining share of agriculture covered by service, since independence it was second contributor to the GDP & now it becomes leading contributor. The share of service sector in country's GDP has increased from 30.3% in 1950–1951 to 42.7% in 1990–1991 and 54.2% in 2017–2018.

2) Higher Growth Rate as Compared to Other Sectors

Among all three sectors, growth of agriculture & Industries was very high in Initial Phase of Independence, later on Industrial sector gives a stagnant performance during 90s. While agriculture is also lacking but after 1990 there was no looking back of service sector it shows a tremendous growth in India. The major reasons cited for the higher growth rate of service sectors are splintering, higher domestic demand, and exports. As a lower growth rate of agriculture & Inconsistency in Industrial, India emerged as the fastest growing nation in the world and this feat can be attributed primarily to higher growth rate of the service sector.

Table10.1: Growth Rate at Basic Price by Economic Activity

Sector	**2017–2018**	**2018–2019**
I. *Agriculture, Forestry, & Fishing*	5.0	2.7
II. *Industry*		
Mining & Quarrying	5.1	1.2
Manufacturing	5.9	8.1
Electricity, Gas, Water Supply, & other Utility Services	8.6	8.0
III. *Services*		
Construction	5.6	8.9
Trade, Hotels, Transport, Communication, and Services related to Broadcasting	7.8	6.8
Financial, Real Estate & Professional Services	6.2	7.3
Public Administration, Defence, and other Services	11.9	8.5
GVA at Basic Price	6.9	6.8

Source: Growth Rate at Basic Price. Ministry of Statistics & Programme Implementation. Govt. of India.

3) FDI Inflows in Service Sector

India's top 10 services constitute nearly 61% of total FDI inflows and top 5 services constitute 45% of total FDI inflows. FDI is crucial for promoting production and dissemination of fresh technology and R&D. To boost the growth of the economy there is a $1 trillion funds requirement for overhauling its infrastructure like ports, Highways & airports with a fixed timeline. The other sectors that are in the priority list of the government include single-brand retail, multi-brand retail, print media, and construction.

Table10.2: FDI in Service Sector (2000–2018)

Sector	Percentage to Total
Service sector	17
Computer Software & Hardware	9
Telecommunications	8
Construction	6
Trading	5
Top 5 services	45 of total FDI

Services include Financial, Banking, Insurance, Non-Financial/Business, Outsourcing, R&D, Courier, and Tech. Testing and Analysis.

Source: DIPP, FDI statistics. Ministry of Commerce and Industry. Govt. of India.

Table10.3: Trade Performance of India's Major Services (2016–2017)

Services	Exports in %	Imports in %
1. Travel	14.2	17.2
2. Transportation	9.7	14.8
3. Miscellaneous	74.3	65.9
a. Software services	45.2	3.7
b. Business services	20.2	33.7

c. Financial services	3.1	6.1

Source: Economic Survey. Department of Economic Affairs. Ministry of Finance. Govt. of India. 2017-18.

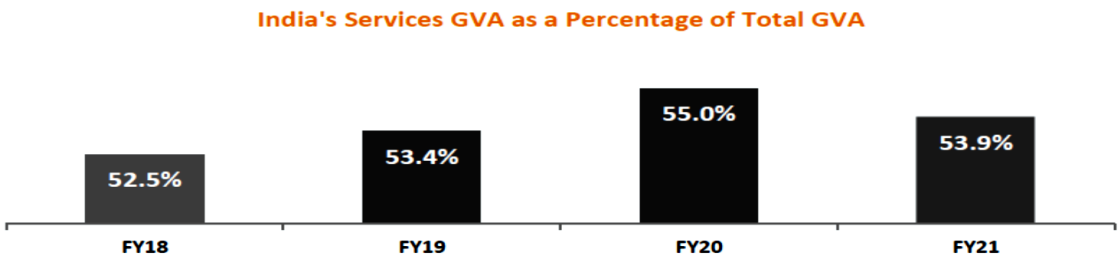
4) Trade in Services

Unlike merchandise trade, where India Suffered from a trade deficit, in service sector there is surplus of $68 billion. Exports have contributed significantly to the growth of services in India and India's share in global exports of services rose from 0.8% in 1998 to 3.3% in 2015–2016. During 2002–2009 (pre-global financial crisis period), the services exports CAGR of India was the fastest at 30%, followed by Russia at 26% and China at 23.6%. However, during the post-crisis period (2010–2016), services exports CAGR decreased in all economies, with Mexico registering the highest growth at 7.9%, followed by India at 5.6%. Software services exports constitute the largest share in India's services export basket followed by business services, travel, and transportation.

10.2 INDIAN SERVICE SECTOR AND GLOBAL COMPARISONS

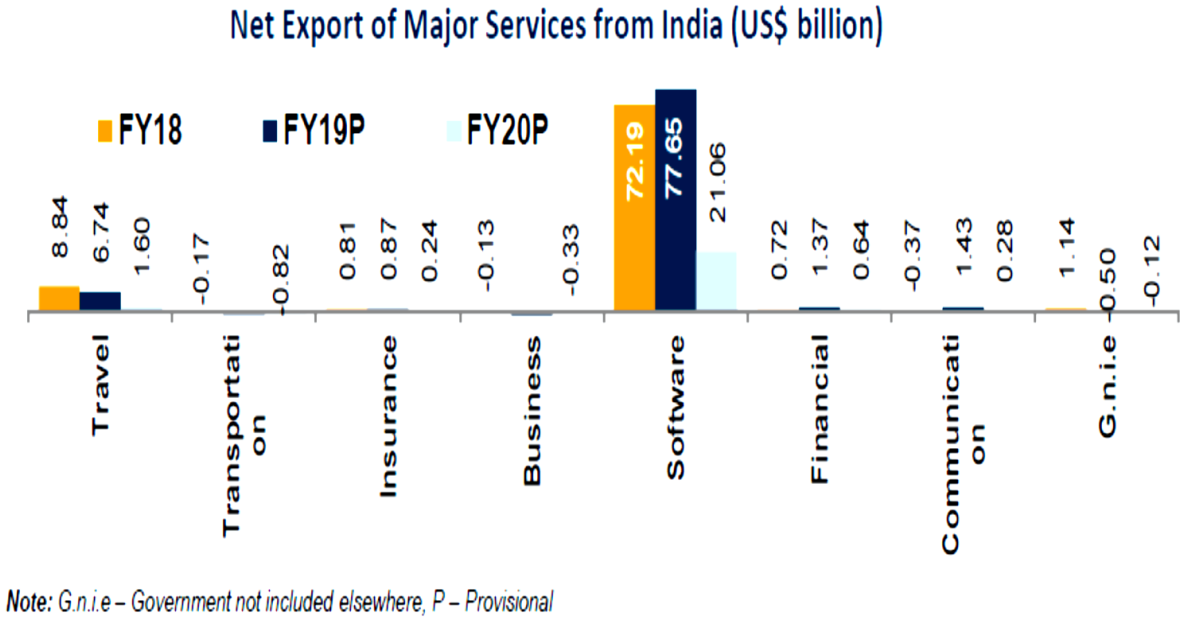
India lacks in terms of Gross value added GVA in services while in terms of overall Gross value added (GVA) India Ranks globally, For e.g. Services contributed nearly 80% of GVA in Both the United States and United Kingdom. India's Growth in Service sector is divided into three parts. First the growth rate in services is fastest in India in overall growth. Second, despite the high growth rate in service the share of employment is lower, which is not in many cases of advanced nations. Third, share of services in total exports is very high and matches with that of developed nations.

Fig. 10.1 India's Services GVA as a percentage of total GVA



Source: https://www.ibef.org/

Fig. 10.2 Sector Composition



Note: G.n.i.e – Government not included elsewhere, P – Provisional

Source: https://www.ibef.org/

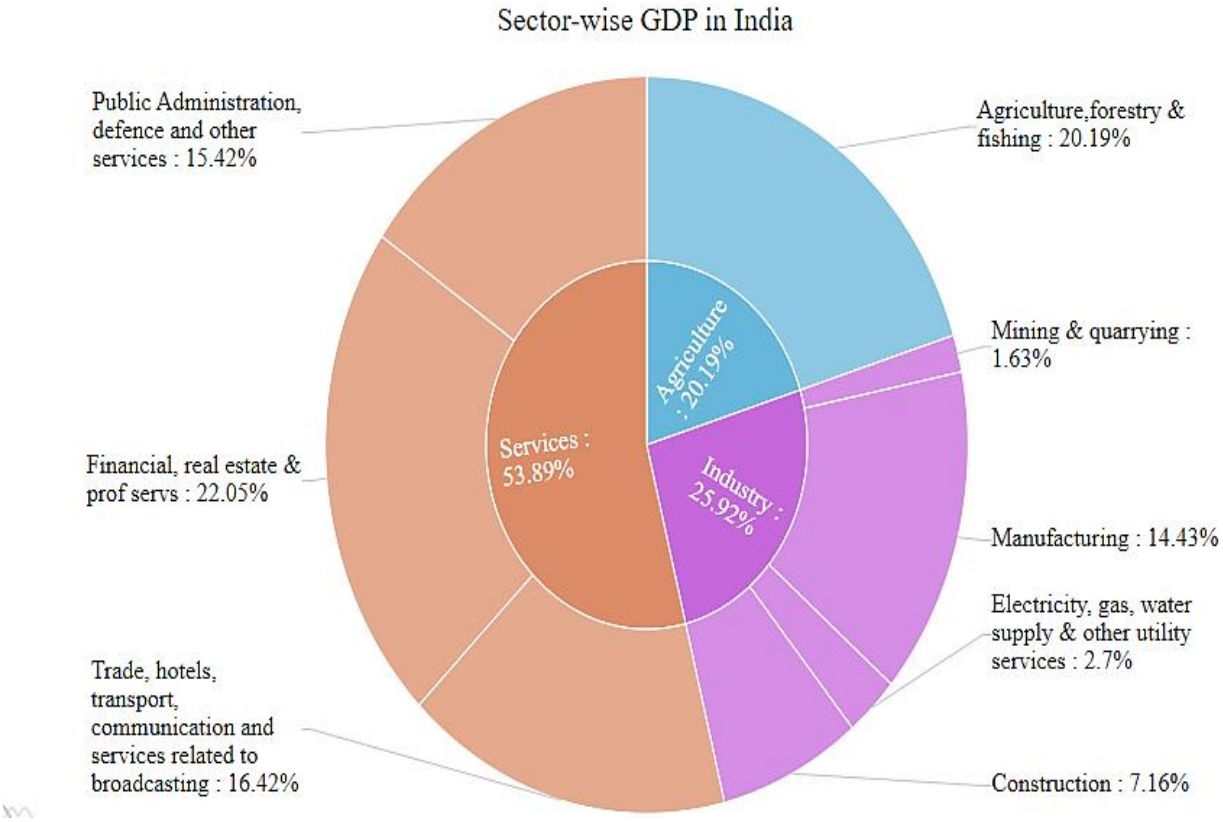
Services Contribution in GDP

Fig. 10.3 GVA in 2020-21

	Sector	GVA in 2020-21 (Rupees in Crore)			
		Constant prices	share (%)	Current prices	share (%)
1	Agriculture Sector	2,040,079	16.38 %	3,616,523	20.19 %
1.1	Agriculture,forestry & fishing	2,040,079	16.38 %	3,616,523	20.19 %
2	Industry Sector	3,654,362	29.34 %	4,644,385	25.92 %
2.1	Mining & quarrying	294,644	2.37 %	292,120	1.63 %
2.2	Manufacturing	2,107,068	16.92 %	2,585,740	14.43 %
2.3	Electricity, gas, water supply & other utility services	306,254	2.46 %	484,477	2.70 %
2.4	Construction	946,396	7.60 %	1,282,048	7.16 %
3	Services Sector	6,758,989	54.27 %	9,654,259	53.89 %
3.1	Trade, hotels, transport, communication and services related to broadcasting	2,208,388	17.73 %	2,941,477	16.42 %
3.2	Financial, real estate & prof servs	2,872,815	23.07 %	3,950,786	22.05 %
3.3	Public Administration, defence and other services	1,677,786	13.47 %	2,761,996	15.42 %
	GVA at basic prices	12,453,430	100 %	17,915,167	100 %

Source: Ministry of Statistics and Programme Implementation

Fig. 10.4 Sector-Wise GDP in India



Source: Ministry of Statistics and Programme Implementation

Fig. 10.3 and 10.4 represents the contribution of different sectors i.e. Primary sector, Secondary sector and Tertiary sector in GDP in India. It shows that service sector has a major portion in the GDP of a country.

Here, Service sector is divided into three parts i.e.

A. Financial & Real estate Services

B. Trade, Hotel, Transport and Communication Services

C. Public Administration and Defence Services

Out of these services financial and real estate services had major proportion i.e. 22.05% in the GDP which is greater than the agriculture sector contribution i.e. 20.19%. We can say that service sector is most important sector responsible for economic growth of a country.

10.3 REASONS FOR GROWTH IN SERVICE SECTOR

The phenomenal growth of service sector can be attributed to following factors:

10.3.1 SPLINTERING

Splintering means breaking into small parts. Some economists called it fragmentation. Due to complex work in real life situations, work is divided into small parts for example, the painting of car is done outsource firm this leads to value addition to the car, hence it painting become the part of service sector. Outsourcing (via services) leads to gains from trade and increases in national income. As an economy matures agriculture and manufacturing requires increasing services of specialized set of institutions or people in the field of banking, accounting, R&D, marketing, transportation, communication, consultancy, etc.

10.3.2 SPURT IN DOMESTIC DEMAND

The share of service in the total consumption basket has been increased from 8% in 1950–1951 to 20% in 1990–1991. The NEP 1990 had pushed the service sector in a tremendous way where private final consumption expenditure in terms of service sector has been increased to 50% approximately. The intuition of the common person towards the growth of the service sector is due to outsourcing and disguised manufacturing activities. In fact, it is a result of demand for education, communication, IT-related services, medical care, and health services has increased manifold. The service sector will remain the key contributor for economic growth covering two-third GVA growth.

10.3.3 TECHNOLOGY, TRANSPORTABILITY AND TRADABILITY

The 3Ts, (Technology, transportability and tradability) are key drivers of the service sector. The world has seen a dramatic revolution in IT sector during last three decades in service sector. Today a medical check-up still requires a doctor but medical reports & laboratory test results can be sent abroad for further references from different doctors even at different time zones. Many things can be stored online

on cloud data servers & updated. The service information is no longer restricted by time and space and can be easily transported over long distance with little or no degradation in quality. Due to decrease in tariffs and internet services worldwide. Notwithstanding the decrease in prices in the cost of services, speed, clarity, and reliability of transportation of services has increased manifold, Tradability refer to that modern problem have modern solutions as there is no barrier in transferring information one country to another on internet, no borders, no customs, or exchange of modern impersonal services.

10.3.4 GLOBALIZATION OF SERVICES

The globalization has led to make a world as a home where digitization is expanding widely like insurance claims; desktop publishing; the remote management and maintenance of IT networks; compiling audits; completing tax returns; transcribing medical records; and financial research and analysis. The export of services has almost doubled since 2006. Globalization is main reason behind that, it can be divided in two parts firstly service services account for more than 70% of global GDP, more than double in size compared to the manufacturing sector. Second, the cost differential in the production of services across the world is enormous. Now a day the service provider can sell the services without crossing national borders by making use of the Internet (outsourcing), the scope for exploiting cost differentials is much higher.

10.4 IS SERVICE-LED GROWTH SUSTAINABLE?

In the past few it has been observed that acceleration in GDP is due to the service sector while contribution by industry has stagnated from the last four decades. It is a debatable question that India has directly jumped from agriculture boom contribution to GDP to service Contribution in GDP. while in the traditional way economic growth is a three stage process. Many economists like Fisher (1939), Clark (1940), Rostow (1960), and Kuznets (1971) developed their models and suggested that development is a three-stage process. At first agriculture sector will dominate which create employment opportunity and self-sufficiency as well as surplus. during the second stage the, the share of industrial sector in economic activities increases, which, in turn, promotes wide range of activities in service sector. The dominance of service sector in the growth process is associated with the third stage of development. India growth pattern is different as it violates the traditional three stage process rather

jumped from agriculture economy to Service economy due to globalization for being a developing nation.

10.4.1 THE CASE FOR SERVICE-LED GROWTH

1) Service Growth and Poverty Reduction

Mostly growth of a nation is associate with agriculture sector growth. But the recent research has documented that agriculture growth has little impact on poverty reduction especially when a major chunk of workforce is engaged in this very sector. A study while taking a sample of 50 countries has revealed that growth in the service sector is more correlated with poverty reduction than growth in agriculture. While using a panel of Indian state data from 1994–2005, it was found that the trend growth in the service sector among Indian states is associated with a decrease in the trend of the headcount poverty rate of almost 1.5 points during the sample period. Further growth of service sector is strongly correlated with a reduction in both urban and rural poverty rates

2) Services Growth and Job Creation

Does Service growth lead to creating jobs in the economy? It's a controversial statement. It has been argued that employment growth has not kept pace with income growth in the sector or with the rise in its share of GDP. The change in the production structure from agriculture to services has not been reflected by a proportionate change in the occupational structure. However, the following observations were recorded in the service sector. First, the service sector has created the maximum number of jobs in South Asia in recent years. For example, in India and Pakistan, the service sector has created jobs at a faster pace than agriculture or industry in the past 20 years. Second, services contribute to poverty reduction via two channels, direct and indirect. Third, wage growth has been higher in the service sector than in manufacturing and agriculture. While manufacturing wages fell in the early 2000s in both rural and urban India despite rapid economic growth, service sector wages in utilities, trade, transport, and even rural finance improved. Fourth, countries with high employment in services tend to have the highest participation of women in the labor market. The development of service industries, therefore, brings new workers into the labor force, making the contribution to aggregate growth even larger

10.4.2 THE CASE AGAINST SERVICE-LED GROWTH

1. Employment in manufacturing requires learning of a particular skill set, whereas employment in services requires at least a college degree. A strategy that relies exclusively on services as the engine of growth must provide a minimum of 15 years of education before workers are transferred out of agriculture. This is not feasible for a country like India where major chunk of adults is engaged in agriculture. If India is to transition to a mod- ern economy in less than two decades, it cannot escape the industrialization stage. Each leg needs to be strengthened through a set of policy initiatives.
2. The employment elasticity of service sector is lower than that of industry. Overemphasizing service-led growth is not justifiable in a labor surplus country like India.
3. The long-term development record of seven fastest growing economies of Botswana, Singapore, China, South Korea, Thailand, Indonesia, and Malaysia for the period 1965– 1999 revealed that there was not a single instance of service growth exceeding industrial growth. The lower growth rate of GDP in 12th plan period (2012–2017) also proves that even when services are growing at decent pace, they alone cannot compensate for slow expansion of the overall economy. India must walk on two legs, that is, services and industry must grow together.

Government Initiatives

The Government of India recognises the importance of promoting growth in services sector and provides several incentives across a wide variety of sectors like health care, tourism, education, engineering, communications, transportation, information technology, banking, finance and management among others.

The Government of India has adopted few initiatives in the recent past, some of these are as follows:

1. In October 2021, Prime Minister, Mr. Narendra Modi, approved the establishment of 157 new medical colleges to boost accessibility of affordable health treatments among citizens.

2. In October 2021, the government launched a production linked incentive (PLI) scheme to boost manufacturing of telecom and networking products in India. The scheme is expected to attract an investment of ~Rs. 3,345 crore (US$ 446.22 million) over the next four years and generate additional employment for >40,000 individuals.

3. In October 2021, the government launched phase-II of the Mahatma Gandhi National Fellowship to empower students and boost skill development.

4. In October 2021, the PM Ayushman Bharat Health Infrastructure Mission was launched by the government, to strengthen the critical healthcare network across India in the next four to five years.

5. In September 2021, India and the UK joined the 11th Economic and Financial Dialogue (EFD) to discuss the FTA (Free Trade Agreement) opportunities in services.

6. Credit to non-food industries stood at Rs. 110.86 trillion (US$ 1.49 trillion), as of November 5, 2021.

7. The Indian government is planning to introduce a credit incentive programme worth Rs. 50,000 crore (US$ 6.8 billion) to boost healthcare infrastructure in the country. The programme will allow companies to access funds to ramp up hospital capacity or medical supplies with the government acting as a guarantor.

8. In June 2021, India and Australia announced its collaboration in cyber-enabled critical technologies, highlighting the requirement to boost the critical information security infrastructure such as 5G telecom networks.

9. Under Union Budget 2021-22, the government allocated Rs. 7,000 crore (US$ 963.97 million) to the Bharat Net programme to boost digital connectivity across India.

10. FDI limit for insurance companies has been raised from 49% to 74% and 100% for insurance intermediates.

11. In May 2021, the Ministry of Commerce and Industry announced that India received an FDI inflow of US$ 81.72 billion, the highest FDI during FY 2020-21.

12. In March 2021, the central government infused Rs. 14,500 crore (US$ 1.99 billion) capital in Central Bank of India, Indian Overseas Bank, Bank of India and UCO Bank through non-interest bearing bonds.

13. On January 15, 2021, the third phase of Pradhan Mantri Kaushal Vikas Yojana (PMKVY) was launched in 600 districts with 300+ skill courses. Spearheaded by the Ministry of Skill Development and Entrepreneurship, the third phase will focus on new-age and COVID-related skills. PMKVY 3.0 aims to train eight lakh candidates.

14. In January 2021, the Department of Telecom, Government of India, signed an MoU with the Ministry of Communications, Government of Japan, to strengthen cooperation in the areas of 5G technologies, telecom security and submarine optical fibre cable system.

15. On November 4, 2020, the Union Cabinet, chaired by the Prime Minister, Mr. Narendra Modi, approved to sign a memorandum of understanding (MoU) between the Ministry of Communication and Information Technology and the Department of Digital, Culture, Media and Sports (DCMS) of United Kingdom Government to cooperate in the field of telecommunications/information and communication technologies (ICTs).

16. In October 2020, the government selected Hughes Communications India to connect 5,000 village panchayats in border and naxal-affected states and island territories with satellite broadband under BharatNet project by March 2021.

17. In September 2020, the government announced that it may infuse Rs. 200 billion (US$ 2.72 billion) in public sector banks through recapitalisation of bonds

18. In the next five years, the Ministry of Electronics and Information Technology is working to increase the contribution of the digital economy to 20% of GDP. The government is working to build cloud-based infrastructure for collaborative networks that can be used for the creation of innovative solutions by AI entrepreneurs and startups.

19. On Independence Day 2020, Prime Minister Mr. Narendra Modi announced the National Digital Health Mission (NDHM) to provide a unique health ID to every Indian and revolutionise the

healthcare industry by making it easily accessible to everyone in the country. The policy draft is under 'public consultation' until September 21, 2020.

20. In September 2020, the Government of Tamil Nadu announced a new electronics & hardware manufacturing policy aligned with the old policy to increase the state's electronics output to US$ 100 billion by 2025. Under the policy, it aims to meet the requirement for incremental human resource by upskilling and training >100,000 people by 2024.

21. Government of India has launched the National Broadband Mission with an aim to provide Broadband access to all villages by 2022.

Road Ahead

By 2025, healthcare industry is expected to reach US$ 372 billion. India's digital economy is estimated to reach US$ 1 trillion by 2025. By end of 2023, India's IT and business services sector is expected to reach US$ 14.3 billion with 8% growth.

The implementation of the Goods and Services Tax (GST) has created a common national market and reduced the overall tax burden on goods. It is expected to reduce costs in the long run-on account of availability of GST input credit, which will result in the reduction in prices of services.

India's software service industry is expected to reach US$ 1 trillion by 2030.

Source: https://www.ibef.org/

10.5 CHECK YOUR PROGRESS

1. What is the share of top five services in overall FDI?

(a) 25%

(b) 35%

(c) 45%

(d) 55%

2. What is the approximate share of services in overall GDP?

(a) 54%

(b) 45%

(c) 34%

(d) 25%

3. What is the largest item in service exports?

(a) Business service

(b) Financial service

(c) Travel

(d) Software service

4. What is true about service sector?

I. Services contribute nearly 80% of GVA and employment, respectively, in both the United States and the United Kingdom.

II. Services account for more than 70% of global GDP.

III. As nations grow, their share of services is bound to increase in overall GDP.

Code:

(a) I and II

(b) II and III

(c) Only II

(d) I, II and III

5. Which of the following argument(s) explain(s) the non-sustainability of service sector?

I. Employment elasticity of service sector is low

II. Trade war

III. A minimum level of educational qualification is pre-requisite to join service sector

Mark the correct code:

Code:

(a) I, II and III

(b) II and III

(c) I and III

(d) Only III

6. Match the following:

	Problems faced by farming sector		**Some possible measures**
1.	Unirrigated land	**(a)**	Setting up agro-based mills
2.	Low prices for crops	**(b)**	Cooperative marketing societies
3.	Debt burden	**(c)**	Procurement of food grains by government
4.	No job in the off season	**(d)**	Construction of canals by the government
5.	Compelled to sell their grains to the local traders soon after harvest	**(e)**	Banks to provide credit with low interest

7. Find the odd one out and say why?

(i) Tourist guide, dhobi, tailor, potter

(ii) Teacher, doctor, vegetable vendor, lawyer

(iii) Postman, cobbler, soldier, police constable

(iv) MTNL, Indian Railways, Air India, SAHARA Airlines, All India Radio

8. **Which of the following sector does not comes under the service sector in India?**

A. Real estate

B. Transport

C. Restaurants & hotels

D. Formation of electronic television

9. Which activity is termed as activity of tertiary sector?

A. Wheat production

B. Mobile production

C. Construction of a dam

D. Fishing

10. Since when the service tax is being imposed in India?

A. 1991

B. 1999

C. 1994

D. 2001

10.6 SUMMARY

In 2021, the share of India's service sector is accounted around 54% in the total GVA of India. The services sector is strongest pallor of India's GDP now and attracted significant foreign investment, has contributed significantly to export and has provided large-scale employment. India's services sector is involves a wide variety of activities such as trade, hotel and restaurants, transport, storage and communication, financing, insurance, real estate, business services, community, social and personal services, and services associated with construction. The Government of India realise the importance of promoting growth in services sector and provides several incentives in health care, tourism, education, engineering, communications, transportation, information technology, banking, finance and management among others.

10.7 KEYWORDS

1) **Splintering:** Splintering means breaking into small parts. Some economists called it fragmentation. Due to complex work in real life situations, work is divided into small parts for example, the painting of car is done outsource firm this leads to value addition to the car, hence it painting become the part of service sector.
2) **Spurt in domestic demand:** It can prove to be the most important impetus for growth of the Indian economy in 2015-16. Then India will not have to be reliant entirely on export led growth. China is also following this strategy as its dependence on the global economic forces have gone beyond its control.
3) **Globalization of Services**: The globalization has led to make a world as a home where digitization is expanding widely like insurance claims; desktop publishing; the remote management and maintenance of IT networks; compiling audits; completing tax returns; transcribing medical records; and financial research and analysis. The export of services has almost doubled since 2006.
4) **Services Growth and Job Creation: First**, the service sector has created the maximum number of jobs in South Asia in recent years. For example, in India and Pakistan, the service sector has created jobs at a faster pace than agriculture or industry in the past 20 years. Second, services contribute to poverty reduction via two channels, direct and indirect. Third, wage growth has been higher in the service sector than in manufacturing and agriculture. While manufacturing wages fell in the early 2000s in both rural and urban India despite rapid economic growth, service sector wages in utilities, trade, transport, and even rural finance improved.

10.8 SELF-ASSESSMENT TEST

Q.1 Do you think the classification of economic activities into primary, secondary and tertiary is useful? Explain how.

Q.2 How is the tertiary sector different from other sectors? Illustrate with a few examples.

Q.3 “Tertiary sector is not playing any significant role in the development of Indian economy.” Do you agree? Give reasons in support of your answer.

Q.4 Service sector in India employs two different kinds of people. Who are these?

Q.5 What do you mean by service sector? How is it different than the industrial sector?

Q.6 Mention in brief the important causes of the growth in services sector in India.

Q.7 State in brief the important international factors that favour the growth of service sector in India.

Q.8 How is the tertiary sector of an economy different than the other sectors in the economy?

Q.9 What role does the tertiary sector perform in the development process of an economy?

Q.10 "The sequence of the growth process in India is different than what most of the other countries experienced during the transition from a developing to a developed nation". Examine this statement and account for the causes of rapid growth of the tertiary sector in India.

Q.11 Examine the nature of foreign trade in services in India. Also examine the prospects of exports of services from India.

10.9 ANSWERS TO CHECK YOUR PROGRESS

1. (c)
2. (a)
3. (c)
4. (b)
5. (a)
6. Answers to Match the following

	Problems faced by farming sector		**Some possible measures**
1.	Unirrigated land	**(d)**	Construction of canals by the government
2.	Low prices for crops	**(c)**	Procurement of food grains by government
3.	Debt burden	**(e)**	Banks to provide credit with low interest

4.	No job in the off season	**(a)**	Setting up agro-based mills
5.	Compelled to sell their grains to the local traders soon after harvest	**(b)**	Cooperative marketing societies

7. Answer to Odd Man Out

(i) Tourist guide

He is appointed by the government, while dhobi, tailor and potter belong to the private sector.

(ii) Vegetable vendor

His is the only profession that does not require a formal education.

(iii) Cobbler

The rest are workers in the public sector, while his profession is part of the private sector.

(iv) SAHARA Airlines

It is a private enterprise, while the rest are government undertakings.

8. (d)

9. (c)

10. (c)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **11** **Foreign Trade and Policy**	Vetter: **Prof. Anil Kumar**

STRUCTURE

11.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

- To know the meaning of international foreign trade
- To understand why there is need of International Trade
- To observe the characteristics of foreign trade
- To know FTP reforms India's foreign trade at the time of independence and post-independence reforms
- Inward looking trade strategy
- To understand the Foreign trade policy (FTP) during 2015-2020

11.1 INTRODUCTION

'Trade is engine of growth' stated by Adam smith in his book *Wealth of Nations* Trade helps nations to increase their GDP, employment, production, and consumption levels along with many other qualitative aspects related to growth and development of the nations. Foreign trade has worked as an engine of growth in case of Great Britain, Japan in twentieth century. Now a Days "outward-oriented growth strategy" adopted by the Newly Industrializing Economies of Asia, viz. Hong Kong, Singapore, Taiwan, Malaysia, Thailand, and South Korea, has enabled them to overcome the constraints of small resource-poor underdeveloped economies. In recent times, India, China, Brazil, Argentina, and Mexico are also following the same strategy.

11.2 WHY NATIONS' TRADE?

Foreign trade contributes to economic development of a nation in a number of ways:

First, there is comparative cost advantage & production availability at very low expense. The nations, which have comparative advantage will produce more and export the commodity in which they have specialization and import the commodity of its comparative disadvantage (in which it has lesser specialization).

Secondly, difference of factors available in different regions that initiate trade among nations because of supply and demand gaps. For example, India does not have sufficient petroleum oil

resources and therefore imports heavily from Arab nations thirdly, taste preferences too affect trade largely across the nations. Some people prefer to buy German made homeopathy medicines or other allopathic medicines that belong to a particular foreign brand.

Fourthly, the developing nations have technology gap, so by importing the technology, fills the gap that leads to increase in total factor productivity, which ultimately unleashes the forces of higher growth.

Finally, we can see the evidence that nations which are more open and heavily engaged in trade are more developed, technology enhanced, rich, Competitive. On the other hand, nations which were less opened are or mostly remained closed are underdeveloped, impoverished, and uncompetitive in many respects

11.3 CHARACTERISTICS OF INDIA'S FOREIGN TRADE

A proper analysis of a country's foreign trade can be attempted in three component parts, viz.

(1) Value of trade,

(2) Composition of trade, and

(3) Direction of trade.

11.3.1 VALUE OF TRADE

Value of trade signifies two things:

1. Share of exports/imports in GDP
2. Share of exports/imports in world trade

11.3.1.1 SHARE OF EXPORTS/IMPORTS IN GDP

The ratio of exports to GDP also signifies the supply capability of the economy It is also called average propensity to export. Similarly, ratio between imports and GDP gives the average propensity to import. India's total exports have increased by more than 3,200 times during the last seven decades, from 606 crore in 1950–51 to over `15,182,371 crore in 2017–18. Since independence Govt has taken many intiative to boost exports from NEP (1991) to make in India. This will help exporters to successfully make use of productivity gains that exist today. India's total imports have increased nearly 5,000 times

during the last seven decades from 608 crore in 1950–51 to an estimated amount of `3,001,016 crore in 2017–18.In 2017–18, India's imports constituted around 20% of the total GDP.

11.3.1.2 SHARE OF EXPORTS/IMPORTS IN WORLD TRADE

The presence of nation in world market can be asserted by total export/import share. It reflects the comparative advantage of the country. Changes in this ratio, thus, indicate the shift in the position of the comparative advantage of the country. India share in world market can be seen as:

Year	Share in World Market (%)
1951	2.2%
1958	1.3%
1965	1.1%
1980	0.42%

Source: Economic Survey, 2018–19, Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India

As it is clear from the above table that share of export/import is decling in world market, it was due to import substitution policy, it was in spite of the country's natural comparative advantages: low wages, and intelligent and educated workforce, raw cotton and, of course, preferential access to OECD markets. However, India's export has been increased from 0.7% in 2000 to 1.7% in 2017

11.3.2 COMPOSITION OF TRADE

Composition of trade reveals the kind of commodities a nation deals with foreign countries. This focuses on the industrial & territorial products in the nation. One can ascertain the competitive trade advantage from import & export of the products The United States, the United Kingdom, Australia, Canada, Japan, and many countries of the Western Europe can be placed in this category.

Group-wise Composition of Exports (% of total)

Commodity Groups	1960–61	1990-91	2018-19
Agriculture and allied product	44.2	19.4	11.8
Ores and minerals	8.1	4.6	1.8
Manufactured goods	45.3	72.9	70.3
Petroleum products	1.1	2.9	14.3
Other	1.3	0.2	1.6

Source: Economic Survey, 2018–19, Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

In the above mentioned table we can observe that at the time of independence we were exporting primary products was very high due to Britishers discriminatory policies. However, that declines with the increase in industrialization & domestic consumption of nation. while the manufactured goods export has been increased from 45.3% to 70.3% because of cost advantage & gain in technology over a period of time. The petroleum products and mineral fuels have shown a marvellous jump because of the increase in domestic production capacities by both government and private companies and cost-effective refining of crude petroleum.

Item-wise Leading Exports of India (2018–19)

Rank	Item	% of Total
1	Gems & Jewellery	12.2
2	Machinery & Instruments	8.3
3	Transport Equipment	7.3
4	Manufactures of Metals	5.0

5	**Readymade Garments**	**4.9**

Source: Economic Survey. Statistical Appendix. Department of Economic Affairs, Ministry of Finance, GOI. 2018–19.

As manufacturing exports constitute three-fourth of India's total exports, the top items of exports are from manufacturing exports only. The above table describes the top contributor manufactured products is gems & jewellery, secondly machinery & instruments because India imports raw metals and export finished metal due comparative low cost advantage. Transport equipment, Manufacturers of metals hold, third and fourth position respectively and verifies country's increasing efficiency in the production of engineering goods. The Readymade garments takes fifth position mainly because of the comparative advantage India enjoys in the production of textiles.

Commodity Group	**% of total**
Food and allied products	**3.2**
Fuel	**32.5**
Fertilizers	**1.5**
Capital goods	**13.8**
Paper board manufacturer and newsprint	**0.9**
Others	**36.6**

Group-wise Composition of Imports (2018–19)

Source: Computed from Economic Survey, 2018–19. Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

The above table depicts the composition of imports in India. The food and allied products constituted 19.1% of total imports in 1960–61, and its share in total imports has come down to around 3% in 2018–19, reflecting India's self-sufficiency in food products. The share of capital goods has also

come down from 31.73% to 13.8% during the same period, indicating India's growing expertise in machines.

Item Wise Leading Imports of India (2018–19)

Rank	Item	% of Total
1	**Petroleum, Oil and Lubricants (POL)**	**27.4**
2	**Electronic goods**	**11.2**
3	**Gold & Silver**	**7.1**
4	**Chemicals**	**6.8**
5	**Pearls, precious, semi- precious stones**	**5.3**

Source: Computed from Economic Survey, 2018–19. Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

India is one of the leading importer of Petroleum, Oil and Lubricants (POL) constitutes nearly 27% of total imports since last seven decades. Secondly India is Importing Electronic goods mainly from china, US, Singapore and other East Asia countries. India is one of the world's largest importers of gold, which is widely considered a "safe haven" asset this consists of 3rd rank in India's Import. On Fourth Rank Chemicals were imported organic, inorganic, chemical materials & products and dyeing, tanning & colouring material. India specializes in the processing and finishing of the pearls, precious, and semi-precious stones which occupy fifth position in country's total imports.

11.3.3 DIRECTION OF TRADE

The Direction of trade signifies the destination of India's exports and sources of India's imports. It is indicative of the structure and level of economic development.

Direction of Exports

Asia is largest export destination of India followed by America and Europe. Recently a jump in exports can be seen in India's Export due to rise in Asia and Oceania countries which include ESCAP countries like Australia, Iran, Japan, Korea, Malaysia, Singapore, Thailand, Hong Kong, Bangladesh, and Nepal. This in favour of exports can be seen due low freight cost advantage also.

Direction of India's Trade- Region Wise (2018–19)

Region	Exports (%)	Imports (%)
Europe	**19.5**	**15.3**
Africa	**8.7**	**8.0**
America	**20.9**	**12.7**
Asia	**48.8**	**62.1**
CIS and Baltics	**1.1**	**1.8**
Unspecified region	**1.1**	**1.7**

Source: Computed from Economic Survey, 2007–18. Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

In country wise Export, The United States remains our principal buyer, then UAE and China are the second and third importer from India respectively. As stated in Table Below, the relative importance of the United Kingdom and the United States as outlets for our exports has declined over the years. Whereas, in 1950–51 these countries together accounted for more than 40% of India's exports, this share has come down presently to around 25%.

Country-wise Top Ten Export Destinations of India (2018–19)

Country	US$ billion	Exports (%) 2018–19
The United States	**52.43**	**15.9**
UAE	**30.13**	**9.1**
China	**16.75**	**5.1**

Hong Kong	**13.0**	**3.9**
Singapore	**11.57**	**3.5**
UK	**9.33**	**2.8**
Bangladesh PR	**9.21**	**2.8**
Germany	**8.9**	**2.7**
Netherland	**8.81**	**2.7**
Nepal	**7.76**	**2.4**

Source: Computed from Economic Survey, 2017–18. Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

Direction of Imports

The imports of India were primarily from the aid giving nations. Recently the trend has been changed Region wise, India imports maximum imports from Asia (62%), Europe (15%), and America (13%). A more significant rise in petroleum & oil products can be seen. The OPEC alone accounts for about 16% of our total imports. The EU as a group accounts for about 11% of our imports.

Top Source Nations of India's Imports, 2018–19

Country	**US$ billion**	**Imports (%)**
China	70.32	13.68
The United States	35.55	6.92
UAE	29.78	5.79
Saudi Arab	28.48	5.54
Iraq	22.37	4.35
Switzerland	18.08	3.52
Hong Kong	17.99	3.50

Korea RP	16.76	3.26
Singapore	16.28	3.17
Indonesia	15.85	3.08

Source: Computed from Economic Survey, 2017–18. Statistical Appendix. Department of Economic Affairs. Ministry of Finance. Govt. of India.

Country wise import China is India's largest source contributor to Imports. In 1965-66 United states was at first position but due to green revolution and Self-sufficiency and cost advantage its share declined to $35.55 in 2018-19. The Import of Petroleum & oil products & other leads the UAE, Saudi Arabia and Iraq to third, fourth & fifth import position respectively.

11.3.4 DIVERSIFICATION OR CONCENTRATION?

As the country developed the relations with other nations gets strong in terms of trade. The choice of import and export of products from different nations become wider. The country begins to trade with a large number of nations. In this regard, one could ask whether there has been a concentration or dispersion of the markets for exports and sources of supply for imports. Just the two continents Asia and Europe account for 70% of India's exports and just seven nations, viz. the United States, China, the UAE, Hong Kong, Singapore, Saudi Arab, and Switzerland con- tribute to one-third of India's foreign trade. It signifies that India's foreign trade is not diversified. India would have to explore new sources of imports and new markets for its products in the fast globalizing world.

11.4 Foreign Trade Policy (FTP) of India & Special Economic Zone

Imports and exports are the major ingredients of the nation which decide the balance of payments and provide solutions to the economy's resources. Government of India's Ministry of commerce announces annual or perspective (5 yearly) export–import policy (EXIM Policy) or foreign trade policy (FTP).

11.4.1FTP IN PRE-REFORM PERIOD

India's Foreign trade in the 1950's was mainly export of primary products and import of manufactured goods, since less developed countries were dependent on the competing products of developed nations,

hence trade work in favour of developed countries and there is secular deterioration in the terms of trade of the less developed nations. Here two sentiments set up in mind, one is that raising export earnings were impossible and the other was that the import substitution by itself will be able to solve India's Balance of Payment difficulties.

11.4.2 Following are the salient features of FTP during the pre-reform period

Policy of Import Restriction

The second five-year plan focused on industrialization which resulted in imports of capital goods that exhausted limited foreign exchange reserves and caused a balance of payment crisis of 1956–57. The government took action by strictly raising tariffs and introducing comprehensive licensing on a variety of imports. The average tariff was 125% on agriculture, mining, and manufacturing. Import licensing was highly restrictive to eliminate "consumer goods imports" and replace them with domestically produced goods Imports were classified into different categories; non-permissible (banned), limited permissible (mandatory certification and clearance is required), and open general license (no certification or clearance is required).

Policy of Import Substitution

The policy of import substitution was placed to induce nation with indigenous production, It can be achieved by imposing quantitative restrictions, tariffs, or other trade barriers. It helps a nation to achieve self-reliance and save its valuable foreign exchange reserves., It promotes the indigenous industry and prepares it to become exporter as well.

Export Policy During the Pre-reform Period

The export policy is classified into three phases; Phase I (1952–1973); Phase II (1973–1980), and Phase III (1980–1990). During the first phase the FTP become restrictive & import substitution damaged the export capacity of developing nation. From 1952–1966, India witnessed fall in the share of its traditional exports and insufficient expansion of non-traditional exports. During 1965. India devalued its currency by 36.5%. And in 1966-67 export subsidies were given to many non-traditional export goods like engineering goods, chemicals, paper products, textile, and iron and steel.

11.4.3 FTP IN POST-REFORM PERIOD

Liberal Imports and Exports

As we discussed earlier, the pre-reform period was restrictive, the system was very complicated and there were different types of import licenses, different categories of importers, and alternate ways of importing. Later on quantitative restrictions were removed on capitals good, engineer good but imposed on consumer products.

In early 1990 the rupee depreciated, resulting in making import costly but encouraging export competitive in the market. That also pushes government to reduce the maximum rate of import duty from 100 to 85% during the 1993–94 annual budget.

The Managed Float System of Exchange Rate

In the mid of 1991 India's foreign reserves were shrunk to $1,124 million, which can cover for two weeks only. At that time Indian Government devalued its currency in two steps, that is, on July 1 and July 3, 1991 by 18.5% against the US dollar. Firstly, it was partially converted in 1992-93 later on full convertibility in current account was achieved in august 1994.The peasant system of foreign exchange is called managed floating system. However, the RBI does intervene in the foreign exchange market in case of steep rise and fall in exchange rates.

Establishment of Special Economic Zones

The FTP 200 promotes SEZ to promote FDI and export. The government came with SEZ act 2005, supported by rules 2006 and the act came into force on February 10, 2006, these SEZ were set up to increase employment, Exports & GDP. these were provided with various exemption and incentives to promote foreign investment

Establishment of Agriculture Export Zones

The government announced Agriculture export zones (AEZ) in 2001 in FTP Policy to promote the agricultural produce in developing and sourcing the raw material their processing and packing, leading to final exports., spatially it increases the potential adopting an end to end approach of integrating the entire process right from the stage of production till it reaches the market

Establishment of Export-Oriented Units

The scheme was introduced in early 1981 along with SEZ scheme. It provides wider scope to factors like source of raw materials, port of export, hinterland facilities, availability of technological skills, existence of an industrial base, and the need for a large area of land for the project. Last few years have been evidenced that EOU become a major player in country's export and hold a share of 10% in exports.

Export Houses and Trading Houses

In April 2007 The Export houses were divided into 5 categories mainly: (1) Export House, (2) Star Export House, (3) Trading House, (4) Star Trading House, and (5) Premium Trading House. There volume of exports of time set up as `20, `100, `500, `2500, and `10,000 crore, respectively. The new policy also permitted duty free import and for the export 51% foreign equity in stake.

Market Access Initiative Scheme

This scheme was launched in 2001-02 to increase the market depth of or selecting products in chosen countries.in order to generate date for the promotion of exports from India. The scheme is formulated on focus product–focus country approach to evolve specific strategy for specific market and specific product through market studies/survey. The scheme also assists in upgrading the quality of products as per the requirement of overseas market and also in making publicity, campaigns, etc.

11.4.4 FOREIGN TRADE POLICY (2015–2020)

The five-year program for the period 2015-2020 was announced by government on April 1, 2015 with the aim of increasing the exports of goods and services to 900 billion which was $465.9 billion in 2013-14 and also aims to increase India's share in world export to 3.5% by 2019-20 which was 2% previously. The characteristics of foreign trade policy are covered under following heads:

Simplification and merger of reward schemes

Earlier five different schemes (focus product scheme, market linked focus product scheme, focus market scheme, agricultural infrastructure incentive scrip) were subsumed in Single scheme namely merchandise export from India scheme. These schemes are for rewarding the merchandise exports with varying conditions of its use like duty scrips. Merchandise Export from India Scheme (MEIS) was the single scheme in which all the schemes were merged.

Service Exports from India Scheme (SEIS) has been placed instead of Served from India scheme (SFIS). SEIS shall pertain to "service providers located in India notwithstanding the constitution or profile of service.

SEZs will also get the impetus of MEIS and SEIS.

The goods imported against the scrips issued under MEIS and SEIS would be fully transferable. Payment of customs duty for import of inputs/goods, payment of excise duty on domestic procurement of inputs or goods, payment of service tax on procurement of services, basic Customs Duty paid in cash if scrips are issued under the Export of India scheme.

Foreign trade has been tremendously increased in the country through the successful contribution of business leaders who are getting excellence in international trade. These business leaders have been recognised as status holder. The method for export performance for recognition of status holder have been changed from rupees to the US dollar earnings. Now, the manufacturers can certify their manufactured goods as stemma from India with a view to qualify for preferential treatment.

ELEVATE "MAKE IN INDIA"

Various special steps have been taken to encourage the MAKE IN INDIA campaign. Under the export promotion capital goods (EPCG) scheme, the specie export obligation on capital goods produced by indigenous producers have been reduced to 75%. Export items that have higher domestic and value addition are provided with higher level of incentives under MEIS.

Trade Facilitation & Ease of Doing Business

Various types of documents and hard copies which were required to be submitted for schemes have now been relinquished. The landing documents required for export consignment could now be uploaded digitally. there is no need to submit the copies of documents repeatedly with each application.

For the faster and paperless communication with various committees of the directorate general of foreign trade, a dedicated e-mail address has been provided.

Other New Initiatives

To enable units to utilize their infrastructure facilities in an optimum way and avoid duplication of efforts and cost to create same infrastructure again the Software Technology Parks (STPs), Export

Oriented Units (EOUs) and Electronic Hardware Technology Park (EHTPs) have been allowed to share the infrastructure facilities among them.

Calicut Airport, Kerala and Arakonam Inland Container Depot (ICD), Tamil Nadu have been notified as registered ports for import and export.

"Quality Complaints and Trade Disputes" have been established in the FTP to resolve the quality conflicts between the exporters and importers. The government recognised 33 towns as the export excellence towns. Vishakhapatnam and Bhimavaram are being decided to be added in to the same list.

11.4.5 SPECIAL ECONOMIC ZONES (SEZS)

The Government announced the SEZ policy on April 1, 2000. The prime objective was to enhance foreign investment and provide an internationally competitive and hassle-free environment for exports. Furthermore, to instil confidence into investors and signal the Government's commitment to a stable SEZ policy regime, a comprehensive SEZs Act 2005, was enacted by the parliament. The SEZ Act 2005, supported by SEZ Rules, came into effect on February 10, 2006.SEZ is a specifically delineated duty-free enclave and shall be deemed to be foreign territory for the purposes of trade operations and duties and tariffs. In other words, SEZ is a geographical region that has economic laws different from a country's typical economic laws. Usually the goal is to increase foreign investments. SEZs have been established in several countries, including China, India, Jordan, Poland, Kazakhstan, Philippines, and Russia.

Facilities and Incentives Extended to SEZs

- Duty-free import/domestic procurement of goods for development, operation, and maintenance of SEZ units.
- Hundred percent Income Tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first the 5 years, 50% for the next 5 years thereafter, and 50% of the ploughed back export profit for the next 5 years.
- Exemption from GST.
- Exemption from other levies as imposed by the respective state governments.
- Single window clearance for central and state-level approvals.

- Exemption from customs duties for development of SEZs.

Objectives/Benefits of SEZs

1) Contribution to GDP

SEZs lead to generation of additional economic activity and, hence, contribute to the GDP of the country. In India, there are more than 400 approved SEZs and more than 200 operational SEZs, and the number of approved units in such zones is around 5,100.

2) Contribution to Exports

SEZs have long been touted as a method of increasing exports and, as a result, improving the level of development in a region. In an open economy, SEZs increase the likelihood of export- ing by as much as 25%.22 In India, the exports from SEZs have increased from `22,800 crore in 2005–06 to `581,033 crore in 2017–18.

3) Increase in Investment

Further SEZs offer numerous benefits to investors like tax incentives, provision for infrastructure and utilities, single window clearance, simplified procedures, exemptions from various restrictions, and so on. Such measures foster a conducive business climate to attract both indigenous and foreign investment. Total investment in SEZs, both domestic and foreign, increased from 4,035 crore in 2005–06 to 502,259 crore in 2017–18.

4) Creation of Employment Opportunities

Employment generation, both direct and indirect, has been an important channel, through which SEZs have impacted on human capital enrichment.23 The total number of employed per- sons has increased from 1.3 lakh in 2005 to around 20.3 lakh in 2018.

5) Development of Infrastructure Facilities

The creation of infrastructure is a necessary pre-condition to promote industrialization in the country. SEZs attract both indigenous and foreign investment by providing world-class and state-of-art infrastructure facilities.

Demerits of SEZs

1) Seize of prime agricultural land

As much as SEZ developed it has an appalling effect on the prime agricultural land as with more SEZs in pipeline, the availability of land for agricultural shrinking at large and it has a threatening effect on agricultural production in the country. These effects are increasing as there is strong connection between SEZ builders and politicians. They grabbed lands from farmers at inappropriate prices and not adequately funded them.

2) Dislocation of local population

Special economic zones acquire land from farmers and this acquisition has an effect on the location of the families. This acquisition leads to inadequate compensation and poor living standards of displaced families. For example, in Nandi gram located in west Bengal, the proposed SEZ acquired both agricultural land and residential land resulting in the displacement of 27 village's population.

3) Revenue forgone due to tax exemption

The exemptions and incentives availed by SEZs has resulted in loss of revenue to the government as special economic zones are availed exemption from various taxes like GST, Custom duty and so on.

4) Reason for inequity

The SEZs failed to promote balanced regional development in the country. Only 6 developed states have SEZs namely Andhra Pradesh, Maharashtra, Haryana, Tamil Nadu, Karnataka, Gujarat. there is inappropriate division of SEZs among four directions viz east, west, north, south and most of the SEZs are established in just 20 states of the country

5) Underperformance

The units in SEZs failed to perform as expected in areas like investment, exports and employment. The CAG report reported non-performance on targets related to investment (24 to 75%), exports (46 to 93%) and employment (65 to 96%). Also in employment, cases CAG release unsatisfactory data.

11.5 CHECK YOUR PROGRESS

1. The FTP 2015–20 notified Vishakhapatnam and Bhimavaram in Andhra Pradesh as towns of export excellence in the product category.

(a) Shipbuilding

(b) Seafood

(c) Gems and jewellery

(d) Leather products

2. Which of the following statement(s) is/are true?

I. India's total exports have increased by more than 3,000 times and India's total imports have increased by nearly 5,000 times during the last seven decades.

II. India's share in world exports has declined from 2.2% in 1951 to less than 2% at present.

III. India's terms of trade vis-à-vis China has deteriorated since 2008.

Mark the correct code:

Code:

(a) I and III

(b) II and III

(c) Only III

(d) I, II, and III

3. Where was Asia's first Export Processing Zone established?

(a) Ahmedabad

(b) Kolkata

(c) Mumbai

(d) Kandla

4. What is not the impact of India's import substitution policy?

(a) It produced supply side constraints

(b) It discouraged production of luxury goods

(c) It led to generation of unutilized capacity

(d) It led to massive misallocation of resources

5. Which of the following was/ were the characteristic feature of FTP during pre-reform period?

I. Export pessimism

II. Import substitution

III. System of managed float

Mark the correct code:

Code:

(a) I and II

(b) II and III

(c) Only II

(d) I, II, and III

11.6 SUMMARY

After Independence, A significant change have been registered in the volume, composition and direction of trade. These positive changes prepare a basis for the economic development of economy. It is a remarkable achievement that India has transformed itself from a predominantly primary goods exporting country into a non-primary goods exporting country. In import also, India's dependence on food grains and capital goods has declined. The major problems facing by the Indian foreign trade is deficit in the balance of payment and low share in overall world trade. The government try to tackle these issues properly and implement various policy measures as like Foreign Trade Policy, Export-Import Incentives, Special Economic Zone, and Make in India program.

11.7 KEYWORDS

- **Foreign trade:** It is the exchange of capital, goods, and services across international borders or territories. In most countries, it represents a significant share of gross domestic product (GDP). Without international trade, nations would be limited to the goods and services produced within their borders
- **Direction of Trade:** The Direction of trade signifies the destination of India's exports and sources of India's imports. It is indicative of the structure and level of economic development.
- **Foreign Trade Policy (FTP)** Imports and exports are the major ingredients of the nation which decide the balance of payments and provide solutions to the economy's resources. Government of India's Ministry of commerce announces annual or perspective (5 yearly) export–import policy (EXIM Policy) or foreign trade policy (FTP).
- **Special Economic Zones (SEZs):** A special economic zone (SEZ) is an area in which the business and trade laws are different from the rest of the country. SEZs are located within a country's national borders, and their aims include increasing trade balance, employment, increased investment, job creation and effective administration. To encourage businesses to set up in the zone, financial policies are introduced. These policies typically encompass investing, taxation, trading, quotas, customs and labour regulations. Additionally, companies may be offered tax holidays, where upon establishing themselves in a zone, they are granted a period of lower taxation.
- **Underperformance:** The units in SEZs failed to perform as expected in areas like investment, exports and employment. The CAG report reported non-performance on targets related to investment (24 to 75%), exports (46 to 93%) and employment (65 to 96%). Also in employment, cases CAG release unsatisfactory data.

11.8 SELF-ASSESSMENT TEST

Q.1 What do you mean by Foreign Trade? How it is different from Domestic Trade?

Q.2 Discuss different provision come under Foreign Trade Policy, 2015-20.

Q.3 Why Foreign Trade is necessary for a nation? Explain the different types of Foreign Trade.

Q.4 Discuss the status of Imports and Exports in India? How Balance of Payment is get affected through this status?

Q.5 Why Special Economic Zones are formed by Government?

Q.6 Explain the trends of foreign trade in India. What are the reasons of slow growth in India's Exports?

11.9 ANSWERS TO CHECK YOUR PROGRESS

1. (B) 2. (A) 3. (D) 4. (D) 5. (D)

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Course: **Indian Economy**	
Course Code: **BC 506**	Author: **Dr. Kapil Choudhary**
Lesson No: **12** **Problems of Indian Economy**	Vetter: **Prof. Anil Kumar**

Structure

12.0 LEARNING OBJECTIVES

After going through this lesson, you should be able:

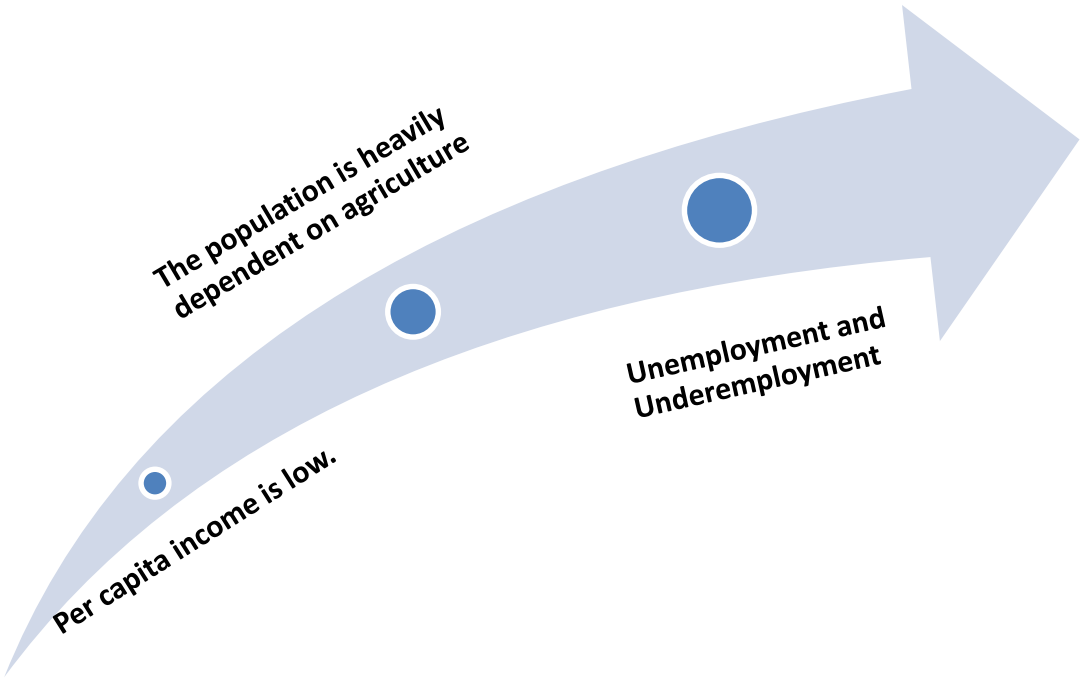
- To understand problems of Indian economy.
- To know the causes of problems in Indian economy.
- To understand the solutions to problems of Indian economy

12.1 INTRODUCTION

On the one hand, India is praised for its consistent growth rate, but it is still a low-income developing country. Even now, more than 25% of the Indian population lives in poverty. There are also numerous human and environmental resources that are underutilized. In this chapter, we'll look at India's economic problems.

12.2 THE ECONOMIC PROBLEMS IN INDIA

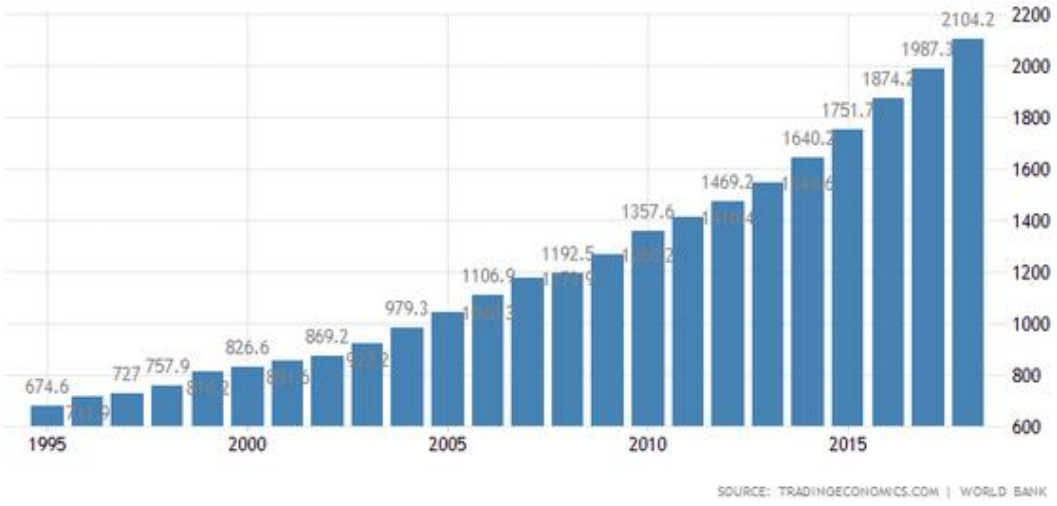
Being a poor country and one of the fastest growing economies in the globe, there are some unique economic problems in Indian economy as mentioned below:



12.2.1 PER CAPITA INCOME IS LOW

Developing economies typically have a low per-capita income. In 2014, India's per capita income was $1,560. In the same year, the United States' per-capita Gross National Income (GNI) was 35 times that of India, while China's was 5 times higher. Apart from having a low per capita income, India also has a problem with unequal income distribution. As a result, poverty has become a crucial issue to the country's economic development. As a result, India's low per-capita income is one of the country's most vital economic concerns.

India GDP Per Capita - Historical Data		
Year	GDP Per Capita (US $)	Annual Growth Rate (%)
2020	$1,901	-9.52%
2019	$2,101	5.20%
2018	$1,997	0.82%
2017	$1,981	14.32%



The above is the per capita income trend over 25 years in India.

You can see it is increasing each year. It has been increasing regardless of which party is in power. So it is not correct to say that it is not increasing. But the fact is that it is not on par with advanced economies like US, UK, etc. The reasons for these lie in the history of our country between 1947 to 1991. Today we rank 139 or so in the world rankings for per capita income. So why's India behind 138 countries in terms of economic development? Because of bad leadership. We got bad leaders; honest they might have been, to run the country after we got independence.

Those leaders went for the communist model of economy. Even though they called it socialist model, it is just another shade of communist model Up to 1991; it was a combination of mixed economy model. This was the period during which a foundation was laid for economic progress. We can list a few errors below:

- Socialist system
- Licensing system: You had to get licenses from the government to start businesses. The government gave licenses to very few companies. So there was very little competition among the players. These companies had monopolies. They were able to sell at high prices for average quality products. Because of the existences of very companies, not many people could be employed. Because of low production levels, prices were very high. Affordability was very low.
- Nationalization of banks
- Nationalization of insurance companies
- Public sector companies - This was an opportunity for the employees including Managing directors, to manage the company. Also there was no incentive for them to make profit, since the profit went to the government and in private sector, the businessman makes profit, so there is lot of incentive for him to make profit. Also, the employees were lazy and did not want to work. So cost was very high. Material usage was very high. Time wastage was high.
- Poor labor laws - this gave job security to everyone. Unions were strong and dictated terms. Productivity was very low.
- Very investor unfriendly systems - need to give bribes for any clearance, delay in approvals, etc.

- High tax rates - killed the interest in business. Business was unattractive.
- High customs duties - lack of competition from foreign companies. No admission for latest technologies and best practices.

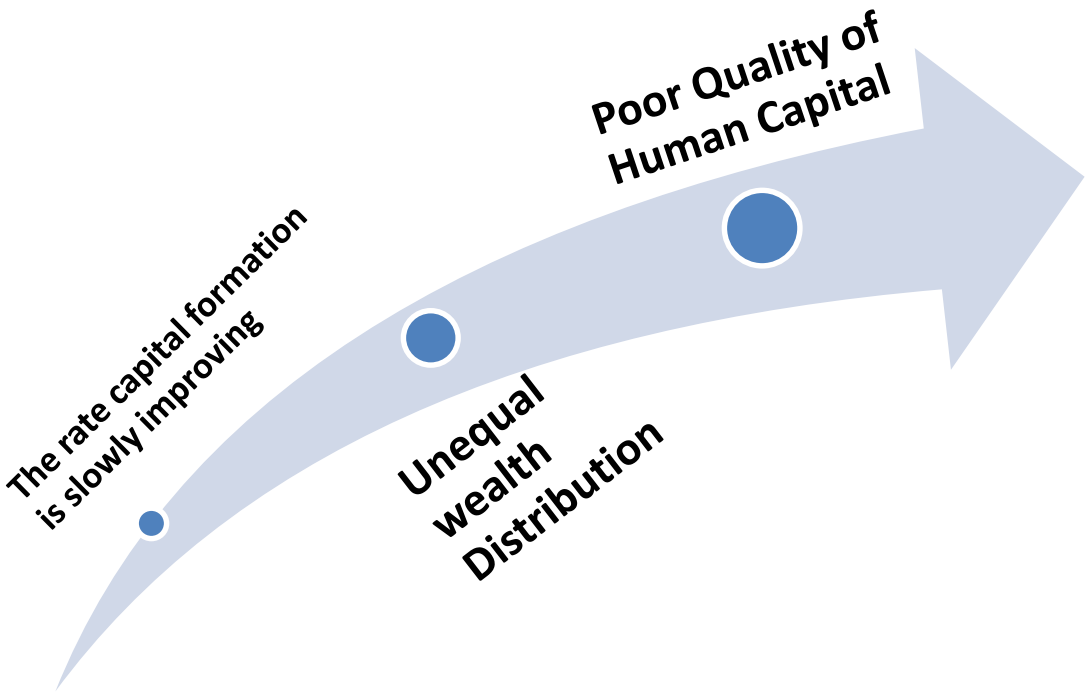
This is a quick list. These and many other similar mistakes just killed our economy. No wonder we are behind Britain and everybody else. All this came to a stop from 1991 when people like PVN, VP Singh, and Chidambaram came into the picture. Reforms like WTO, free market economy, low customs tariff were introduced. The change in thinking was kick-started by people having vision to take economy into new heights.

12.2.2 THE POPULATION IS HEAVILY DEPENDENT ON AGRICULTURE

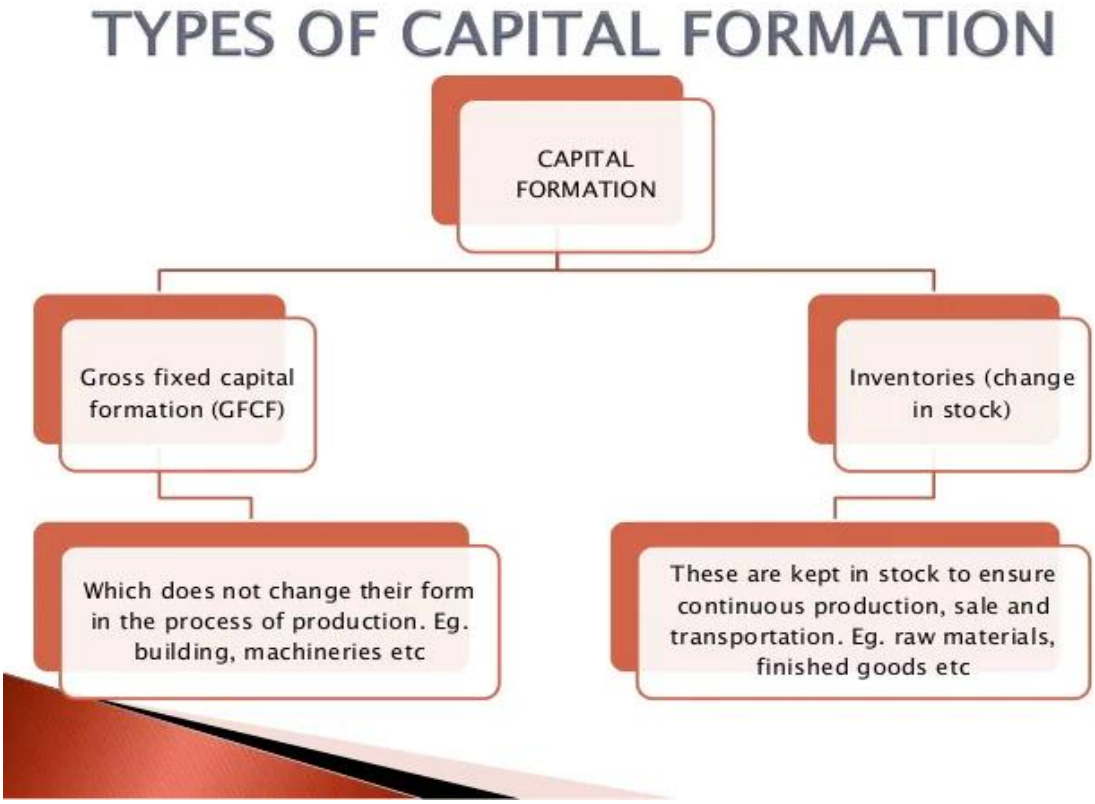
The distribution of occupations in India is another factor that indicates the country's economic backwardness. The Indian agriculture sector has been able to meet the demands of the country's rapidly growing population. According to the World Bank, agriculture employed roughly 47 percent of India's working population in 2014. And, it contributed only 17 percent to the GDP implying a low productivity per person in the sector. The expansion of industries failed to employ enough manpower either. Agricultural development is one of the most powerful tools to end extreme poverty, boost shared prosperity and feed a projected 9.7 billion people by 2050. Growth in the agriculture sector is two to four times more effective in raising incomes among the poorest compared to other sectors. Analysis in 2016 found that 65 percent of poor working adults made a living through agriculture. Agriculture is also crucial to economic growth in 2018, it accounted for 4 percent of global gross domestic product (GDP) and in some developing countries, it can account for more than 25% of GDP. But agriculture-driven growth, poverty reduction, and food security are at risk: Climate change could cut crop yields, especially in the world's most food insecure regions. Agriculture, forestry and land use change are responsible for about 25 percent of greenhouse gas emissions. Mitigation in the agriculture sector is part of the solution to climate change.

The current food system also threatened the health of people and the planet, agriculture accounts for 70 percent of water use and generates unsustainable levels of pollution and waste. One- third of food produced globally is either lost or wasted. Addressing food loss and waste is critical to improving food and nutrition security, as well as helping to meet climate goals and reduce stress on the environment. Risks associated with poor diets are also the leading cause of death worldwide. Millions of people are

either not eating enough or eating the wrong types of food, resulting in a double burden of malnutrition that can lead to illnesses and health crises. A 2020 report found that nearly 690 million people or 8.9 percent of the global population are hungry, up by nearly 60 million in five years. Food insecurity can worsen diet quality and increase the risk of various forms of malnutrition, potentially leading to under nutrition as well as people being overweight and obese. The cost of healthy diets is unaffordable for more than 3 billion people in the world.

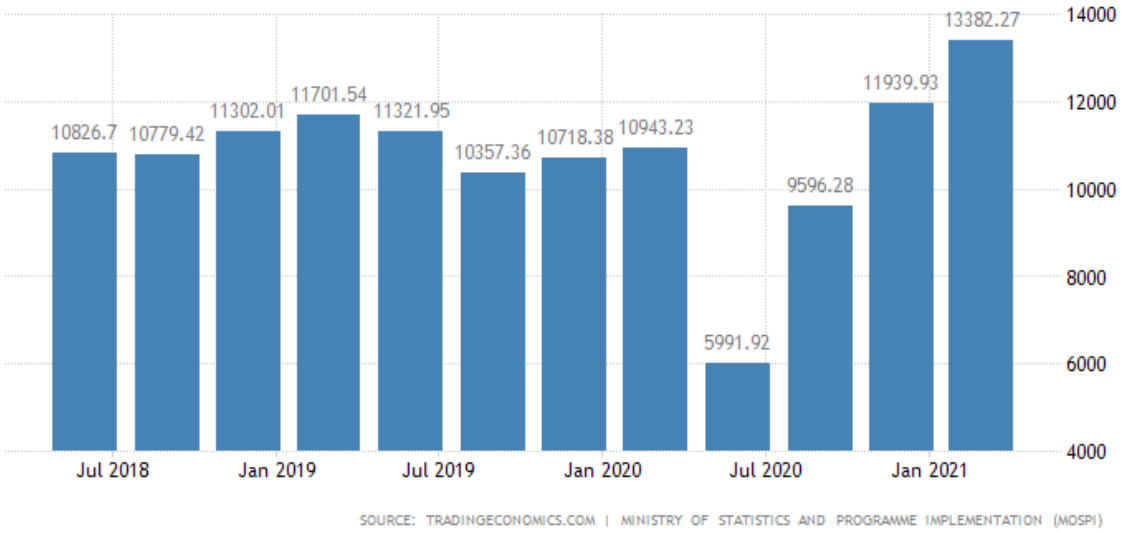


12.2.3 THE RATE CAPITAL FORMATION IS SLOWLY IMPROVING



India always had a shortfall of capital. However, in recent years, India has experienced a slow but steady improvement in capital formation. During the period 2000-2005, we saw a 1.6 percent increase in population and needed to invest around 6.4 percent to offset the additional burden of population growth.

Therefore, India need a gross capital formation of around 14 % to offset depreciation and maintain the same level of living. The only way to improve the standard of living is to enhance the rate of gross capital formation.



12.2.4 UNEQUAL WEALTH DISTRIBUTION

According to Oxfam's 'An economy for the 99 percent report, 2017, the gap between the rich and the poor in the world is huge. In the world, eight men own the same wealth as the 3.6 billion people who form the poorest half of humanity. 58% Indian wealth is owned by only 1% population of india.57 billionaires accounts same wealth as bottom 70% percent of India. Unequal wealth distribution is major issue in India. India emerged as the second most unequal region in the world after the Middle East, according to the *World Inequality Report 2018*.55% of national income is shared by top 10% population. In the Middle East, the world's most unequal region, the top 10 per cent hold 61 per cent of the national income.

The report says that in European countries the share of the rich is 37 per cent of the national income, making it a low unequal region in comparison to the rest of the world. Brazil and sub-Saharan African region stand equal to India followed by US-Canada (47 per cent), Russia (46 per cent) and China 41 per cent.

The aim of the report is to fill a democratic gap and start informed public debates on inequality. It relies on the collective efforts of more than a hundred researchers, covering all continents, who contribute to the WID-World Wealth & Income Database. According to the report, income inequality has been rapidly widening in North America, China, India and Russia since the 1980s. The income inequality trajectory observed in the United States is largely due to massive educational inequalities combined

with a less progressive tax system. The report points out that top one per cent share 33 per cent of the total wealth whereas the bottom 75 per cent has only 10 per cent of the total wealth. The report states that wealth is more concentrated than income. The top 10 per cent own more than 70 per cent of the total wealth in China, Europe and United States. The bottom 50 per cent own less than two per cent. The middle 40 per cent (the global wealth middle class) own less than 30 per cent.

The report warns that if the trend of wealth inequality continues then 0.1 per cent of the world population would own more wealth than the global middle class by 2050. There has been a general rise in net private wealth in recent decades, from 200–350 per cent of national income in most rich countries in 1970 to 400–700 per cent today. Conversely, the net public wealth (that is, public assets minus public debts) has declined in nearly all countries since the 1980s. In China and Russia, public wealth declined from 60–70 per cent of national wealth to 20–30 per cent. Net public wealth has even become negative in recent years in the United States and the UK, and is only slightly positive in Japan, Germany and France.

12.2.5 POOR QUALITY OF HUMAN CAPITAL

In the broader sense of the term, capital formation includes the use of any resource that enhances the capacity of production. Therefore, the knowledge and training of the population is a form of capital. Hence, the expenditure on education, skill-training, research, and improvement in health are a part of human capital. To give you a perspective, the United Nations Development Program (UNDP), ranks countries per-capita income. In this index, India ranked 130 out of 188 countries in 2014. Problems of human capital formation in India:

1. **Increasing population:** An increase in population has adversely effected the quality of human capital in under developed and developing countries such as India. This leads to reduction in per head availability of existing services such as employment, education, health care, sanitation, housing, electricity, road and nutrition.

2. **Lack of manpower planning:** There is lack of manpower planning and no effort has been made to maintain the demand and supply of technical labour force, to raise the standard of education in under-developed countries.

3. High poverty levels: A majority of the people lives below the poverty line and they do not have access to basic health and educational facilities.

4. Brain drain: Migration of highly skilled labour termed as brain drain. It leads to slow down the process of human capital formation in an economy.

12.2.6 BUSINESS DIFFICULTIES

According to the World Bank, the ease of doing business in India is poor. India ranks 130/190. Big issues for companies include ease of enforcing contracts dealing with construction contracts paying taxes.

Trading across border India's economy is one of the fastests growing in the world. It has seen an explosion in the increase of foreign business investment, outsourcing and Indian companies venturing overseas. Doing business in India offers immense benefits for international organizations, however there are a number of key cultural challenges that can create misunderstanding and conflict as well as huge direct and indirect costs to the organization if overlooked. Navigating the challenges of doing business in India can be difficult without a comprehensive understanding of Indian social and business culture. Going through cultural awareness training like Communicaid's doing business in India programme will ensure you and your organization have the right level of knowledge and skills to successfully deal with some of the following key challenges of doing business in India.

A. ATTITUDES TOWARDS AUTHORITY

Traditionally a caste society with roots in Hinduism, Indian culture places a high importance on authority and status. Communication between levels is relatively closed so valuable insight or suggestions from employees in lower positions will rarely be shared with their superiors. Without understanding the complexity of Indian attitudes to authority and how they impact business, organizations doing business in India will struggle to implement change as quickly as necessary, and fail to harness the experience and value of its employees.

B. CONCEPTS OF TIME– India is a polychromic culture, in other words, people tend to change priorities depending on their importance and attitudes towards punctuality are relaxed. Most of large global organizations require adherence to strict deadlines and fast decision making, so they struggle to cope with the idea that when doing business in India, time cannot be controlled and is not

absolute. Cultural awareness training can help you better understand Indian concepts of time and develop strategies for dealing with them.

C. ADHERENCE TO RULES– India has a high tolerance to uncertainty and has created a society which runs on the basis of a set of assumptions. It generally accepts social etiquette and norms instead of rules and regulations. Even though rules do exist, the low level of adherence to them creates huge challenges for organizations setting up business in India who are required to follow a set of home country regulations.

D. BUILDING RELATIONSHIPS– The Indian business culture focuses a lot on relationship and trust building rather than working hard and quick towards specific business objectives. A doing business in India cultural awareness course helps you to develop strategies to avoid the immense frustration, delayed projects, failure to reach tangible results and general clash as a result of different preferences for relationships and tasks and processes.

12.3 UNEMPLOYMENT AND TYPES OF UNEMPLOYMENT

Another factor contributing to India's economic problems is the large number of unemployed workers. Our country has a surplus of labour, making it impossible to give productive employment to the entire population.

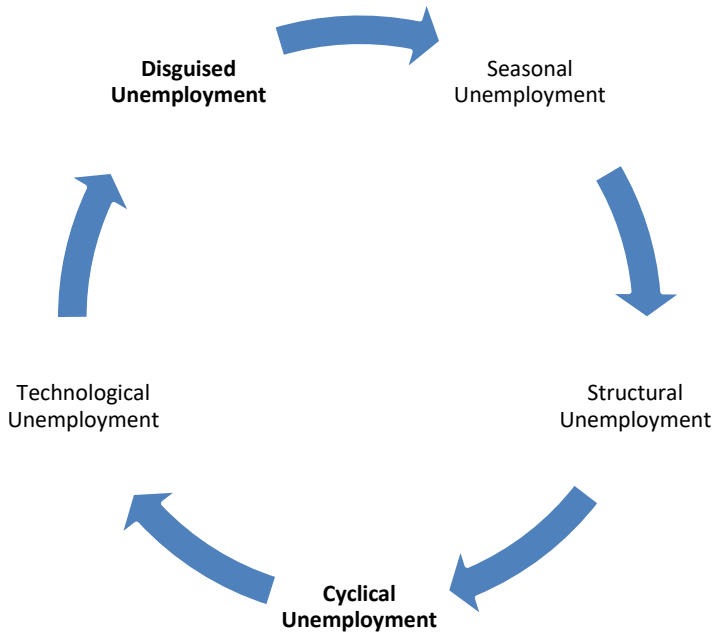
In addition, a lack of capital has hampered the growth of secondary and tertiary occupations. This has caused chronic unemployment and under-employment in India. With nearly half of the working population engaged in agriculture, the marginal product of an agricultural laborer has become negligible. The problem of the increasing number of educated unemployed has added to the woes of the country too. The marginal product of an agricultural laborer has become negligible as agriculture employs nearly half of the working population. The country's problems have been increased by the growing number of educated unemployed.

A situation where someone is actively looking for a job but is not be able to find it is unemployment. It is a big criterion to know the economy’s health i.e. growth and development. The unemployment rate is the important fact that shows the situation in the country. We can get it by dividing number of unemployed peoples by the number of peoples in the labor force. Now unemployment rate in India is 3.5% according to the International Labor Organization. formula to know unemployment rate is –

Unemployment rate = (Unemployed Workers / Total labor force) × 100

The **National Sample Survey Organization** categorizes employment and unemployment on the basis of individual's activity. A person is employed when he is actively performing the economic activity. He is unemployed when he is searching for work but is unable to find it, and the third category is neither searching for work nor to find it. This is to measure the GDP at the end of every financial year. Because the first two categories make it to the total labor force while the last one is not counted.

Types of Unemployment in India



12.3.1 Disguised Unemployment

- This happens when the number of employed individuals is more than required.
- Mainly prevalent in agricultural sectors.
- Unorganized sector of India faces the same issue.

12.3.2 Seasonal Unemployment

- This type of unemployment is according to different seasons of the year.

- An example farmers working in harvest season only.
- The agricultural laborers in India face this kind of problem every year.

12.3.3 Structural Unemployment

- This kind of situation that happens when the employment opportunities available don't match with an Individual's skill.
- Availability of a bank manager post but the individual only possesses marketing skills.
- Due to low level of education and training in India.

12.3.4 Cyclical Unemployment

- This is mainly found in a capitalist economy and thus not a case in India.
- This is a citation when the employment increases in a recession and falls during the growth of the economy.

12.3.5 Technological Unemployment

- This is a classic example of what happened during the industrial revolution
- Change in technology is main cause of problem.
- Due to automation India losses 69% of jobs (assumption of World Bank).

12.3.6 Frictional Unemployment

- Individuals are unemployed for short period only.(search for unemployment)
- This may be between job hunts or between graduation and job positioning.
- Voluntary because its own decisions to leave and join.

12.3.7 Vulnerable Employment

- This is a situation when there is no legal proof to back up job security.
- This is common in wage workers where there is no record of them working thus they are unemployed.
- India faces this at large as the number of people in unorganized sectors is high.

12.3.8 Unemployment Trap and Harmonized Unemployment

This is a situation when a person gets used to not working. The benefits of being unemployed get heavier and the individuals feel demotivated to work again. This is a common case when the income is low and the efforts needed to work are high.

12.4 MEASUREMENT OF UNEMPLOYMENT IN INDIA

The Ministry of Statistics and Programmer Implementation monitors the National Sample Survey Office. They follow certain approaches to measure unemployment in India. They are –

- **Usual Status Approach** – This approach take in account peoples unemployed who have been mainly not working during the one year before the survey date.
- **Weekly Status Approach –** This approach takes individuals unemployed if they have not been working for hours or a day before the survey date.
- **Daily Status Approach – This** approach takes an individual unemployed even if he did not work for an hour on a particular day.

Latest Unemployment status

- February 2019 saw the highest unemployment rate of 7.2 % since September 2016.
- 5.9 % was the unemployment rate in February 2018.
- The employed individuals in February 2019 were approx 400 million.
- The labor participation was 42.7% in February 2019.

Causes of Unemployment in India

- The increasing population growth of India.
- Less focus on educational and vocational skills of the working class.
- Lack of Govt. support to infrastructural
- Less financial and market support to small scale industries.
- Major portion of work force is working in unorganized sector.
- Lack of educational skills for relevant employment.

- More focus on theoretical knowledge than practical knowledge.
- Complex licensing on business and lower investments.
- Low productivity of the agricultural sector which is the backbone of the Indian economy.
- Less participation of women in the workforce.
- There is a direct connection of poverty to unemployment in the country.
- Indulgence in illegal activities due to money shortage and thus increase in crime. They become antisocial elements and start losing faith in the government.
- Loss of human resources of the nation.
- Falling of GDP due to an imbalance between the demand and supply in the market.
- Increasing the socio-economic cost of the state government by bearing their expenses.

Impact of Globalization on the Employment rate

The LPG Policy of 1991 led to increasing competition between the foreign and domestic companies. Due to this organized sector is transformed into unorganized sector. This led to a cut in eagles and a high level of unemployment for the workers.

12.5 CHECK YOUR PROGRESS

Q1. Unemployment that occurs during the normal workings of an economy as people change jobs and move across the country is called _____.

1. Structural unemployment.
2. natural unemployment
3. frictional unemployment
4. cyclical unemployment

Q2. A sales manager of an equipment manufacturing company loses his job because the company relocated the unit to another country is an example of ____ unemployment.

1. Seasonal unemployment
2. Frictional unemployment
3. Cyclical unemployment

4. Structural unemployment

Q3. When the rate of unemployment increases because of recession or depression. It is which type of unemployment?

1. Structural unemployment
2. Seasonal unemployment
3. Cyclical Unemployment
4. Frictional Unemployment

Q4. Maximum employment generation sector in india.

1. Manufacturing sector
2. Agricultural sector
3. Service sector
4. All the above

Q5. Term Globalization incorporates which kind of cross boader transfer**.**

1. Transfer of information
2. Transfer of goods
3. Transfer of services
4. All the Above

Q.6 Who are counted in the labour force of a country?

1. The population of 18 to 60 years of age
2. The population of 15 to 65 years of age
3. The population of 18 to 65 years of age
4. Population of 21 to 62 years of age

Q.7 Human capital formation is a _____ process.

1. Social
2. Economic
3. Physical

4. None of these

Q.8 Higher-income causes building of high level of _____ capital.

1. Human
2. Physical
3. Fixed
4. None of these

12.6 SUMMARY

India is a Developing country and 2nd largest populated country in the world where majority of population is dependent upon agriculture sector and contribution of agriculture sector in GDP is very low i.e. around 16%. Prime motive of government is; welfare of unprivileged section of society which is responsible for economic growth. But maintaining this growth rate is not an easy task in the current scenario of Indian economy. Some of the most challenging issues facing India today are unemployment, high population, low healthcare services, low per capita income, unequal wealth distribution, poverty and low standard of education. Further, the rate of capital formation is slowly improving. Poor quality of human capital in the economy creates a hindrance for balance growth of all sections of the society. To overcome these problems, skills development and massive change in the education system are required. Entrepreneurship and rural industrial development should be encouraged in such a way that boost the industries in Indian Economy. Transformation and structural changes in agriculture sector is the need of hour. Technological and infrastructural advancement are needed to promote business and exports from India. Capital formation and attraction of Foreign Direct Investment are required for development of Indian Economy. Unemployment is also became a challenge for our economy and we are at highest level of unemployment currently. Government should take creative initiatives to resolve all these challenges to maintain the growth rate of Indian economy.

12.7 KEYWORDS

- **Economy:** is a system for coordinating society's productive activities.
- **Human capital:** refers to the stock of skill, ability, expertise, education and knowledge in a nation at a point of time.

- **Wealth Distribution:** sum of the wealth of various members or groups in a society. It shows one aspect of economic inequality or economic heterogeneity.
- **Structural unemployment** is caused by a mismatch of skills between the unemployed and available jobs.
- **Nationalization: i**s the process of transforming privately owned assets into public assets.
- **GDP**: Gross Domestic Products.
- **Entrepreneurship:** is the act of creating a business or businesses.
- **Capital formation**: is a term used to describe the net capital accumulation during an accounting period for a particular country.

12.8 SELF-ASSESSMENT TEST

Q1. Explain the various approaches to measure unemployment.

Q2. Do you think human capital formation is an alternative approach to self-reliant?

Q3. Explain unequal wealth distribution as biggest tension of an economy.

Q4. Explain various types of unemployment and its causes.

Q5. Elaborate the relevance of Government policy to uplift economy of nation an Indian perspective?

Q.6 How does low per capita income affects the growth of an Indian Economy?

Q.7 Explain some of the business difficulties which are prevailing in Indian Economy.

Q.8 What is capital formation? Explain the different types of capital formation with example.

Q.9 How an unequal distribution of wealth does affects the economic development of a country?

Q.10 Differentiate Frictional unemployment and Structural unemployment with the help of an example.

12.9 ANSWERS TO CHECK YOUR PROGRESS

1. Frictional unemployment

2. Structural unemployment

3. Cyclical Unemployment

4. Agricultural Sector

5. All the Above

6. The population of 15 to 65 years of age

7. Social Process

8. Human

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