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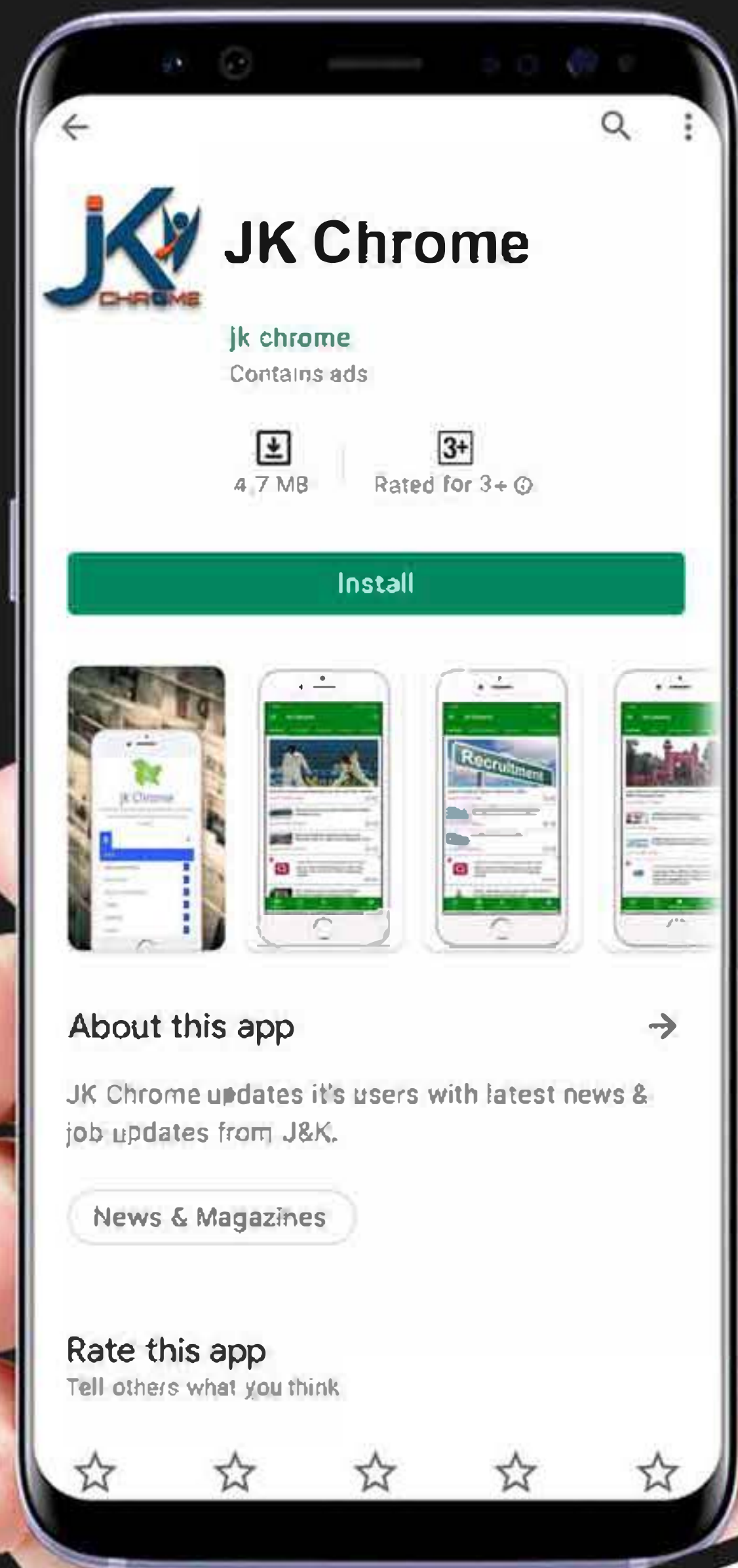
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NCERT Class 11 Indian Economic Development GIST

(PS: We have used the old data as given in the book)

Indian Economy on the Eve of Independence Chapter 1

Agricultural Sector on the Eve of Independence

India's agricultural sector (on the eve of independence) exhibited three principal characteristics, these characteristics pointed to backwardness of India's agriculture as well as its stagnation

- Low level of productivity
- High degree of vulnerability
- A wedge between owners of the soil and tillers of the soil.

Factors causing backwardness and stagnation of Indian agriculture during the British rule

- Land revenue settlement under the British Raj
- Forced commercialisation of agriculture

Industrial Sector

"Systematic de-industrialisation" is the term that describes the status of industrial sector during the British rule. It implied two things

- Decay of world famous traditional handicraft industry owing to discriminatory policies of the British Government.
- Bleak growth of modern industry now to lack of investment opportunities.

Two-fold motive behind the systematic de-industrialisation during the British Rule in India.

- To exploit India's wealth of raw material and primary products. It was required to fulfill the emerging needs of industrial inputs in the wake of industrial revolution in Britain.
- To exploit India as a potential market for the industrial products of Britain.

Foreign Trade India had occupied a place of eminence in the area of Foreign trade, since ancient times. But the British rule in India ended this eminence.

Drain of India's Wealth

Huge administrative expenses were incurred by the British Government to manage their colonial empire in India. Also huge expenses were incurred by the British Government to fight wars in pursuit of their policy of imperialism.

Demographic Condition

Demographic conditions during the British rule exhibited all features of a stagnant and backward economy. Both birth rate and death rate were very high nearly 48 and 40 per thousand respectively.

Occupational Structure

Greater dependence on agriculture as suggested by occupational structure on the eve of independence implied lesser availability of land per head for the farming population. Accordingly agriculture was taken largely as a means of subsistence and less as an occupation for profit.

Infrastructure

Infrastructure refer to the elements of economic change as well as elements of social change which serve as a foundation for growth and development of a country. Development of infrastructure is a precondition to the economic and social development of a country.

Economy of a country includes all production, distribution or economic activities that relates with people an determines the standard of living. On the eve of independence Indian economy was in a very bad shape due to the presence of British colonial rule.

The Britishers generally framed policies that favoured England. The only purpose of Britishers was to unjustly enrich themselves at the cost of India's economic development. Thus, in 1947, when British transferred power back to India, we inherited a crippled economy.

India's National and Per Capital Income

Under Colonial Rule There were no efforts from the part of the colonial government to measure the national and per capital income of India. Some individual attempts were made to measure such incomes but produced conflicting and inconsistent results. The contribution of VKRV Rao and Dadabhai Naoroji are considered very significant in this context.

Low Economic Growth Under Colonial Rule

India had an independent economy before the arrival of British rule. But the Britishers, dominated it for over a period of 200 years. Britishers framed policies that protected and promoted the economic interests of their own country. They transformed India into supplier of raw materials and consumer of finished goods from the factories of Britain. Such policies affected Indian economy very adversely.

In this context, we will discuss the conditions of certain sectors that were badly affected by the presence of colonial rule, i.e. on the eve of independence.

State of Agriculture Sector

Agriculture was the main source of livelihood for most of the people of India, and about 85% of the country's population lived mostly in villages and derived livelihood directly or indirectly from agriculture.

Inspite of such a large segment of the population being dependent of agriculture, either directly or indirectly, this sector was facing stagnation and constant deterioration, as is brought forward through the following points.

- Low Level of Productivity Productivity, i.e. output per hectare of land was very low. This led to a low level of output, inspite of a large area under cultivation.
- High degree of Vulnerability Agriculture was vulnerable to climatic factors and mostly affected by erratic rainfall. Poor rainfall generally led to a low level of output and also to crop failures. No effort was made by British Government to provide permanent source of irrigation facilities for the farmers.

The reasons for stagnation of agricultural sector were

(i) Land Revenue System

The Britishers introduced the zamindari system. The zamindars were recognised as permanent owners of the soil. Zamindars were to pay a fixed sum to the government as land revenue and they were absolutely free to extract as much from the tillers of the soil as they could.

Their main interest was in rent collection regardless of the economic conditions of cultivators and this caused misery and social tension among the latter.

Apart from this there are two more systems namely, the Ryotwari and the Mahalwari were prevalent.

(ii) Lacking of Resources

Because the tillers had to pay huge amount of rent, referred to as 'Lagaan', they were not left with any surplus to be able to provide for resources needed in agriculture in the form of fertilisers or providing for irrigation facilities. This further lowered the agricultural productivity.

(iii) Commercialisation of Agriculture

Commercialisation of agriculture refers to shift from cultivation for self-consumption to cultivation for sale in the market. It also refers to cultivation of cash-crops like cotton, indigo, etc.

Due to commercialisation of agriculture, there was some evidences of a relatively higher yield of cash crops in certain areas of the country. But this could not help in improving the conditions of Indian farmers.

Instead of producing food crops, farmers were producing cash crops, which were ultimately to be used by British industries.

State of Industrial Sector

In the pre-british period, India was particularly well-known for its handicraft industries, in the fields of cotton and silk textiles, metal and precious stone works, etc. These products enjoyed a worldwide market based on the reputation of the fine quality of material used and the high standards of craftsmanship.

But the Britishers followed a policy of systematic de-industrialisation by creating circumstances conducive to the decay of handicraft industry and not taking any steps to promote modern industry and reduced India to a mere exporter of raw material and importer of finished goods.

The following points bring farword the state of the industrial sector at the eve of independence

1. Decay of Handicraft Industry

The traditional handicraft industry in India enjoyed worldwide reputation, but the British misrule in India led to the decline of Indian handicraft industry. The Britishers adopted the following policies to systematically destroy the handicraft industry.

- **Discriminatory Tariff Policy of the State** The Britishers followed a discriminatory tariff policy by allowing tariff free exports of raw material from India (to provide for the requirements of their industries in Britain) and tariff free import of British Industrial products (to promote British goods in India), but placed a heavy duty on the export of handicraft products. So, Indian handicraft products started loosing their domestic as well as foreign markets.
- **Competition from Machine-made Products** Machine-made products from Britain were cheap and better in quality than the handicraft products. This competition forced many a handicrafts to shut down their business.
- **Introduction of Railways in India** The Britishers introduced Railways in India, to expand the market of its low priced industrial products. Consequently, the demand of high-priced handicraft products started to fall, thus leading to the downfall of handicraft industry.

2. Slow Growth of Modem Industry

Under second half of 19th. century, modern industry showed slow growth. This development was confined to the setting up of cotton and jute textile mills.

Subsequently, the iron and steel industries began coming up in the beginning of the 20th century. In this context, the Tata Iron and Steel Company (TISCO) was incorporated in August, 1907 in India. It established its first plant in Jamshedpur [Bihar, at present Jharkhand].

But, these industries were the result of private endeavour. The state participation in the process of modern industrialisation was very limited, as is evident from the following points

- Limited Growth of Public Sector Enterprises The public sector enterprises such as railways, power, post and telegraph were confined to areas which would enlarge the size of market for British products in India.
- Lopsided Industrial Structure The industrial growth was lopsided, in the sense that consumer goods industry was not adequately supported by the capital goods industry.
- Lack of Basic and Heavy Industries No priority was given for the development of basic and heavy industries. Tata Iron and Steel Mills was the only basic industry in India.

Textile Industry in Bengal

Muslin is a type of cotton textile which had its origin in Bengal, particularly, places in and around Dhaka (now the capital city of Bangladesh). Daccai Muslin had gained worldwide fame as an exquisite type of cotton textile.

The finest variety of muslin was called malmal. Foreign travellers also used to refer to it as malmal shahi or malmal khas meaning that it was worn by or fit for, the royalty.

State of Foreign Trade

India has been an important trading nation since ancient times.

But when the restrictive policies of commodity production, trade and tariff were imposed by the colonial government, it adversely affected the structure, composition and volume of India's foreign trade.

Following were the reasons behind the poor growth of foreign trade

1. Exporter of Primary Products and Importer of Finished Goods

Under the colonial rule, India became an exporter of primary products such as raw silk, cotton, wool, sugar, indigo, jute, etc and an importer of finished consumer goods like cotton, silk and woollen clothes and capital goods like light machinery produced in the factories of Britain.

2. Britain's Monopoly Control

Britain maintained a monopoly control over India's exports and imports. Due to this, more than half of India's foreign trade was restricted to Britain while the rest was allowed with a few other countries like, China, Ceylon (Sri Lanka) and Persia (Iran). The opening of Suez Canal in 1869 further intensified British control over India's foreign trade.

3. Drain of India's Wealth

An important characteristic of foreign trade throughout the colonial period was the generation of a large export surplus. But this surplus came at a huge cost to the country's economy. Several essential commodities like food grains, kerosene, were scarcely available in the domestic market.

Also, this surplus was not used in any developmental activity of India. Rather, it was used to maintain the administrative set-up of the Britishers or bear the expenses of war fought by Britain. All of this, led to the drain of Indian wealth.

State of Occupational Structure

During the colonial period, the occupational structure of India exhibited its backwardness. The

agricultural sector accounted for the largest share of the work force which remained at a high of 70-75% of the work force and the manufacturing and services sectors accounted for only 10 and 15-20% respectively.

There existed a growing regional disparity with few states such as Orissa, Rajasthan and Punjab witnessing an increase in agricultural workforce while the states which were the parts of Madras presidency. Bombay and Bengal witnessed a decline in the percentage of work force dependent on agriculture.

State of Infrastructure

Infrastructure comprises of such industries which help in the growth of other industries. Under the colonial period, basic infrastructure such as railways, port per transport, posts and telegraphs developed.

However, the real motive behind this development was not to provide basic amenities to the people but to sub serve various colonial interests.

The state of infrastructure under the colonial rule can be understood with the help of following points

1. Roads

Roads constructed before independence were not fit for modern transport. It was very difficult to reach rural areas during rainy season.

The roads were built only to serve the purpose of mobilising the army within India and transporting raw materials from the countryside to the nearest railway station or the port for exporting it.

2. Railways

British rulers introduced railways in India in 1850 and it began its operation in 1853. It is considered as one of the important contribution of Britishers.

The railways affected the structure of the Indian economy in the following two ways

- It enabled people to undertake long distance travel and thereby break geographical and cultural barriers.
- It fostered commercialisation of Indian agriculture which adversely affected the self-sufficiency of the village economies in India.

So, the social .benefits provided by the Railways was outweighed by the country's huge economic loss.

3. Water and Air Transport

The colonial rulers took measures for the development of water transport. The inland waterways, at times, also proved uneconomical as in the case of the coast canal on the Orissa coast. The main purpose behind their development was to serve Britain's colonial interest.

The colonial government also showed way to the air transport in 1932 by establishing Tata Airlines. Thus, in this way it inaugurated the aviation sector in India.

4. Communication

Modern postal system started in India in 1837. The first telegraphy line was opened in 1857. The introduction of the expensive system of electric telegraph in India served the purpose of maintaining law and order.

Demographic Condition

Various details about the population of British India were first collected through a census in 1881. Before 1921, India was in the first stage of demographic transition. The second stage began after

1921. However neither the total population of India nor the rate of population growth at this stage was very high. Though suffering from certain limitations, it revealed the Unevenness in India's population growth. The population grew at a rate of 1.2% up to the year 1951.

On the eve of independence the demographic condition was as follows

- The overall literacy level was less than 16%.
- The female literacy level was at a negligible low rate of about 7%.
- Public health facilities were either unavailable to large chunks of population or when available, were highly inadequate. Infant mortality rate was 218 per thousand in contrast to present infant mortality rate of 63 per thousand.
- Life expectancy was very low 44 years in contrast to the present 66 years.
- Both birth rate and death rate were very high at 48 and 40 per thousand of persons respectively.

Indian Economy 1950 – 1990 -Chapter 2

Economic Planning

It is a process under which a central authority defines a set of targets to be achieved within a specified period of time.

Capitalism It is an economic system in which major economic decisions like

- What goods and services are to be produced.
- How goods and services are to be distributed are left to the free play of the market forces or the forces of supply and demand.

Socialism

It is an economic system in which major economic decisions are taken by the government, keeping in view the collective interest of the society as a whole.

Mixed Economy

It is an economic system in which major economic decisions are taken by the Central Government authority as well as are left to the free play of the market forces.

Goals of Five Year Plans

A plan should have some clearly specified goals. The goals of five year plans are

- Growth Economic growth implies a consistent increase in GDP or a consistent increase in the level of output or a consistent increase in the flow of goods and services in the economy over a long period of time.
- Modernisation To increase the production of goods and services to producers with the adoption of new technology.
- Self-reliance It means avoiding imports of those goods which could be produced in India itself. This policy was considered a necessity in order to reduce our dependence on Foreign countries, especially for food.

- Equity It implies equitable distribution of income so that the ^benefits of growth are shared by all sections of the society.

Agriculture

It refers to all those activities which are related to the cultivation of land for the production of crops; food crops and non-food crops.

(i) Importance of Agriculture in the Indian Economy

- Contribution to GDP
- Supply of wage goods
- Employment
- Industrial raw material
- Contribution to international trade
- Contribution to domestic trade
- Wealth of the nation

(ii) Problems of Indian Agriculture

- Lack of permanent means of irrigation
- Deficiency of finance
- Conventional outlook
- Small and scattered holding
- Lack of organised marketing system

Reforms in Indian Agriculture

(i) Technical Reforms

- Use of HYV seeds
- Use of chemical fertilisers
- Scientific farm management practices
- Mechanised means of cultivation

(ii) Land Reforms

- Abolition of intermediaries
- Regulation of rent
- Consolidation of holding
- Ceiling on land holding
- Co-operative farming

(iii) General Reforms

- Expansion of irrigation facilities
- Provision of credit
- Regulated market
- Price support policy

Marketable Surplus

It refers to surplus of farmer's output over and above his own farm consumption.

Thus, Marketable surplus of wheat = Output of wheat – On farm consumption of wheat

Green Revolution

It started in India in year 1967-68. In the year, 1967-68 itself, foodgrain production increased by nearly 25%. So, much increase in foodgrain production in a country which earlier used to import foodgrains.

Industry

Industry provides employment in agriculture; it promotes modernisation and overall prosperity. Importance of industry are as follows

- Structural transformation
- Source of employment
- Source of mechanised means of farming
- Imparts dynamism to growth process
- Growth of civilisation
- Infrastructural growth

Industrial Policy Resolution 1956 (IPR-1956)

- Three-fold classification of industries
- Industrial licensing
- Industrial soaps

Private Sector

It was assigned only a secondary role in the process of industrialisation. Industries in the private sector could be established only through a license from the government.

Small Scale Industries (SSI)

These were accorded a high priority with a view to promoting the goals of 'employment and equity'.

Import Substitution

Inward looking trade strategy is called import substitution.

On 15 th August, 1947, India attained its freedom. After independence, Nehru and many other leaders decided the type of economic system that will prove beneficial for India. In order to achieve

the objectives of 'growth with equity', mixed economy was introduced as the economic system of India.

Topic 1 Economic System and Planning

Economic System

Economic system is defined as an arrangement by which the central problems of an economy are solved.

The three basic central problems of an economic system are

- Choice of Production What goods and services should be produced in the country?
- Choice of Technology How should the goods and services be produced? Should producers use more human labour or more capital for producing things,
- Distribution of Goods and Services How should goods and services be distributed among people?

On the basis of government intervention, economic system can be classified as

Socialist Economy

It is an economic system in which all economic decisions are taken by the government. In this system, the government decides what goods are to be produced in accordance with the needs of society, how goods are to be produced and how they should be distributed.

Socialist economy promotes equitable distribution of income. However, it also suffers from the drawbacks of a bureaucratic set up in the form of red-tapism and corruption.

In Cuba and China, most of the economic activities are governed by the socialistic principles.

Capitalist Economy

Capitalist economies depend upon the market forces of demand and supply. In this type of economy, only those consumer goods will be produced that have good demand in the market and yield profit to the producers.

For example, cars will be produced if they are in demand and also if they can earn profits for the producer.

In this economy, the goods and services produced are distributed among people not on the basis of what people need but on the basis of purchasing power.

- Capitalist economy generally manifests unequal distribution of income, but it also generates fastest growth in output and national income
- Capitalist economy is also called laissez faire or free market economy, it exists in North America, Japan, Australia, Western Europe, etc.

Mixed Economy

It is an economic system in which public sector and private sector exist side by side.

In this economy, the market will provide whatever goods and services it can produce well and the government will provide essential goods and services which the market fails to provide.

Merits of Mixed Economy

- Mixed economy gives proper scope to private individuals to co-exist and contribute towards economic development.
- In this, planned economic development ensures stability . and balanced development.

- In this, competition between the private sector and public sector industries is there. It leads to enhanced productivity.

Demerits of Mixed Economy

- Mixed economy cannot effectively control the private sector industries which are outside the government purview.
- It is characterised by red-tapism and high degree of corruption.
- In it, there is concentration of economic power in the hands of private sector, politicians and bureaucrats.

Economic Planning

Economic planning is a process in which a central authority of a country defines a set of goals to be achieved within a specified period, sets out a plan to achieve those goals, keeping in view the country's resources.

Planning commission defines economic planning as, 'Economic planning means utilisation of country's resources in different development activities in accordance with national priorities'. Now, let us understand what a 'plan' is?

- A plan spells out how the resources of nation should be efficiently utilised.
- It should have some general goals which are achieved through specific objectives within a specified period of time.

To formulate plans, Planning Commission was set up in 1950 under the chairmanship of Jawaharlal Nehru, the first Prime Minister of independent India.

Its aim was to promote rapid rise in standard of living of the people, increase production and offer employment opportunities in India. To facilitate economic planning Five Year Plans were formulated. The first Five Year Plan was introduced in April 1951.

All the Five Year Plans are formulated keeping the below objectives in mind

Growth

It refers to increase in the country's capacity to produce the output of goods and services within the country. It implies either a larger stock of productive capital or a large size of supporting services like transport and banking.

Increase in GDP is a good indicator of economic growth. Gross Domestic Product (GDP) is the market value of all final goods and services produced in the different sectors of an economy, viz the primary sector, the secondary sector and the tertiary sector during a year within the domestic territory of a country.

Modernisation

Adoption of new technology is called modernisation. It is done with an aim to increase the production of goods and services. For example, a farmer can increase the output on the farm by using new seed varieties instead of using old ones.

Modernisation refers to not only change in production methods, but also change in the social outlook of a society by granting equal status to women and making use of their talent in the productive process.

Self-Reliance

A nation can promote economic growth and modernisation by using its own resources or by using resources imported from other nations. The first seven Five Year Plans gave importance to self-reliance by avoiding imports. This policy was considered a necessity in order to reduce our dependence on foreign countries especially for food.

Equity

It refers to reduction in disparity of income or wealth, by uplifting weaker sections of the society. It also refers to distribution of economic power equally or in such way that every Indian should be able to meet his or her basic needs such as food, a decent house, education, healthcare, etc.

Mahalanobis

The Architect of Indian Planning

Prasanta Chandra Mahalanobis was born in 1893 in Calcutta. He was educated at the Presidency College in Calcutta and at Cambridge University in England. His contributions to the subject of statistics brought him international fame. In 1946, he was made a Fellow (member) of Britain's Royal Society, one of the most prestigious organisations of scientists.

Mahalanobis established the Indian Statistical Institute (ISI) in Calcutta and started a journal, Sankhya. Mahalanobis had contributed a lot in the formulation of our Five Year Plans. The Second Plan, became the landmark of his contribution.

During the Second Plan period, Mahalanobis invited many distinguished economists from India and abroad to advise him on India's economic development. Some of these economists became Nobel Prize winners later, which shows that he could identify individuals with talent.

Many economists today reject the approach to planning formulated by Mahalanobis but he will always be remembered for playing a vital role in putting India on the road to economic progress and statisticians continue to profit from his contribution to statistical theory.

Liberalisation, Privatisation and Globalisation –Chapter 3

Economic Reforms

These were based on the assumption that market forces would steer the economy into the path of growth and development. Economic reforms started in 1991 in India.

Need for Economic Reforms

- Mounting fiscal deficit
- Adverse balance of payment
- Gulf crisis
 - Fall in foreign exchange reserves
 - Rise in prices

Liberalisation

Liberalisation of the economy means its freedom from direct or physical controls imposed by the government.

Economic Reforms Under Liberalisation

(i) Industrial Sector Reforms

- Abolition of industrial licensing.
- De-reservation of production areas.
- Expansion of production capacity.
- Freedom to import goods.

(ii) Financial Sector Reforms

Liberalisation implied a substantial shift in the role of the RBI from a regulator to a facilitator of the financial sector.

(iii) Fiscal Reforms Fiscal reforms relate to revenue and expenditure of the government. Tax reforms are the principal component of fiscal reforms. Broadly taxes are classified

- Direct Taxes and
- Indirect Taxes

(iv) External Sector Reforms It include Foreign exchange reforms and Foreign trade policy reforms.

Privatisation

Privatisation is the general process of involving the private sector in the ownership or operation of a state owned enterprise.

Disinvestment

It refers to a situation when government sell off a part of its share capital of PSUs to the private investors.

Globalisation

It may be defined as a process associated with increasing openness, growing economic interdependence and deepening economic integration in the world economy.

Policy Strategies Promoting Globalisation of the Indian Economy

- Increase in equity limit of foreign investment
- Partial convertibility
- Long term trade policy
- Reduction in tariffs
- Withdrawal of quantitative restriction

World Trade Organisation (WTO)

The WTO was founded in 1995 as the successor organisation to the general agreement on Trade and Tariff (GATT). GATT was established in 1948 with 23 countries as the global trade organisation.

Positive Impact of the LPG (Liberalisation, Privatisation and Globalisation) Policies

- A vibrant economy

- A stimulant to industrial production
- A check on fiscal deficit
- A check on inflation
- Consumer's sovereignty
- Flow of private foreign investment

Negative Impact of LPG (Liberalisation, Privatisation and Globalisation) Policies

- Neglect of agriculture
- Urban concentration of growth process
- Economic colonialism
- Spread of consumerism
- Lopsided growth process
- Cultural erosion

During the tenure of Narasimha Rao Government (1991), India met with an economic crisis relating to its external debt. The government was unable to make repayments on its borrowings from abroad; foreign exchange reserves were not sufficient to repay the debts. The prices of essential goods were rising and the imports were growing at a very high rate.

As a result, the government initiated a new set of policy measures to reform the conditions of an economy and several economic reform programme were also introduced in this respect to promote privatisation, liberalisation and globalisation.

Economic Crisis of 1991 and Indian Economy Reforms

Crisis in India is figured out because of the inefficient management of Indian Economy in 1980s. The revenues generated by the government were not adequate to meet the growing expenses. So, the government resorted to borrowing to pay for its debts and was caught in a debt-trap. Deficit refers to the excess of government expenditure over its revenue.

Causes of Economic Crisis

Different causes of economic crisis are given as under

- The continued spending on development programmes of the government did not generate additional revenue.
- The government was not able to generate sufficient funds from internal sources such as taxation.
- Expenditure on areas like social sector and defence do not provide immediate returns, so there was a need to utilise the rest of its revenue in a highly effective manner, which the government failed to do.
- The income from public sector undertakings was also not very high to meet the growing expenditures.

- Foreign exchange borrowed from other countries and international financial institutions was spent on meeting consumption needs and to make repayments on other loans.
- No effort was made to reduce such increased spending and sufficient attention was not given to boost exports to pay for the growing needs.

Due to above stated reasons, in the late 1980s, government expenditure began to exceed its revenue by such large margins that meeting the expenditure through borrowings became unsustainable.

Need for Economic Reforms

The economic policy followed by the government upto 1990 failed in many aspects and landed the country in an unprecedented economic crisis. The situation was so alarming that India's reserves of foreign exchange were barely enough to pay for two weeks of imports. New loans were not available and NRIs were withdrawing large amounts. There was an erosion of confidence of international investors in the Indian economy.

The following points highlight the need for economic reforms in the country

- Increasing fiscal deficit
- Adverse Balance of Payments
- Gulf crisis
- Rise in prices
- Poor performance of Public Sector Units (PSUs).
- High rate of deficit financing.
- Collapse of soviet block.

Emergence of New Economic Policy (NEP)

Finally, India approached International Bank for Reconstitution and Development, popularly known as World Bank and International Monetary Fund (IMF) and received \$ 7 billion as loan to manage the crisis. International agencies expected India to liberalise and open up economy by removing restrictions on private sector and remove trade restrictions between India and other countries.

India agreed to conditions of World Bank and IMF and had announced New Economic Policy (NEP) which consist of wide range of economic reforms.

The measures adopted in the New Economic Policy can be broadly classified into two groups i.e.,

- **Stabilisation Measures** They are short-term measures which were intended to correct some weakness that have developed in the Balance of Payments and to bring Inflation under control.
- **Structural Reforms** They are longterm measures, aimed at improving the efficiency of the economy and increasing its international competitiveness by removing the rigidities in various segments of the Indian economy.

The various structural reforms are categorised as

- Liberalisation

- Privatisation
- Globalisation

Balance of Payment It is a system of recording country's economic transactions with the rest of the world over a period of one year. **Inflation** It is a situation in which general price level of goods and services increases in an economy over a period of time.

Liberalist off, Privatisation and Globalisation

By introducing concept of liberalisation, privatisation and globalisation, government have revived the condition of Indian Economy.

Liberalisation

Liberalisation was introduced with an aim to put an end to those restrictions which became major hindrances in growth and development of various sectors. It is generally defined as the loosening of government regulations in a country to allow for private sector companies to operate business transactions with fewer restrictions. In relation to developing countries, this term refers to opening of economic border for multinationals and foreign investment.

Objectives of Liberalisation

The main objectives of liberalisation policy are

- To increase competition among domestic industries.
- To increase foreign capital formation and technology.
- To decrease the debt burden of the country.
- To encourage export and import of goods and services.
- To expand the size of the market.

Economic Reforms Under Liberalisation

Reforms under liberalisation were introduced in many areas. Let us discuss these now

Industrial Sector Reforms

The following steps were taken to deregulate the industrial sector

(i) **Abolition of Industrial Licensing** Government abolished the licensing requirement of all industries, except for the five industries, which are

- Liquor
- Cigarettes
- Defence equipment
- Industrial explosives
- Dangerous chemicals, drugs and pharmaceuticals.

(ii) **Contraction of Public Sector** The number of industries reserved for the public sector was reduced from 17 to 8. Presently, only three industries are reserved for public sector. They are

- Railways
- Atomic energy

- Defence

(iii) De-reservation of Production Areas The production areas which were earlier reserved for SSI were de-reserved.

(iv) Expansion of Production Capacity The producer's were allowed to expand their production capacity according to market demand. The need for licensing was abolished.

(v) Freedom to Import Capital Goods The business and production units were given freedom to import capital goods to upgrade their technology.

Financial Sector Reforms

Financial sector includes financial institutions such as commercial banks, investment banks, stock exchange operations and foreign exchange market.

The following reforms were initiated in this sector

- Reducing Various Ratio Statutory Liquidity Ratio (SLR) was lowered from 38.5% to 25%. Cash Reserve Ratio (CRR) was lowered from 15% to 4.1%.
- Competition from New Private Sector Banks The banking sector was opened for the private sector. This led to an increase in competition and expansion of services for consumers.
- Change in the Role of RBI RBI's role underwent a change from a 'regulator' to a 'facilitator'.
- De-regulation of Interest Rates Except for savings accounts, banks were able to decide their own interest rates

Tax Reforms/Fiscal Reforms

Tax reforms are concerned with the reforms in government's taxation and public expenditure policies which are collectively known as its fiscal policy.

Moderate and Simplified Tax Structure Prior to 1991, the tax rates in the country were quite high, which led to tax evasion. The fiscal reforms simplified the tax structure and lowered the rates of taxation. This reduced tax-evasion and increased government's revenues.

Foreign Exchange Reforms/External Sector Reforms

External sector reforms include reforms relating to foreign exchange and foreign trade. The following reforms were initiated in this sector

(i) Devaluation of Rupee Devaluation implies a fall in the value of rupee against some foreign currency. In 1991, the rupee was devalued to increase our country's exports and to discourage imports.

(ii) Other Measures

- Import quotas were abolished.
- Policy of import licensing was almost scrapped.
- Import duty was reduced.
- Export duty was completely withdrawn.

World Trade Organisation (WTO)

The WTO was founded in 1995 as the successor organisation to the General Agreement on Trade and Tariff (GATT). GATT was established in 1948 with 23 countries as the global trade organisation to

administer all multinational trade agreements by providing equal opportunities to all countries in international market for trading purpose. However this had certain problems hence.

WTO was expected to establish a rule based trading regime in which nations cannot place arbitrary restrictions on trade. Its purpose was mainly to expand production and trade in order to have optimum utilisation of world resources.

The WTO agreements cover trade in goods as well as services to facilitate international trade through removal of tariff as well as non-tariff barriers and provide better market access to all countries. Being an important member of WTO. India has been in front to frame rule and regulations and safeguards interest of developing world.

India has kept commitments towards liberalisation of trade in WTO by removing quantitative restrictions on imports and reducing tariff rates.

Functions of WTO

- It facilitates the implementation, administration and operation of the objectives of multilateral trade agreements.
- It administers the 'trade review mechanism'.
- It administers the 'understanding rules and procedures governing the settlement disputes'.
- It is a watchdog of international trade, it examines the trade regimes of individual members.
- Trade disputes that cannot be solved through bilateral talks are forwarded to the WTO dispute settlement 'court'.
- It is a management consultant for world trade. Its economist keep a close watch on the activities of the global economy and provide studies on the main issues of the day.

Privatisation

It refers to giving greater role to private sector thereby reducing the role of public sector. In other words, it means shedding of the ownership or management of a government owned enterprise. It may also mean de-reservation of industries previously reserved for public sector.

Government companies (public companies) are converted into private companies in two ways

- By withdrawal of the government from ownership and management of the public sector companies.
- By the method of disinvestment.

Forms of Privatisation

Different forms of privatisation are

- **Denationalisation** When 100% government ownership of productive assets is transferred to the private sector, it is called denationalisation. It is also known as strategic sale.
- **Partial Privatisation** When less than 100% or more than 50% ownership is transferred, it is a case of partial privatisation with private sector owning majority of shares. In this situation, the private sector can claim to possess substantial autonomy in its functioning. It is also known as partial sale.

- Deficit Privatisation/Token Privatisation When the government disinvests its shares to the extent of 5 to 10% to meet the deficit in the budget, this is termed as deficit privatisation or token privatisation.

Objectives of Privatisation

The most common and important objectives of privatisation are

- Improving the financial condition of the government.
- Raising funds through disinvestment.
- Reducing the workload of public sector.
- Increasing the efficiency of the government undertakings.
- Providing better goods and services to consumers.
- Bringing healthy competition within an economy.
- Making way for Foreign Direct Investment (FDI).

Navratnas and Public Enterprise Policies

In order to improve efficiency, infuse professionalism and enable them to compete more effectively in the liberalised global environment, the government identifies PSUs and declare them as maharatnas, navratnas and mininavratnas. They were given greater managerial and operational autonomy, in taking various decisions to run the company efficiently and thus increase their profits. Greater operational, financial and managerial autonomy has also been granted to profit-making enterprises referred to as mininavratnas.

In 2011, about 90 public enterprises were designated with different status.

A few examples of public enterprises with their status are as follows

- Maharatnas
 - Indian Oil Corporation Limited
 - Steel Authority of India Limited
- Navratnas
 - Bharat Heavy Electricals Limited
 - Mahanagar Telephone Nigam Limited
- Mininavratnas
 - Bharat Sanchar Nigam Limited
 - Airport Authority of India

Globalisation

It means integration of the economy of the "country with the world economy. Globalisation encourages foreign trade and private and institutional foreign investment.

Globalisation is a complex phenomenon and an outcome of the set of various policies that are aimed at transforming the world towards greater interdependence and integration. Globalisation attempts

to establish links in such a way that the happenings in India can be in need by events happening miles away. It is turning the into one whole or creating a borderless world.

Outsourcing

An Outcome of Globalisation

This is one of the important outcome of the globalisation process. In outsourcing, a company hires regular service from external sources, mostly from other countries, which were previously provided internally or from within the country like legal advice, computer service, advertisement, etc. In other words outsourcing means getting a work done on contract from Someone outside.

As a form of economic activity, outsourcing has intensified, in recent times, because of the growth of fast modes of communication particularly the growth of Information Technology (IT).

Many of the services such as voice-based business processes (popularly known as BPO or call centres), record keeping, accountancy, banking services, music recording, film editing, book transcription, clinical advice or even teaching are being outsourced by companies in developed countries to India.

Most multinational corporations and even small companies, are outsourcing their services to India where they can be availed at a cheaper cost with reasonable degree of skill and accuracy. The low wage rates and availability of skilled manpower in India have made it a destination for global outsourcing in the post reform period.

Economic Growth During Reforms

Growth of an economy is measured by the Gross Domestic Product (GDP). The growth of GDP increased from 5.6% during 1980-91 to 8.2% during 2007-2012.

Main highlights of economic growth during reforms are given below

- During the reform period, the growth of agriculture has declined. While the industrial sector reported fluctuation, the growth of service sector has gone up. This indicates that the growth is mainly driven by the growth in the service sector.
- The opening up of the economy has led to rapid increase in foreign direct investment and foreign exchange reserves. The foreign investment, which includes Foreign – Direct Investment (FDI) and Foreign Institutional Investment (FII), has increased from about US \$ 100 million in 1990-91 to US \$ 400 billion in 2010-11.
- There has been an increase in the foreign exchange Reserves from about US \$ 6 billion in 1990-91 to US \$ 300 billion in 2011-12. In 2011, India is the seventh largest foreign exchange reserve holder in the world.
- India is seen as a successful exporter of auto parts, engineering goods, IT software and textiles in the reform period. Rising prices have also been kept under control.

Failures of Economic Reforms

I- Neglect of Agriculture

There has been deterioration in agricultural growth rate. This deterioration is the root cause of the problem of rural distress that reached crisis in some parts of the country. Economic reforms have not been able to benefit the agricultural sector because

- Public investment in agriculture sector especially in infrastructure which includes irrigation, power, roads, market linkages and research and extension has been reduced in the reform period.
- The removal of fertiliser subsidy has led to increase in the cost of production which has severely affected the small and marginal farmers.
- Various policy changes like reduction in import duties on agricultural products, removal of minimum support price and lifting of quantitative restrictions have increased the threat of international competition to the Indian farmers.
- Export-oriented policy strategies in agriculture has been a shift from production for the domestic market towards production for the export market focusing on cash crops in lieu of production of food grains.

II- Uneven Growth in Industrial Sector

Industrial sector registered uneven growth during this period.

This is because of decreasing demand of industrial products due to various reasons

- Cheaper imports have decreased the demand for domestic industrial goods.
- Globalisation created conditions for the free movement of goods and services from foreign countries that adversely affected the local industries and employment opportunities in developing countries.
- There was inadequate investment in infrastructural facilities such as power supply.
- A developing country like India still does not have the access to developed countries markets because of high non-tariff barriers.

Sirdlla Tragedy

Privatisation of power supply in Andhra Pradesh resulted in substantial increase in power-rates, causing many powerlooms to shut down in a small town, Sirdlla.

50 workers committed suicide because of loss in means of livelihood.

II- Other Failures

In addition to the above mentioned failures, the other drawbacks of LPG policy were:

- It led to urban concentration of growth process.
- It encouraged economic colonialism.
- It resulted in the spread of consumerism.
- It led to cultural erosion.

Poverty -Chapter 4

Poverty

It is inability to fulfill the minimum requirements of life.

- **Relative Poverty** It refers to poverty in relation to different classes, regions or countries.

- Absolute Poverty In India, concept of poverty line is used as a measure of absolute poverty.

Poverty Line

It is that line which expresses per capita average monthly expenditure by which people can satisfy their minimum needs.

Relative poverty and absolute poverty are the two variants of poverty.

Poverty line is fixed in India

- in the estimation of consumption cut off.
- in private consumption expenditure.
- frequencies are recorded against each class-interval. Each frequency counts the number of heads belonging to a particular consumption class.

Categorising Poverty

- Category 1 Chronic poor Those who are always poor and those who are usually poor e.g., Landless workers.
- Category 2 Transient Poor Those who are moving in and out of poverty and occasionally poor.
- Category 3 Never Poor These are categorised as non-poor people.

Rural Poor

These include landless agricultural work marginal holders and tenants-at-will.

Urban Poor

These include migrants from the rural areas in search of employment, casual factory workers and self employed serving largely as street vendors.

Urban poor are largely the spillover of the rural poor who are forced to migrate in search of jobs.

Causes of Poverty

- Low level of national product
- Low rate of growth
- Heavy pressure of population
- Inflationary pressures
- Chronic unemployment and under employment
- Capital deficiency
- Outdated social institutions
- Lack of infrastructure

Measures to Remove Poverty

- Combating poverty by accelerating the pace of economic growth.

- Combating inequality of income through fiscal and legislative measures.
- Combating poverty through population control.
- Other measures enhancing quality of life of the poor.

Poverty Alleviation Programmes

Some of the principle measures adopted by the government to remove poverty are given below

- Samaranjayanti Gram Swarozgar Yojana (SGSY)
- Sampoorna Gramin Rozgar Yojana (SGRY)
- Pradhanmantri Gramodaya Yojana (PGY)
- Jai Prakash Rozgar Guarantee Yojana (JPRGY)
- The Swarnajayanti Shiksha Rozgar Yojana (SJSRY)
- Prime Minister's Rozgar Yojana
- Development of Small and Cottage Industries (viii) Minimum Needs Programme
- Twenty Point Programme
- Mahatma Gandhi National Rural Employment Guarantee

Rural Development Chapter 5

Rural Development

Rural development means an action- plan for the social and economic upliftment of the rural areas. The key issues of action plan for rural development are

- Development of infrastructure
- Human capital formation
- Development of productive resources
- Poverty alleviation
- Land reforms

Rural Credit

Rural credit means credit for the farming families. Credit is the life line of farming activity credit needs of the typical Indian farmer may broadly be classified as under

- Short Term Credit It needs relates basically to the purchase of inputs like seeds fertilisers etc short term borrowings generally stretches over a period of 6 to 12 months.
- Medium Term Credit Medium term loans are required for purchasing machinery constructing fences and digging wells. Such loans are generally stretch over a period of 12 months to 5 years.

- Long Term Credit Long term credit is meant for the purchase of additional land. The period of such loan ranges between 5 to 20 years.

Sources of Rural Credit

- Non-institutional sources
- Institutional sources
 - Co-operative credit societies
 - State Bank of India
 - Regional Rural Bank
 - National Bank for Agriculture and Rural Development (NABARD)

Agriculture Marketing

It includes all those activities or processes which help a farmer getting maximum price for his produce among others, these processes include grading packaging and storage.

Measures Initiated by the Government to Improve Market System

- Regulated markets
- Co-operative agricultural marketing societies
- Provision of warehousing facilities
- Subsidised transport
- Dissemination of information
- MSP policy

Diversification Diversification is an emerging challenge in the context of rural development. It has two aspects.

- Diversification of Crop Production It implies production of diverse variety of crops rather than one specialised crop. It means a shift from single-cropping system to multi-cropping system.
- Diversification of Production Activity/Employment It implies a shift from crop farming to other areas of production activity employment.

Non-Farm Areas of Production Activity/Employment for the Rural Population

- Animal Husbandry It is the most important area of employment in India different from crop farming. It is also called live stock farming, poultry, cattle etc.
- Fisheries The fishing community in India depends almost equally on inland sources and marine sources of fishing. Inland sources include rivers, lakes, ponds and streams etc.
- Horticulture Horticultural crops include fruits, vegetables and flowers besides several other. Over time, there has been a substantial increase in area under horticulture.

- Cottage and Household Industry This industry has been dominated by such activities as spinning, weaving, dyeing and bleaching.

Organic Farming and Sustainable Development

Organic farming is a system of farming that relies upon the use of organic inputs for cultivation.

Organic inputs basically include animal manures and composts.

Benefits of organic farming are as follows

- Discards the use of non-renewable resources
- Environment friendly
- Sustains soil fertility
- Healthier and tastier food
- In expensive technology for the small and marginal farmers

Golden Revolution

The rapid growth in the production of diverse horticultural crops such as fruits, vegetables, tuber crops and plantation crops is known as Golden Revolution.

Agriculture is the major source of livelihood in the rural sector. Mahatma Gandhi once said that “real progress of India did not mean only the industrial growth but also the development of villages because two-third of India’s population depends on agriculture”. One-third of rural Indians still live in poverty. This is the reason, why there is need to develop rural India.

Rural Development and Rural credit

Rural development is a comprehensive term which essentially focuses on action for the development of areas that are lagging behind in the overall development of the village economy. It is a process whereby the standard of living of rural people, especially poor people, rises continuously.

The basic objectives of rural development are

- Increasing the productivity of the agricultural sector, so that the income of the farmers increase.
- Generating alternative means of livelihood in the rural areas, so that dependency on agriculture sector is reduced.
- Promoting education and health facilities in the rural areas, so that human development is also achieved.

Key Areas in Rural Development

Some of the areas which are challenging and need fresh initiatives for development in rural India are as follows

- Development of the productive resources of each locality.
- Development of human resources including literacy (more specifically female literacy) education and skill development.
- Development of human resources like health, addressing both sanitation and public health.

- Honest implementation of land reforms.
- Infrastructure development like electricity, irrigation, credit, marketing, transport facilities including construction of village roads and feeder roads to nearby highways, facilities for agriculture research and extension and information dissemination.
- Special measures for alleviation of poverty and bringing about significant improvement in the living conditions of the weaker sections of the populations emphasising access to productive employment opportunities.

The share of agriculture sector's contribution to GDP was on a decline, the population dependent on this sector did not show any significant change. Further, after the initiation of reforms, the growth rate of agriculture sector decelerated to 2.3% per annum during the 1990s, which was lower than the earlier years.

Rural Credit

Credit is the life line of the farming activity. Rural credit means providing credit for the farming community. Farmers need credit because

- Most farmers in India are small and marginal land holders who practice subsistence farming. They have no surplus for further production.
- The gestation period between sowing and harvesting is quite high. So, farmers have to borrow to fulfill their various needs during this period.

Borrowings of a farmer can be for the following purpose

- **Productive Borrowings** These borrowings include loans to buy seeds, fertilisers and agricultural equipments and implements.
- **Un-productive Borrowings** These borrowings include loans for social purposes such as marriage and festive occasions.

Types of Rural Credit

Credit needs of farmers may be classified as

- **Long-term Credit** These loans are required to acquire permanent assets like tractors, land, costly equipments, tube-wells, etc. These loans are for a period of 5 to 20 years.
- **Medium-term Credit** These loans are required for purchasing machinery, constructing fences and digging wells. Such loans are generally stretch over a period of 12 months to 5 years.
- **Short-term Credit** These loans are required for buying seeds, tools, manure and fertilisers, etc. This credit is given to the needy borrowers by cooperatives, moneylenders and banks. These loans are for a period of 6 to 12 months.

Sources of Rural Credit

Credit in the rural sector is available from two sources

1. **Non-institutional Sources of Rural Credit** The major non-institutional sources of rural credit are moneylenders, friends, relatives, landlords, shopkeepers and commission agents. Moneylenders provided about 93.6% of total financial requirement rural areas in 1951-52 and presently it is 30%. The short-term credit needs of the farmers are met from commission agents, friends and relatives

which supply roughly 50% of total rural borrowings, Non-institutional sources of credit are not encouraged by government because of the following reasons

- They charge high rate of interest.
- They acquire land on failure to pay interest and loan.
- They manipulate accounts.

The Poor Women's Bank Kudumbashree is women-oriented community based poverty reduction programme being implemented in Kerala. In 1995, a thrift and credit society was started as a small savings for poor women with an objective to encourage savings. The thrift and credit society mobilised Rs. 1 crore as thrift savings. These societies have been acclaimed as largest informal banks in Asia in terms of participation and savings mobilised.

2. Institutional Sources of Rural Credit In regard to rural credit, major change occurred after 1969, when India adopted social banking and multi agency approach to adequately meet the needs of rural credit. Different institutions were formed to provide the rural credit.

The major institutional sources of rural credit are as follows

(i) National Bank for Agriculture and Rural Development (NABARD) It was set up in 1982 as an apex body to coordinate the activities of all institutions involved in the rural financing system. It has an authorised share capital of Rs. 500 crore. The RBI has contributed half of the share capital while the other half has been contributed by Government of India.

The main functions of NABARD are

- To grant long-term loans to the State Government for subscribing to the share capital of cooperative societies.
- To take the responsibility of inspecting cooperative banks, Regional Rural Banks (RRBs) and primary cooperative societies.
- To promote research in agriculture and rural development.
- To serve as a refinancing agency for the institutions providing finance to rural and agricultural development.
- To help tenant farmers and small farmers to consolidate their land holdings.

The national agricultural credit fund has been transferred from RBI to NABARD to form a part of its national rural credit fund.

(ii) Self Help Groups (SHGs) Formal credit system has proven inadequate. It has also not been fully integrated into the overall rural, social and community development.

Due to the demand of some kind of collateral, vast proportion of poor rural households were automatically out of the credit networks. Self Help Groups emerged to fill this gap, created by formal credit system.

Self Help Groups (SHGs) promote thrift in small proportions by a minimum contribution from each member. By March end 2003, more than Rs. 7 lakh SHGs had reportedly been credit linked. Such credit provisions are generally referred to as micro-credit programmes. SHGs have helped in the empowerment of women. However, borrowings from SHGs are mainly confined to consumption purposes.

(iii) Regional Rural Banks (RRBs) As a supplement to commercial banks, the regional rural banks have also been opened. These have been set up under the Regional Rural Banks Act-of 1976. Their banking services are meant for small and marginal farmers and artisans, etc. They cater exclusively to the needs of weaker section. Nearly 90% of the loan of RRBs were provided to the weaker section.

Kisan Credit Card Scheme

Kisan Credit Card scheme (KCCs) was introduced by the government in 1998-99. It facilitates access to credit from commercial banks and regional rural banks. Under the scheme, the eligible farmers are provided with a kisan card and pass book from the relevant bank. The farmers can make withdrawals and repayments of cash within the credit limit as – specified in the Kisan Credit Card (KCC).

(iv) Commercial Banks They were inducted into the field of agricultural credit under the Banking Reforms Act, 1972. The share of commercial banks in the supply of agricultural credit has considerably improved. It was 46.9% during the year 2006-07.

Commercial banks disburse agricultural credit for the purchase of inputs, cattle, tractors, dairy farming, installation of tube-wells, etc.

(v) Cooperative Credit Societies The cooperative credit societies are actively engaged in addressing credit needs of the farmers, besides offering a host of related services. Notably these societies provide guidance in diverse agricultural operations with a view to raise crop productivity. Currently, cooperatives account for 16-17% of rural credit flow. The main function of cooperative credit society is to provide timely and increased flow of credit to the farmers.

Latest Status of Agricultural Credit

The following points reveal the latest status of agricultural credit

- The credit flow in this sector in 2011-12 is placed at Rs. 475000 crore.
- The agricultural debt waiver and debt relief scheme was announced in the union budget 2008-09.
- Farmers have been receiving crop loans upto a principal amount of Rs.3 lakh at an effective rate of 4% per annum.
- To provide adequate and timely credit support to the farmers, the Kisan Credit Card (KCC) scheme was introduced in February, 1999. About 10.78 crore KCCs had been issued upto October 2011.
- Government is implementing a revival package for short-term rural cooperative credit structure involving financial outlay of Rs. 13596 crore.

Rural Banking : A Critical Appraisal

After the nationalisation of commercial banks in 1969, the rapid expansion of the banking system in rural areas has been witnessed. Rural banking has raised the level of rural farm and non-farm output, income and employment especially after the green revolution.

Advantages of Rural Banking

- Raising farm and non-farm output by providing services and credit facilities to farmers.
- Generating credit for self employment schemes in rural areas.
- Achieving food security which is clear from the abundant buffer stocks of grains.

Limitations of Rural Banking

- Small and marginal farmers receive only a very small portion of the institutional credit.
- Rural banking is suffering from the problems of large amount of over dues and default rate.
- The sources of institutional finance are inadequate to meet the requirements of agricultural credit.
- There exist regional inequalities in the distribution of institutional credit.

It is suggestible that more and more regional rural banks should be set up to need the credit need of the rural and backward areas of India.

Agricultural Marketing, Diversification of Agricultural Activities and Organic Farming

Agricultural Marketing Agricultural marketing is the process that involves functions of assembling, storage, processing, packaging, transportation, grading and distribution of agricultural commodities throughout the country.

In other words, agricultural marketing covers the services involved in moving an agricultural product from the farm to the consumer.

Need of Agriculture Marketing

Need of agriculture marketing originates due to the problems faced by farmers.

Different types of problems faced by the farmers are

- Farmers while selling their produce to traders suffered from faulty weighing and manipulation of accounts.
- Due to lack of knowledge about the prices prevailing in the markets, farmers are often forced to sell their produce at low prices.
- Farmers did not have proper storage facilities to keep back their produce for selling later at better price.

Approximately 10% of goods produced in farms is wasted due to lack of storage.

Distress Sale Lack of agricultural marketing infrastructure often forces the farmers to sell their produce at low prices for fear of spoilage or to pay off an imminent debt. This is termed as distress sale. Farmers tend to suffer highly on account of these sales, because they not only get a low price for their produce, but are also cheated by use of false weights and are charged a high commission.

Measures by Government to Improve Agriculture Marketing

Four measures which were initiated to improve the agriculture marketing aspect are discussed below

1. **Regulation of Markets** The first measure to improve agriculture marketing aspect is regulation of markets to create orderly and transparent marketing conditions. Regulated markets have been established where sale and purchase of the produce is monitored by the Market Committee consisting of representatives of government, farmers and the traders.

Market committee ensure that the farmers get appropriate price of their produce. By and large, this policy benefited farmers as well as consumers. However there is still need to develop about 27000 rural periodic markets as regulated market places to realize the full potential of rural markets.

2. **Improvement in Physical Infrastructure** It is the second measure to improve the agriculture marketing aspect. The current infrastructure facilities like; roads, railways, warehouses, godowns,

cold storages and processing units etc are inadequate to meet the growing demand. Through this measure government ensures the improvement in physical infrastructure.

3. Cooperative Marketing It is the third measure taken by government in realising the fair prices for farmers products. As members of these societies, farmers find themselves better bargainers in the market and get better prices of their produce through collective sale. The success of milk cooperatives in Gujarat and some other parts of the country are the brilliant examples of cooperative marketing.

Different problems faced by cooperative during the recent past are

- Inadequate coverage of former members.
- Lack of appropriate link between marketing and processing cooperatives.
- Inefficient financial management.

Supporting Policies

It is the fourth measure taken by government to improve agriculture marketing system. Different supportive policies applied in this regard are

- Minimum Support Price (MSP) It is an important step to improve agriculture market system. MSP is an assurance to the farmers that a minimum price will be fixed by the government to farmers' produce, no purchasing can be done below this price, however farmers can sell their produce in open market above MSP. This policy assured a minimum income to the farmers.
- Maintenance of Buffer Stocks of Wheat and Rice Purchases from the farmers are kept by Food Corporation of India as buffer stocks.
- Distribution of Foodgrains and Sugars Through Stocks purchased by government at MSP are used primarily for Public Distribution System (PDS). Distribution of foodgrains and other necessary items like kerosene oil at subsidised price to the poor takes place through fair price shops.
- Emerging Alternative Marketing Channels In India, alternative marketing channels are emerging. Through these channels, farmers directly sell their products to the consumers. This system increases farmers' share in the prices paid by the consumers.

Important examples of such channels are

- Apni mandi (Punjab, Haryana and Rajasthan).
- Hadaspar mandi (Pune); Rythu Bazars (Vegetables and fruit market in Andhra Pradesh).
- Uzhavar sandies (Farmers' Markets in Tamil Nadu).
- Several national and international fast food chains and hotels are also entering into contracts with the farmers to supply them farm products (fresh vegetables and fruits) of the desired quality.

Diversification into Productive Activities

Diversification means a major proportion of the increasing labour force in the agricultural sector

needs to find alternate employment opportunities in other non-farm sectors. Diversification is an emerging challenge in the context of rural development. It has two aspects

- Diversification of crop production
- Diversification of productive activity

Diversification of Crops

This implies a shift from single cropping system to multi-cropping system. In India, where subsistence farming is still dominant, it may also mean a shift from subsistence farming to commercial farming.

Significance of Diversification of Crops Diversification of crops is important because it will

- Minimise the risk occurring. due to failure of monsoon.
- Minimise the market risk arising due to price fluctuations.

Need of Diversification into Productive Activities

Agriculture sector is a seasonal based activity, most of agriculture employment activities are concentrated in Kharif season. But during Rabi season, in the areas where irrigation facilities are inadequate, it becomes difficult to find gainful employment.

So, there is a need to focus on allied activities, non farm employment and other emerging alternatives of livelihood. Also agriculture sector is already overcrowded, a major proportion of the increasing labour force needs to find alternate employment opportunities in other non-farm sectors.

Some non-farm activities are discussed below

1. Animal Husbandry

In India, the farming community uses the mixed crop-livestock farming system. Cattle, goats, fowl are the widely domesticated species. Livestock production provides increased stability in income, food security, transport, fuel and nutrition for the family without disrupting other food producing activities.

Today, livestock sector alone provides alternate livelihood options to over 70 million small and marginal farmers including landless labourers.

Poultry accounts for the largest share with 55% followed by others. India has about 304 million cattle, including 105 million buffaloes.

A significant number of women also find employment in the livestock sector.

Milk production in the country has increased by more than five times between 1960-2009. This can be attributed mainly to the successful implementation of 'operation flood'.

Meat, eggs, wool and other by-products are also emerging as important productive sectors for diversification.

In numbers, our livestock population is quite impressive but its productivity is quite low as compared to other countries. It requires improved technology and promotion of good breeds of animals to enhance productivity. Improved veterinary care and credit facilities to small and marginal farmers and landless labourers would enhance sustainable livelihood options through livestock production.

Operation Flood

It is a system whereby all the farmers can pool their milk produced according to different grading (based on quality) and the same is processed and marketed to urban centres through cooperatives. In this system farmers are assured of fair price and income from the supply of the milk to urban

markets. Gujarat state is held as a success story in the efficient implementation of milk cooperatives which has been emulated by many states.

Fisheries

The socio-economic status of fishermen is comparatively lower because of

- rampant underemployment
- low per capital earnings
- absence of mobility of labour to other sectors
- high rate of illiteracy
- indebtedness

Horticulture

Due to varying climate and soil conditions, India has adopted growing of diverse horticultural crops such as fruits, vegetables, tuber crops, flowers, medicinal and aromatic plants, spices and plantation crops. These crops play an important role in providing food, nutrition and employment.

The period between 1991-2003 is called 'golden revolution' because during this period, the planned investment in horticulture became highly productive and the sector emerged as a sustainable livelihood option.

India has emerged as a world leader in producing a variety of fruits, like mangoes, bananas, coconuts, cashew, nuts and a number of species and is the second largest producer of fruits and vegetables.

Economic conditions of many farmers engaged in horticulture has improved and has become a means of improving livelihood for many unprivileged classes.

Flower harvesting, nursery maintenance, hybrid seed production and tissue culture, propagation of fruits and flowers and food processing are highly profitable employment opportunities for rural women. It has been estimated that this sector provides employment to around 19% of the total labour force.

Other Alternate Livelihood Options

The Information Technology (IT) has revolutionised many sectors in the Indian economy. It plays a very significant role in achieving sustainable development and food security in the following ways

- It can act as a tool for releasing the creative potential and knowledge embedded in our people.
- Issues like weather forecast, crop treatment, fertilisers, pesticides storage conditions, etc can be well administered, if expert opinion is made available to the farmers.
- The quality and quantity of crops can be increased manifold, if the farmers are made aware of the latest equipments, technologies and resources.
- It has ushered in a knowledge economy.
- It has potential of employment generation in rural areas.

Every Village A Knowledge Centre

MS Swaminathan Research Foundation, an institution located in Chennai, Tamil Nadu, with support from Sir Ratan Tata Trust, Mumbai, has established the Jamshedji Tata National Virtual Academy for Rural Prosperity. The academy envisaged to identify a million grass root knowledge workers who will be enlisted as fellows of the academy.

The programme provides an info-kiosk (PC with internet and video conferencing facility, scanner, photocopier, etc) at a low cost and trains kiosk owner; the owner then provides different services and tries to earn a reasonable income. The Government of India has decided to join the alliance by providing financial support of Rs. 100 crore.

Sustainable Development and Organic Farming

Conventional agriculture uses chemical fertilisers and toxic pesticides, etc which enter the food supply, penetrate the water resources, harm the livestock, deplete the soil and devastate natural eco-system. Due to these problems, an eco-friendly technology is required.

Organic farming is such technology which restores, maintains and enhances the ecological balance. There is an increasing demand for organically grown food to enhance food safety throughout the world.

Benefits of Organic Farming

- Organic farming substitutes costlier agriculture inputs like HYV seeds, chemical fertilisers, pesticides, etc with locally produced organic inputs that are cheaper and thereby generate good returns on investment.
- Organic farming also generates income through exports.
- Organically grown food has more nutritional value than chemical farming, thus providing us with healthy foods. Produce pesticide free and produced in an environmentally sustainable way.
- Due to more labour requirement in organic farming, it is an attractive proposition for India.

Limitations of Organic Farming

- Yields from organic farming are less than modern agricultural farming in the initial years. Therefore, small and marginal farmers may find it difficult to adapt to large scale production.
- Organic produce have shorter shelf life than sprayed produce.
- Choice in production of off-season crops is quite limited in organic farming.

Human Capital Formation in India Chapter 6

- **Human Capital** It refers to the stock of 'skill and expertise' of a nation at a point of time. It is the sum total of skill and expertise.
- **Human Capital Formation** It is the process of adding to the stock of human capital over time.
- **Physical Capital** It refers to the stock of produced means of production. It consists of machines, production plants etc.

- Financial Capital It refers to the stocks/shares of the companies or these are simple financial claims against assets of the companies.

Sources of Human Capital Formation

- Expenditure on Education
- Expenditure on Health
- On-the-Job Training
- Study Programmes for Adults
- Migration
- Expenditure on Information

Human Capital Formation and Economic Growth

- Higher Productivity of Physical Capital Human capital formation increases productivity of physical capital specialised engineers and skilled workers can certainly handle machines better than the other.
- Innovative Skills It facilitates the use and growth of innovative skills. Innovation is the life line of growth.
- Higher Rate of Participation and Equality By enhancing productive capacities of the labour force, human capital formation induces greater employment.

Thus, there is a cause and effect relationship between human capital formation and economic growth.

Problems Facing by Human Capital Formation in India

- Rising population
- Brain drain
- Desicient man power planning
- Low academic standards

Human Capital and Human Development

Human capital and human development are related concepts, but certainly not identical. Human capital is a means to an end. Human development is an end itself.

Education as an Essential Element of Human Resource Development

It implies the process of teaching training and learning especially in schools or colleges, to improve knowledge and develop skills.

Growth of Education Sector in India

Following observations highlight the growth of education sector in India

- Expansion of general education

- Primary education
- Secondary education
- Higher education
- Vocationalisation of secondary education
- Technical, medical and agricultural education
- Rural education
- Adult and female education
- Total literacy campaign

Education Still a Challenging Proposition

Education system of the country which along with the following facts makes education still challenging proposition in India.

Large Number of Illiterates

- Inadequate vocationalisation
- Gender bias
- Low rural access level
- Privatisation
- Low government expenditure on education

Right to Education (RTE)

In the year 2012, the Government of India has brought about an Act, called RTE. It promises education to all. It makes education a matter of right to all children in the age group of 6-14 years.

The concept of human capital formation, source of human capital and its growth is revealed in the chapter. It also deals with the relationship among human capital, economic growth and human development.

Concepts and Sources of Human Capital Formation

Just as a country can turn physical resources like land into physical capital like factories, similarly it can also turn human resources like students into engineers and doctors. There by increasing their productivity and efficiency. So, human capital formation aims at converting human resources into human assets.

Human Capital and Physical Capital

- **Human Capital** It refers to the stock of skill, ability, expertise, education and knowledge in a nation at a point of time.
- **Physical Capital** All inputs which are required for further production such as machine, tools and implements, factory buildings, etc are called physical capital.

Difference between Physical and Human Capital

Basis	Physical Capital	Human Capital
Nature	It is tangible and can be easily sold in the market like any other commodity.	It is intangible, built in the body and mind of its owner. It is not sold in the market, only its services are sold.
Ownership	It is separable from its owner.	It is inseparable from its owner.
Mobility	It is completely mobile between countries except some artificial trade restrictions.	It is not perfectly mobile between countries as movement is restricted by nationality and culture.
Formation	It can be built even through imports.	It is to be done through conscious policy formulations.
Benefit	It creates only private benefit.	It creates both private and social benefits.

Human Capital Formation

It is the process of acquiring and increasing the number of people who* have the skills, education and experience which are critical for the economic and political development of a country. In other words, human capital formation is the process of adding to the stock of human capital over time.

G.M. Meier defines human capital formation as, "human capital formation is the process of acquiring and increasing the number of persons who have the skiff education and experience which are essential for the economic and political development of a country".

Sources of Human Capital Formation

Investment in education is considered as one of the most important sources of human capital formation. There are several other sources as well. Investment in health, on-the-job training, migration and information are the other sources of human capital formation.

These sources are discussed below

1. Expenditure on Education

The education expenditure is an important source of human capital formation as it is the most effective way on enhancing and enlarging a productive workforce in the country.

Nations and individuals invest in education with the objective

- increasing their future income.
- generating technical skills and creating manpower, well suited for improving labour productivity and thus, sustaining rapid economic development.
- tending to bring down birth rate which in turn, brings decline in population growth rate. It makes more resources available per person.
- education also results in social benefits since, it also spreads to others.

2. Expenditure on Health

Health is another important source of human capital formation. A sick labourer without access to medical facilities is compelled to abstain from work and there is a loss of productivity. The various forms of health expenditure are preventive medicine, curative medicine, social medicine, provision of clean drinking water, etc.

3. On-the-job Training

Expenditure regarding on-the-job training is a source of human capital formation as the return of such expenditure in the form of enhanced labour productivity is more than the cost of it.

Firms spend huge amounts on giving on-the-job training to their workers. It may be in different forms like a worker may be trained in the firm itself or under the supervision of a skilled worker or can be sent for off campus training.

The firms then insist that workers should work for at least some time in the company so that they can recover the benefits of the enhanced productivity owing to the training.

4. Migration

People sometimes migrate from one place to the other in search of better jobs that fetch them higher salaries than what they may get in their native places. It includes migration of people from rural areas to urban areas in India. Unemployment is the reason for the rural urban migration in India and technically qualified people migrate from one country to another in order to get high salaries.

5. Expenditure on Information

People spend to acquire information relating to the labour market and other markets like education, health, etc.

For example, people seek information regarding salaries and other facilities available in different labour markets, so that they can choose the right job. Expenditure incurred for acquiring information regarding labour markets and other markets like education and health have also become an important source of human capital formation.

Economic Growth and State of Human Capital Formation in India

Human Capital and Economic Growth

India recognised the importance of human capital in economic growth long ago. The Seventh Five Year Plan says, 'Human resources development has necessarily to be assigned a key role in any development strategy, particularly in a country with a large population'.

The following points show clearly the interdependence among the two

- Higher Productivity of Physical Capital Human capital increases productivity of physical capital as specialised and skilled workers can handle machines or techniques better than the unskilled workers. This increased productivity and hence production leads to economic growth.
- Innovative Skills Human capital facilitates innovation of new methods of production and this increases the rate of economic growth in the form of increase in GDP.
- Higher Rate of Participation and Equality Human capital formation leads to a higher employment rate. With increase in employment, the productivity rises. Also, increase in employment opportunities also increases the level of income and this helps in reducing inequalities of wealth.
Both, increase in employment rate and decrease in income inequalities are pointers of economic development.

- Brings Positive Outlook The process of human capital formation bring in a positive outlook to the society which is different from orthodox and traditional ways of thinking, and hence increases the rate of participation in the workforce causes increase in level of production.

India as a Knowledge Economy

The Indian software industry has been showing an Impressive record over the past decade. Entrepreneurs, bureaucrats and politicians are now advancing views about how India can transform itself into a knowledge-based economy by using Information Technology (IT).

There have been some instances of villagers using e-mail which are cited as examples of such transformation. Likewise, e-governance is being projected as the way of the future. The value of IT depends greatly on the existing level of economic development.

Human Capital and Human Development

Human development is the broader term than human capital.

Human capital considers education and health as a means to increase labour productivity. Human development is based on the idea that education and health are integral to human well-being because when people have the ability to read and write and the ability to lead a long and healthy life, they will be able to make other choices they value.

In human capital view, any investment in education and health is unproductive, if it does not enhance output of goods and services. In the human development perspective, human beings are ends in themselves. Therefore, basic education and basic health are important in themselves, irrespective of their contribution to labour productivity. Deutsche Bank and World Bank Report on Indian Economy.

- According to two independent reports one from Deutsche and other from World Bank have identified that India would grow faster due to its strength in human capital formation.
- According to Deutsche Bank (a German Bank)'s report on Global Growth Centres, it has been identified that India will emerge as one among four major growth Centres in the world by 2020. This report also says that between 2005 to 2020, we expect a 40% rise in the average years of education in India, to just above 7 years.
- World's Bank report India and the Knowledge Economy-Leveraging Strengths and Opportunities states that India should make a transition to the knowledge economy and if it uses its knowledge as much as Ireland does, then the per capita income of India will increase from a little over US \$1000 in 2002 to US \$3000 in 2020.
- It further states that the Indian economy has all the key ingredients for making this transition such as a critical mass of skilled workers, a well functioning democracy and a diversified science and technology infrastructure. Thus two reports point out the fact that further human capital formation in India will move its economy to a higher growth.

Problems of Human Capital Formation in India

The main problems of human capital formation in India are

- Rising Population Rapidly rising population adversely affects the quality of human capital in under developed and developing countries like India. It reduces per head availability of existing facilities like sanitation, employment, drainage, water system, housing, hospitals, education, food supply, nutrition, roads, electricity, etc.

- Brain Drain Migration of highly skilled labour termed as 'brain drain. This slow down the process of human capital formation in the domestic economy.
- Inefficient of Manpower Planning There is inefficient manpower planning in less developed countries where no efforts have been made either to raise the standard of education at different stages pr to maintain the demand and supply of technical labour force. It is a sad reflection on the wastage of human power and human skill.
- Long-term Process The process of human development is a long-term policy because skill formation takes time. The process which produces skilled manpower is thus, slow. This also lowers our competitiveness in the international market of human capital.
- High Poverty Levels A large proportion of the population lives below poverty line and do not have access to basic health and educational facilities. A large section of society cannot afford to get higher education or expensive medical treatment for major disease.

Human Development Index

The Human Development Index (HDI) is a composite statistic of life expectancy education, and income indices rank countries into four tiers of human development.

It was created by economist Mahbub Ul Haq, followed by economist Amartya Sen in 1990, and published by the United Nations Development Programme. India has 136th position in the World Human Development Index.

Education Sector in India

Education implies the process of teaching, training and learning especially in schools or colleges, to improve knowledge and develop skills.

Following points explain the important or objective of education

- It produces good citizens.
- It develops science and technology.
- It facilities use of natural and human resources of all regions of the country.
- It expands mental horizon of the people.

Growth in Government Expenditure on Education

Government expenditure on education can be expressed in two ways

- As a percentage of total government expenditure.
- As a percentage of Gross Domestic Product (GDP).

The percentage of 'education expenditure of total government expenditure' indicates the importance of education in the scheme of expenses before the government. Expenditure on education out of our GDP shows how much we are committed towards the development of education in our country.

During 1952-2010, education expenditure as percentage of total government expenditure increased from. 7.92% to 11.1% and as percentage of GDP increased from 0.64% to 3.25%. During this period expenditure on education was not constant. There was irregular rise and fell.

Expenditure on Elementary Education in India

Elementary education takes a major share of total education expenditure and the share of the higher/tertiary education is the least. But expenditure per student on tertiary education is higher than that of elementary.

As we expand school education, we need more teachers who are trained in the higher educational institutions, therefore, expenditure on all levels of education should be increased. The per capita education expenditure is as high as Rs. 2005 in Himachal Pradesh to as low as Rs. 515 in Bihar. This leads to differences in educational opportunities across states.

Free and Compulsory Education

The Education Commission (1964-66) had recommended that atleast 6% of GDP to be spent on education so as to make a noticeable rate of growth in education.

In December 2002, the Government of India, through the 86th Amendment of the Constitution of India, made free and compulsory education a fundamental right of all children in the age group of 6-14 years. Government of India in year 1998 appointed. The Tapas Majumdar Committee, which estimated an expenditure of around 1.37 lakh crore over 10 years (1998-99 to 2006-07) to bring all Indian children in the age group of 6-14 years, under the purview of school education. Desired level of expenditure an education is 6% of GDP but the current level is little over 4% which is not inadequate. It is necessary to reach the level of 6% which is considered as must for coming years.

Recently, Government of India has started levying a 2% 'education cess' on all Union taxes. The revenues from education cess has been earmarked for spending on elementary education. Educational Achievements in India Generally, educational achievements in a country are indicated in terms of

- Adult literacy level
- Primary education completion rate
- Youth literacy rate These statistics for the years 1990 to 2010 are given in the following table

Educational Attainment in India

Particulars		1990 (%)	2000 (%)	2005-10 (%)
Adult Literacy Rate	Male	61.9	68.4	76.7
	Female	37.9	45.4	54.9
Primary Completion Rate	Male	78	85	96
	Female	61	69	95
Youth Literacy Rate	Male	76.6	79.7	88
	Female	54.2	64.8	74

Future Prospects

India government considers education a key sector where considerable growth and development is required. Thus, it has set some future prospects for framing its policies.

These prospects are discussed below

Education for All : Still a Distant Dream

Although the education level in India has risen for both adults as well as for youth. Still the number of illiterates in India are as much as the population was at the time of Independence.

In 1950, when the Constitution of India was passed by the constituent assembly, it was noted in the directive principles of the constitution that the government should provide free and compulsory education for all children up to the age of 14 years within 10 years from the commencement of the constitution.

The following factors makes education still a distant dream

- Large number of illiterates
- Inadequate vocationalisation
- Gender bias
- Low rural access level
- Privatisation
- Low government expenditure on education

Gender Equity : Better than Before

The differences in literacy rates between males and females are narrowing, signifying a positive development in gender equity; still the need to promote education for women in India is imminent for various reasons, such as

- Improving economic independence.
- Social status of women.
- Healthcare of women and children.

Therefore, we cannot show the satisfaction about the upward movement in literacy rates as we have miles to go in achieving cent percent adult literacy.

In India, Mizoram, Kerala, Goa and Delhi are the states having high literacy rate, while Bihar, Uttar Pradesh, Rajasthan and Arunachal Pradesh are the educationally backward states. The educational backwardness is due to social and economic poverty of the people.

Higher Education : A Few Takers

The Indian education pyramid is steep, indicating lesser and lesser number of people reaching the higher education level.

As per NSSG (National Sample Survey Organisation) data, in the year 2007-08, the rate of unemployment for youth with education up to secondary level and above was 18.1% whereas, the rate of unemployment for youth with education up to primary level was only 11.6%.

Therefore, the government should increase allocation for higher education and also improve the standard of higher education institutes, so that students are imparted employable skills in such institutions

Employment-Growth, Informalisation and Related Issues Chapter 7

- Worker A worker is an individual who is in some employment to earn a living. He is engaged in some production activity.

- **Production Activity** It refers to the process of producing goods and services. Employed are those who are engaged in some production activity or the other.
- **Self-employed and Hired Worker** Self-employed workers are those who are engaged in their own business or own profession.
Hired workers are those who work for others they renders their services to other, as a reward, get wages/salaries or may be they are paid in kind.
- **Casual and Regular Worker** Casual workers are the daily wagers. They are not hired by their employers on regular basis.
Regular workers are permanent pay-roll of their employers. A regular worker is usually a skilled worker.
- **Labour Supply** It refers to supply of labour corresponding to different wage rates. Supply of labour is measured in terms of man-days of work and always studied with reference to wage rate.
- **Labour Force** It refers to the number of persons actually working or willing to work. It is not related to wage rate.
- **Work Force** It refers to the number of persons actually working and does not account for those who are willing to work.
- **Employment in Firms, Factories and Offices** In the course of economic development of a country, labour force from agriculture and other related activities to industry and services. In this process workers migrate from rural to urban areas.
- **Informalisation of Workforce** It refers to a situation where percentage of work force in the formal sector tends to decline and that in the informal sector tends to rise.
Market economy and informalisation of workers, perhaps are strongly correlated to each other.

Unemployment

According to Prof Pigou, "A man is unemployed only when he is both without a job a or not employed and also desires to be employed".

- **Rural Unemployment** In Indian villages nearly 58.7% of labourers are engaged in primary sector. Most of the rural labourers engaged in non-farm sector work in cottage industries.
- **Urban Unemployment** In urban areas, unemployed people are often registered with employment exchanges. Therefore, urban unemployment is more like open unemployment. Unemployment in urban sector is placed in two board categories
 - Industrial Unemployment
 - Educated Unemployment

Common Types of Unemployment in Rural and urban Areas

In India, following types of unemployment are found both in urban and rural areas

- Open unemployment
- Structural unemployment

- Under employment
- Frictional unemployment
- Cyclical unemployment

Suggestions to Solve the Problem of Unemployment in India

- Increase in production
- Increase in productivity
- High rate capital formation
- Help to self employed persons
- Technique of production
- Co-operative industries

Government Policy and Programmes

Government seeks to solve the problem of unemployment through its poverty eradication programmes generating employment opportunities for poorer sections of the society. Rural employment Guarantee scheme is a significant recent attempt of the government, offering guaranteed employment to those in the rural areas who are below poverty line.

Some of the basic issues related to unemployment in India are emphasised in this chapter. It also addresses the growth rate of Indian economy and various employment generation, schemes. It also specifies the need of transformation of workers from in formal sector to formal sector.

Employment and Informalisation of Indian workforce

Work plays an important role in our lives as an individual or a group of members can earn their living after doing work. Being employed gives us a sense of self-worth and enables us to relate ourselves meaningfully with others. In this way, every working person can actively contribute towards national income.

Thus, there is need to know who is a worker and what is an employment.

A person is classed as a worker if

- he has contract or agreement to do work.
- he gets reward or other benefits from doing a work.
- he works for himself or is self-employed.

So, it can be concluded that all those who are engaged in production activities, in whatever capacity high or low, are workers.”

Types of Workers

Broadly, workers can be categorised into self-employed and hired workers. They are discussed below

- **Self-Employed** The workers who own and operate an enterprise to earn their livelihood are known as self-employed. For example, a farmer working on his own farm. This category accounts for more than 50% of the workforce.

- **Hired Workers** Those people who are hired by others and are paid wages or salaries as a reward for their services are called hired workers.

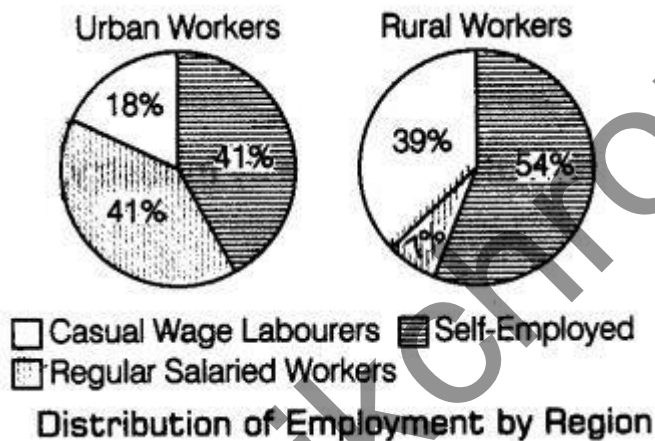
Hired workers can be of two types

- **Casual Workers** Those people, who are not hired by their employers on a regular/permanent basis and do not get social security benefits are said to be casual workers.
For example, construction workers.
- **Regular Salaried Workers** When a worker is engaged by someone or by an enterprise and paid his or her wages on a regular basis, they are known as regular salaried employees or regular workers.
For example, teachers, chartered accountants, etc.

Self-Employed and Hired Workers in India

1. According to Region (Rural and Urban)

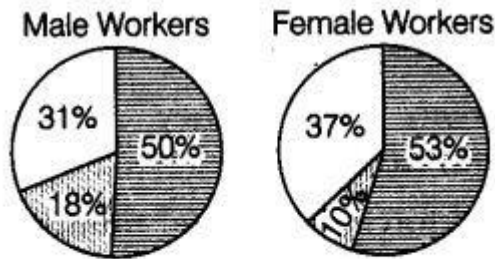
- 41% of workers are self-employed and 59% of workers are hired in urban areas.
- 54% of workers are self-employed and 46% of workers are hired in rural areas.



The above chart shows that the self-employed and casual wage labourers are found more in rural areas than in urban areas. It is because in urban areas, people are skilled and work for jobs in offices and factories. But in rural areas, people work on their own farms.

2. According to Gender

- 50% of male workers are self-employed and 50% of male workers are hired.
- 53% of female workers are self-employed and 47% of female workers are hired.



Casual Wage Labourers Self-Employed
 Regular Salaried Workers

Distribution of Employment by Gender

Distribution of Employment by Gender The above chart shows that self-employment and hired employment are equally important for male workers. But female workers give preference to self-employment than to hired employment. It is because women, both in rural and urban areas are less mobile and thus, prefer to engage themselves in self employment.

So, it can be concluded that self-employment is a very important source of livelihood for people in India. Size of Workforce in India. India has a workforce of nearly 40 crore of people.

The data on the size of workforce In India are as follows

- About 70% of the workforce comprises of male workers, only 30% are female workers,
- Nearly, 70% of workforce is found in rural areas i and only 30% is in urban areas.
- Percentage of female workforce In rural areas is nearly 26% while it is only 14% in urban areas.

Employment

It is a relationship between two parties i.e. employer and the employee who are binded in a contract of doing something valuable or it is an act of employing or state of being employed.

The nature of employment in India is multifaceted. Some get employment throughout the year or some others get employed for only a few months in a year. Many workers do not get fair wages for their work but still while estimating the numbers of workers, all those who are engaged in productive activities are included as employed.

Terms associated with workers and employment are accumulated below

- Productive Activities Those activities which contribute to the gross national product are called productive activities.
- Workforce Persons who are engaged in productive activities are termed as workers and they constitute the workforce.
Workforce is the total number of persons actually working.
- Workforce Participation Rate (Ratio) It is measured as the ratio between workforce and total population of a country.

Participation Ratio

$$= \frac{\text{Total Workforce}}{\text{Total Population}} \times 100$$

- Labour Supply It refers to the amount of labour that the workers are willing to work, corresponding to a particular wage rate.
- Labour Force It refers to the number of workers actually working or who are able to work. It is not related to wage rate.
- Rate of Unemployment

$$\text{Rate of Unemployment} = \frac{\text{Number of Person Unemployed}}{\text{Size of Labour Force}} \times 100$$

Participation of People in Employment

It refers to participation of people in production activity. It is measured as a ratio of labour force to total population of the country.

The data on rate of participation of people in employment are as follows

- Rate of participation for the urban areas is about 35%.
- Rate of participation for the rural areas is about 41%.
- In urban areas, rate of participation is about 54.3% for men and 13.8% for women.
- In rural areas, rate of participation is about 54.7% for men and 26.1% for women.
- Overall rate of participation in the country is about 39.2%.

Worker-Population Ratio in India, 2009-2010

Worker-Population Ratio in India, 2009-2010

Sex	Worker-Population Ratio		
	Total	Rural	Urban
Men	54.6	54.7	54.3
Women	22.8	26.1	13.8
Total	39.2	40.8	35.0

The above data reveals the following

- Overall rate of participation in the country is not very high, implying not many people are engaged in production activity.
- Participation rate in rural areas is higher than in urban areas.
- Participation rate for women is higher in rural areas compared with urban areas.

Employment in Firms, Factories and Offices

In the course of economic development of a country, labour flows from agriculture and other related activities to industry and services. In this process, workers migrate from rural to urban areas.

Generally, we divide all productive activities into different industrial divisions, they are as follows

- Primary Sector It includes agriculture, forestry and logging, Ashing, mining and quarrying.
- Secondary Sector It includes manufacturing, construction, electricity, gas and water supply.
- Tertiary Sector It includes trade, transport, storage and services.

Distribution of Workforce by Industry, 2009-2010

Industrial Category	Place of Residence		Sex		Total
	Rural	Urban	Male	Female	
Primary Sector	68.0	7.5	47.1	68.7	53.2
Secondary Sector	17.4	34.4	33.5	16.3	21.5
Tertiary/Services Sector	14.6	58.1	19.4	15.0	25.3
Total	100.0	100.0	100.0	100.0	100.0

Growth and Changing Structure of Employment

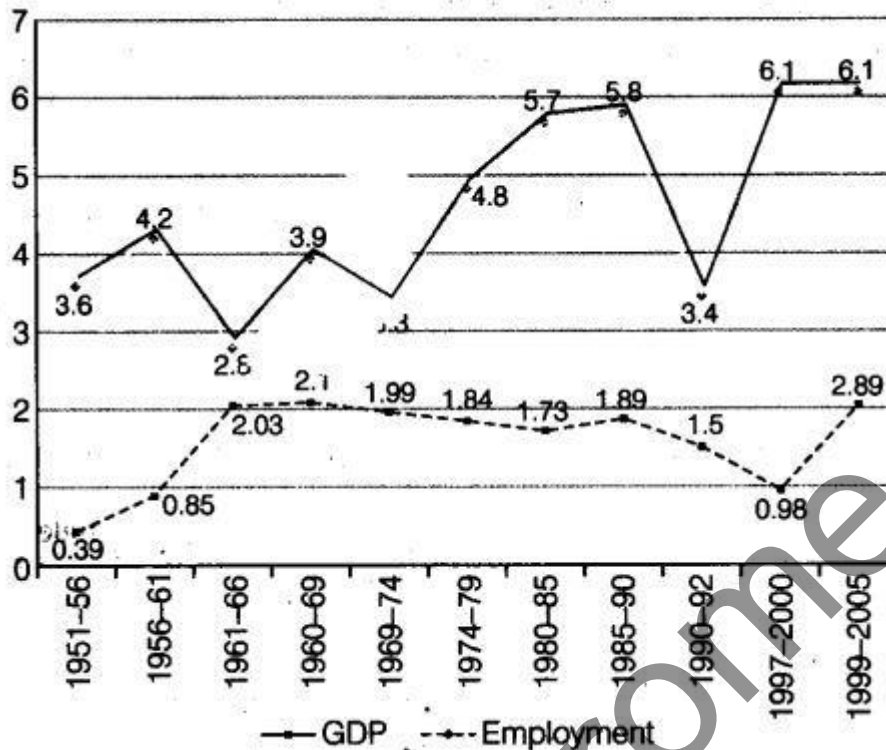
During the period 1960-2000, Gross Domestic Product (GDP) of India grew positively and was higher than the employment growth. However, there was always fluctuation in the growth of GDP. During this period, employment grew at a stable rate of about 2%.

Trends in Employment Pattern (Sector-wise and Status-wise), 1972-2010 (in %)

Item	1972-73	1983	1993-94	1999-2000	2009-2010
Sector					
Primary	74.3	68.6	64	60.4	53.2
Secondary	10.9	11.5	16	15.8	21.5
Tertiary/Services	14.8	16.9	20	23.8	25.3
Total	100.0	97.0	100.0	100.0	100.0
Status					
Self-employed	61.4	57.3	54.6	52.6	51.0
Regular Salaried Employees	15.4	13.8	13.6	14.6	15.6
Casual Wage labourers	23.2	28.9	31.8	32.8	33.5
Total	100.0	100.0	100.0	100.0	100.1

In 1972-73, about 74% of workforce was engaged in primary sector and in 2009-10, this proportion has declined to 53%. Secondary and service sectors are showing promising future for the Indian workforce. The distribution of workforce in different status indicates that over the last four decades

(1972-2010), people have moved from self employment and regular salaried employment to casual wage work. Yet self-employment continues to be the major employment provider. The movement of labour from regular workers to casual wage workers is known as The Process of casualization.



The chart given above points that in the late 1990s, employment growth started declining and reached the level of growth that India had in the early stages of planning. During these years, there is a widening gap between the growth of GDP and employment. This means that in the Indian economy, without generating employment, we have been able to produce more goods and services. This phenomenon is referred as Jobless Growth.

Distribution of workforce by industrial sectors shows substantial shift from farm work to non-farm work.

Informalisation of Indian Workforce

Development planning in India is always focused to provide decent livelihood to its people. It was thought that the industrialisation strategy would bring surplus workers from agriculture to industry with better standard of living as in developed countries. Over the years, the quality of employment has been deteriorating. A small section of Indian workforce is getting regular income. The government through its labour laws, enable them to protect rights in various ways. This section of workforce forms trade unions, bargains with employers for better wages and other social security measures.

Workforce can be classified into two categories

Formal Sectors All the public sector establishments and those private sector establishments which employ 10 hired workers or more are called formal sector establishments and those who work in such establishments are formal sector workers.

Informal Sectors All other enterprises and workers working in those enterprises form the informal sector. Informal sector includes millions of farmers, agricultural labourers, owners of small

enterprises and people working in those enterprises as also the self employed who do not have any hired workers.

Those who are working in the formal sector enjoy social security benefits. They earn more than those in the informal sector. Workers and enterprises in the informal sector do not get regular income; they do not have any protection or regulation from the government. Workers are dismissed without any compensation.

As the economy will grow, more and more workers would become formal sector workers. Owing to the efforts of the International Labour Organisation (ILO), the Indian government has initiated the modernisation of informal sector.

Informalisation in Ahmedabad Ahmedabad is a prosperous city with its wealth based on the produce of more than 60 textile mills with a labour force of 150000 workers employed in them. These workers had, over the course of the century, acquired a certain degree of income security.

They had secure jobs with a living wage, they were covered by social security schemes protecting their health and old age. They had a strong trade union which not only represented them in disputes but also ran activities for the welfare of workers and their families. In the early 1980s, textile mills all over the country began to close down. In some places, such as Mumbai, the mills closed rapidly.

In Ahmedabad, the process of closure was long drawn out and spread over 10 years. Over this period, approximately over 80000 permanent workers and over 50000 non-permanent workers lost their jobs and were driven to the informal sector.

The city experienced an economic recession and public disturbances, especially communal riots. A whole class of workers was thrown back from the middle class into the informal sector, into poverty. There was widespread alcoholism.

Unemployment

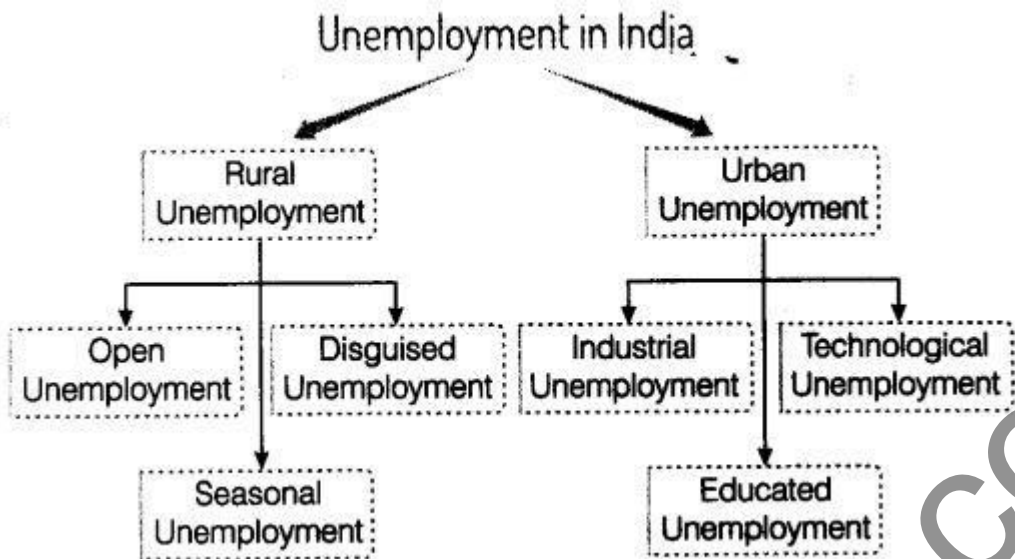
In every section of society there will be a large number of unemployed persons. It is a situation, in which all those who, owing to lack of work are not working but either seek work through employment exchanges, intermediaries, friends or relatives or by making applications to prospective employers or express their willingness or availability for work under the prevailing condition of work and remunerations.

There are a variety of ways by which an unemployed person is identified. As per the view of some economists, unemployed person is one who is not able to get employment of even one hour in half a day.

One can get the data of unemployed persons through below stated sources

- Reports of Census of India
- NSSO's (National Sample Survey Organisations) reports of employment and unemployment situation
- Directorate General of Employment and Training Data of Registration with Employment Exchanges.

Types of Unemployment in India



1. Rural Unemployment

Around 70% of India's population lives in village. Agriculture is the single largest source of their livelihood. Agriculture suffers from a number of problems like dependence upon rainfall, financial constraints, obsolete techniques, etc.

Rural unemployment can be of following three types

- **Open Unemployment** It refers to that situation wherein the worker is willing to work and has the necessary ability to work yet he does not get work and remains unemployed for full time. "
- **Seasonal Unemployment** It refers to a situation where a number of persons are not able to find a job in a particular season. It occurs in case of agriculture, ice-cream factories, woollens factories, etc.
- **Disguised Unemployment** It exists when marginal physical productivity of labour is zero or sometimes it becomes negative. Important features of disguised unemployment are as under
 - Marginal physical productivity of labour is zero.
 - There is disguised unemployment among wage earners.
 - Disguised unemployment is invisible.
 - It is different from industrial unemployment.

2. Urban Unemployment

In urban areas, unemployed people are often registered with employment exchanges. Between 1961 and 2008, the number of unemployed registered in employment exchanges has increased more than eight-fold.

Urban unemployment is of three types

- **Industrial Unemployment** It includes those illiterate persons who are willing to work in industries, mining, transport, trade and construction activities, etc.

Problem of unemployment in industrial sector has become acute because of increasing migration of rural people to urban industrial areas in search of employment.

- Educated Unemployment In India the problem of unemployment among the educated people is also quite grave. It is a problem spread across all parts of the country, because the massive expansion of the education facilities have contributed to the growth of educated persons who are on the look out for white collar jobs.
- Technological Unemployment Technological upgradation is taking place in all spheres of activity.
People who have not updated their skills in the latest technology become technologically unemployed.

Causes of Unemployment in India

1. Slow Economic Growth In Indian economy, the rate of economic growth is very slow. This slow growth rate fails to provide enough employment opportunities to the rising population. Supply of labour is much more than the available employment opportunities.
2. Rapid Growth of Population Constant increase in population has been a grave problem of India. It is one of the main causes of unemployment. The number of unemployed has actually increased instead of decreasing during the plan period.
3. Faulty Employment Planning The Five Year Plans in India have not been designed for employment generation. A frontal attack to solve the problem of unemployment is missing. It was thought that economic growth will take care of unemployment problem.
4. Excessive Use of Foreign Technology Lack of scientific and technical cosearch at home, due to its high cost has resulted in excessive use of foreign technology which has led to technical unemployment in our country.
- 5 Lack of Financial Resources The expansion and diversification programme of agriculture and small scale industries have suffered because of lack of financial resources. This has been accompanied by increasing government control of economic activities.
6. Increase in Labour Force The population explosion stage of Indian economy has added young people to the labour force who are seeking employment.

Government and Employment Generation

In 2005, the government had passed an act in parliament known as the National Rural Employment Guarantee Act, 2005. It promises 100 days of guaranteed wage employment to all rural households who volunteer to do unskilled manual work. This scheme is one of the important measure adopted by government to generate employment for those who are in need of jobs in rural areas.

Since independence, the Union and State Government have played an important role in generating employment or creating opportunities for employment generation. Their efforts can be broadly categorised into two i.e., direct and indirect.

- Direct Employment, In this government employs people in various departments for administrative purposes. It also runs industries, hotels and transport companies and hence provides employment directly to workers.
- Indirect Employment It can be understood as when output of goods and services from government enterprises increases, then private enterprises which receive raw materials from government enterprises will also raise their output and hence increase the number of employment opportunities in the economy. This is the indirect generation of employment opportunities by the government initiatives in the economy.

Employment Generation Programmes

Many programmes that governments implement with the aim of alleviating poverty through employment generation are called employment generation programmes.

These programmes aim at providing not only employment but also services in areas such as primary health, primary education, rural drinking water, nutrition, assistance for people to buy income and employment generating assets, development of community assets by generating wage employment, construction of houses and sanitation, assistance for constructing houses, laying of rural roads, development of waste lands/degraded lands.

Infrastructure -Chapter 8

Concept of Infrastructure

Infrastructure refers to such core elements of economic and social change which serves as a support system to production activity in the economy.

Economic Infrastructure

It refers to all such elements of economic change which serve as a support system to the process of economic growth.

Social Infrastructure

It refers to the core elements of social change which serve as a support system for the process of social development of a country.

Infrastructure and Development

Following observations show how exactly infrastructure contributes to the process of growth and development.

- Infrastructure impacts productivity
- Infrastructure induces investment
- Infrastructure generates linkages in production
- Infrastructure enhances size of the market
- Enhance ability to work
- Induces Foreign Direct Investment (FDI)

The State of Infrastructure in India

(i) Energy is the most important component of economic infrastructure. Industrial production is not possible if energy is not available.

Energy is broadly classified as commercial and non-commercial energy.

- Components of Commercial Energy Coal, petroleum products natural gas, electricity.
- Components of Non-Commercial Energy Fire wood, animal waste, agricultural waste.

(ii) Conventional Sources

- Coal

- Natural gas

(iii) Non-Conventional Sources

- Solar energy
- Wind energy
- Biomass energy including energy in the form of gobar gas
- Geo thermal energy
- Energy through tides and waves as well as temperature gradient over sea

(iv) Power/Electricity The most visible form of energy, which is often identified with progress in modern civilization is power, commonly called electricity.

(v) Some Challenges in the Power Sector

- Inadequate generation of electricity
- Less capacity utilisation
- Losses of electricity boards

(vi) Health Health is a state of complete physical, mental and social well-being. It does not simply mean absence of disease; rather it means a sound physical and mental state of the individual.

Development of Health Services After Independence

There has been a large scale improvement in health facilities. Following are the highlights

- Decline in death rate
- Reduction in infant mortality
- Rise in expectancy of life
- Control over deadly diseases
- Reduction in child mortality rate

Women's Health

Women in India suffer from a serious neglect not only in the area of education, but in the area of health care as well. More than 50% of women in India in the age group of 15-49 years suffer from nutritional deficiency.

Health as an Emerging Challenge

Points given below highlight the deficiencies of our social infrastructure in terms of health facilities.

- Unequal distribution of healthcare services
- Communicable diseases
- Poor management
- Privatisation

- Poor upkeep and maintenance
- Poor sanitation level

Infrastructure facilitates support system in an economy. It contributes to economic development of a country both by rising the productivity of factors of production and by improving the quality of life of its people.

This chapter focuses on analysing the economic and social components of infrastructure. The significance of infrastructure in the context of growth and development of an economy is also discussed in it.

Concept, Types and Importance of Infrastructure

Infrastructure is basic physical and organisational structure needed for the operation of a society or enterprise. It provides supporting services in the main areas of industrial and agricultural production, domestic and foreign trade and commerce. Infrastructural installations do not directly produce goods but help in promoting production activities in an economy. e.g. transport, communication, banking, power, etc.

These services include roads, railways, ports, airports, dams, power stations, oil and gas pipelines, telecommunication facilities, etc. They also include country's educational system including schools and colleges, health system including hospitals, sanitary system including clean drinking water facilities and the monetary system including banks, insurance and other financial institutions.

Types of Infrastructure

Infrastructure is broadly categorised as social and economic infrastructure. They are discussed below

Social Infrastructure It refers to the core elements of social change which serve as a foundation for the process of social development of a country. It contributes to economic processes indirectly and from outside the system of production and distribution, e.g. educational institutions, hospitals, sanitary conditions and housing facilities, etc.

Economic infrastructure It refers to all such elements of economic change which serve as a foundation for the process of economic growth. These helps in the process of production directly. e.g. transportation, communication, energy/power, etc.

Difference between Social and Economic Infrastructure

Social Infrastructure	Economic Infrastructure
It helps the economic system from outside. (i.e. indirectly)	It helps the economic system from inside. (i.e. directly)
It improves the quality of human resources.	It improves the quality of economic resources.
Expenditure on it, will raise the stock of human capital overtime.	Expenditure on it, will raise the stock of physical capital overtime.
<i>For example, health, education and housing.</i>	<i>For example, energy, transport and communication.</i>

Relevance of Infrastructure

Infrastructure is the support system which provides support to the efficient working of a modern industrial economy. Modern agriculture also largely depends on it

- for speedy and large scale transportation of seeds, pesticides, fertilisers, etc.

We use modern roadways, railways and shipping facilities. In recent times, agriculture also depends on insurance and banking system.

Inadequate infrastructure can have multiple adverse effects on health. Improvements in water supply and – sanitation have a large impact by reducing morbidity (state of being unhealthy or diseased) from major

- waterborne diseases and reducing the severity of disease, when it occurs. Air pollution and safety hazards connected to transportation also effect morbidity particularly in densely populated areas.

Importance of Infrastructure in Development

Folloiving points highlights how exactly infrastructure contributes to the process of growth and development

- Impact on Productivity Infrastructure plays an major role in the raising productivity, with improved roadways, warehouses etc farmers can easily sell their products in different markets. Also irrigation facilities has reduced dependence on monsoon for water needs, which not only increases productivity but also production level.
- Induces Investment Infrastructure induces investment. Low investment points to low level of production and backwardness of an economy. A well developed infrastructure attracts foreign investors. Which gives investment avenues and profitable ventures.
- Generates Linkages in Production Better means of transport and communication, robust system of banking and finance generates better inter-industrial linkages. It is a situation when expansion of one industry facilitates the expansion of the other.
- Enhances Size of the Market Infrastructure enhances the size of the market as large scale of production can capture more market.
- Enhances Ability to Work Social infrastructure increases the quality of life of workers, thereby increasing their efficiency. Health care centres, educational institutions and other such facilities inherit skills which increases ability and efficiency to work.
- Facilities Outsourcing India is emerging to be a global destination for all kinds of outsourcing. For example, call centres, study centres, medical transcription and such other services, owing largely – to its sound system of social and economic infrastructure.

The State of Infrastructure in India

Traditionally, the government has been solely responsible for developing the country's infrastructure. But it was found that the government's investment in infrastructure was inadequate. Today, the private sector by itself and also in joint partnership with the public sector has started playing a very important role in infrastructure development. India invests only 5% of its GDP on infrastructure, which is for below than that of China and Indonesia.

Some Infrastructure in India and Other Countries, 2008-10

Country	Investment in Infrastructure as a % GDP 2003	Access to Safe Drinking Water (%)	Access to Improved Sanitation (%)	Mobile Users/ 1000 People 2010	Power Generation (billion kwh)
China	20	98	55	642	3700
Hong Kong	4	100	100	1900	40
India	5	97	31	642	900
South Korea	7	99	100	703	452
Pakistan	2	96	45	592	95
Singapore	5	100	100	1440	42
Indonesia	14	92	52	920	155

Infrastructure State in Rural Area

Majority of India's population still lives in rural area.

Infrastructure state in rural India can be understood from the following points

- Despite of so much technological progress, women of rural India are still using bio fuels to meet their daily energy requirement.
- Women go long distances to fetch water and other basic needs.
- The Census 2001 shows that in rural India, only 56% households have an electricity connection and 43% still use kerosene.
- About 90% of the rural households use bio fuels for cooking.
- Tap water availability is limited to only 24% rural households.
- About 76% of the population drinks water from open resources such as wells, ponds, etc.
- Access to improved sanitation in rural areas was only 20%.

Future Prospects in India

Some economists have projected that India will become the third biggest economy in the world, a few decades from now. For that to happen, India will have to boost its infrastructure investment.

In an economy as the income rises, requirement of infrastructure will change. For low income countries, basic infrastructure services like irrigation, transport and power are more important. On the contrary the developed economies require more service related to infrastructure. That is why, share of power and telecommunication infrastructure is greater in high income countries.

Thus, development of infrastructure and economic development go hand in hand. Obviously, if proper attention is not paid to infrastructure development, economic development will be severely affected.

In this chapter, we will focus only two kinds of infrastructure, those associated with energy and health. Other types of infrastructure are not included in our syllabus.

Energy

Energy is a critical aspect of development process of a nation. It is essential for industries, agriculture and related areas like production and transportation of fertilisers, pesticides and farm equipment. It is also required in house for cooking, household lighting and heating etc.

Sources of Energy

1. Conventional Sources of Energy

There are two types of conventional sources of energy

- Commercial Sources Coal, petroleum and electricity are commercial sources of energy as they bought and sold in the market. They account for over 40% of total energy sources consumed in India. Commercial sources of energy are generally exhaustible in nature.
- Non-commercial Sources Fire wood, agricultural waste and dried dung non-commercial sources of energy. They are found in nature free of cost. Non-commercial sources are generally renewable in nature.

More than 60% of Indian households depend on the traditional sources of energy. In meeting their regular cooking and heating needs.

2. Non-conventional Sources of Energy

Solar energy, wind energy and tidal power are non-conventional sources. India has almost unlimited potential for producing all three types of energy if some appropriate cost effective technologies (that are already available) are used.

Note India is fifth largest producer of wind energy.

Difference between Conventional and Non-conventional Sources of Energy

Conventional Sources of Energy

These are the traditional sources of energy which are generally bought and sold in the market. In India, conventional sources are being used in total disregard to the environment, i.e. These sources create pollution.

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These are the traditional sources of energy which are generally bought and sold in the market.

In India, conventional sources are being used in total disregard to the environment. i.e. These sources create pollution.

Non-conventional Sources of Energy

These are modern sources of energy.

These are being developed as sources of commercial energy with a view to checking environmental pollution.

Primary and Final Sources of Energy

Primary Sources They are those sources which are the gift of nature to the Earth. They do not require any transformation before their use. They are directly used as the inputs of production. e.g., coal, lignite, petroleum, gas, etc.

Final Sources They are used as a final product.

This involves transformation process, transforming inputs into final outputs like transformation of coal energy into electricity.

Consumption Pattern of Commercial Energy in India

At present, commercial energy consumption makes up about 74% of the total energy consumed in India. This includes coal with the largest share of 54%, followed by oil at 33%, natural gas at 9% and hydro energy at 3%. Non-commercial energy sources account for over 26% of the total energy consumption.

The critical feature of India's energy sector and its linkages to the economy, is the import dependence on crude and petroleum products, which is likely to grow rapidly to more than 100% of the need in the near future.

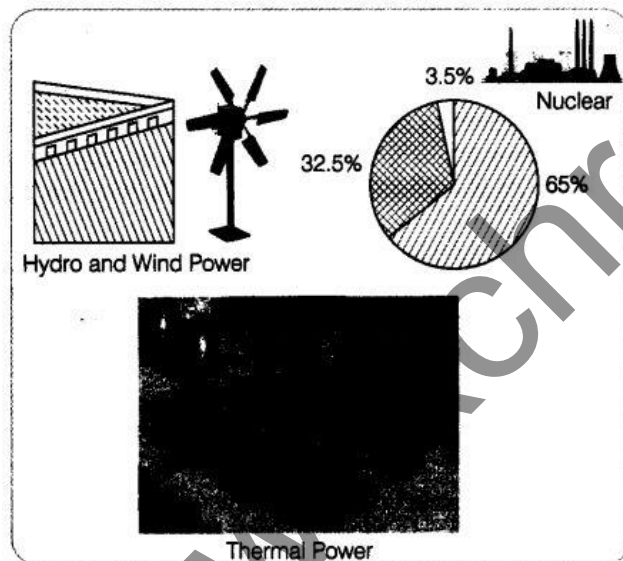
Sectoral Pattern of Energy Consumption in India

Earlier till 1953-54, transport sector was the largest consumer of commercial energy but it declined thereafter and industrial sector has been increasing. The share of oil and gas is highest among all commercial energy consumption.

Power/Electricity

The most visible form of energy, which is often identified with progress in modern civilisation, is power, commonly called electricity. It is a critical component of infrastructure that determines the economic development of a country. The growth rate of demand for power is generally higher than the GDP growth rate. Studies point that in order to have 8% per annum, power supply needs to grow around 1. annually.

In 2010-11, thermal sources accounted for almost 65% generation capacity in India. Hydel and wind power accounted for 32.5% while nuclear power accounted only 2.5%. India's energy policy encourages two energy sources; hydel and wind, as they do not rely on fossil fuel and hence, avoid carbon emissions and are renewable in nature. It has resulted in faster growth of electricity produced from these two sources.



Atomic energy is an important source of electric power. At present, nuclear energy accounts for only 2.5% of total energy consumption, against a global average of 13% which is too low. Hence, some scholars suggest to generate more electricity through atomic sources.

Use of Solar Energy in Thane

There is a use of solar energy on large scale in Thane city. The use of solar energy, which was considered a somewhat far fetched concept, has brought in real benefits and results in cost and energy saving. In this city, solar energy is being applied to heat water, power traffic signals and advertising hoardings. The experiment is lead by Thane Municipal Corporation. It has made compulsory for all new buildings in the city to install solar water heating system.

Some Challenges in the Power Sector

Energy, in a developing country like India, is a basic put required to sustain economic growth and to provide basic amenities of life to the entire population of a country.

Energy generated at various power stations is not totally used by the consumers, some of it is consumed by the power station itself and some of it is wasted in transmission.

Some of the challenges that India's power sector faces today are

- India's installed capacity to generate electricity is , not sufficient to feed an annual economic growth of 9%. At present, India is able to and only 20,000 MW a year. Even the installed capacity is under utilised.
- State Electricity Boards (SEBs) which distribute electricity, incur losses which exceed ? 500 billion due to transmission and loss in distribution, wrong pricing of electricity and other inefficiencies.
- Private sector power generators are yet to play their role in a major way, same is the case with foreign investors.
- There is general public unrest due to high power tariffs and prolonged power cuts in different parts of the country.
- Thermal power plants which are the mainstay of India's power sector, are facing shortage of raw material and coal supplies.

Continued economic development and raising population is driving the demand for more energy than what India is currently producing. Instead of investing in already installed power sector, government has shifted interest into the private sector particularly for the distribution of electricity at much higher prices.

Power Distribution : The Case of Delhi

Since, independence power management in the capital has changed hands four times. The Delhi State Electricity Board (DSEB) was set up in 1951. This was succeeded by the Delhi Electric Supply Undertaking (DESU) in 1958. The Delhi Vidyut Board (DVB) came into existence as SEB in February 1997.

Now the distirbutioq of electricity vests with two leading private sector companies—Reliance Energy Limited (BSES Rajdhani Power Limited and BSES Yamuna Power Limited) and Tata—Power Limited (TPDDL). They supply electricity to approximately 28 lakh customers in Delhi.

The tariff structure and other regulatory issues are monitored by the Delhi Electricity Regulatory Commission (DERC). Though it was expected that there will be greater improvement in power distribution and the consumers will benefit in a major way, experience shows unsatisfactory results.

Health

A person's ability to work depends largely on his health. Good health enhances the quality of life. Health is not only absence of disease but also the ability to realise one's potential. It is a yardstick of one's well being.

Health is an important component of social infrastructure. It is the holistic process related to the overall growth and development of the nation. Scholars assess people's health by taking into account indicators like infant mortality and maternal mortality rate, life expectancy and nutrition levels, alongwith incidence of communicable and non-communicable diseases.

Development of health infrastructure ensures a country about healthy manpower for production of goods and services.

Health infrastructure includes hospitals, doctors, nurses and other para-medical professionals, beds, equipment required in hospitals and a well developed pharmaceutical industry. Only the presence of infrastructure is not enough to have healthy people but it should be accessible to all the people easily.

State of Health Infrastructure in India

The government has the constitutional obligation to guide and regulate all health related issues such as medical education, adulteration of food, drugs and poisons, medical profession, vital statistics, mental, deficiency and lunacy. Central Council of Health and Family Welfare collects information and renders financial and technical assistance to State Governments, union territories and other bodies for implementation of important health programmes in the country.

State of health infrastructure in India can be understood from the following points

- At the village level, a variety of hospitals known as Primary Health Centres (PHCs) have been set.
- There are large number of hospitals run by voluntary agencies and the private sector, equipped with professionals and para medical professionals trained in medical, pharmacy and nursing colleges.
- Since independence, there has been a significant expansion in the physical provision of health services. Public Health Infrastructure in India, 1951-2000

Item	1951	1975	2000	2008-10
Hospitals	2694	75	15888	12760*
Beds	117000	338	719861	576793*
Dispensaries	6600	16745	23065	24465
PHCs	725	9115	22842	23458
Sub-centres	—	84736	137311	145897
CHCs	—	761	3043	4510

Private Sector Health Infrastructure

In recent time, private health infrastructure has grown largely. Private sector health, infrastructure is explained below

About 70% of the hospitals running in India belong to private sector. Nearly 60% of dispensaries are run by the same private sector.

Private sector has also been contributing significantly in medical education and training, medical technologies and diagnostics, manufacture and sale of pharmaceuticals, hospital construction and medical services.

Health System in India

India's health infrastructure and healthcare is made up of a three tier system

1. Primary Healthcare

Primary healthcare system in India includes

- Education concerning prevailing health problems and methods of identifying, preventing and controlling them.
- Promotion of food supply and proper nutrition and adequate supply of water and basic sanitation.
- Maternal and child health care.
- Immunisation against major infectious diseases and injuries.
- Promotion of health and provision of essential drugs.

Auxiliary Nursing Midwife (ANM) is the first person who provides primary healthcare. Primary Health Centres (PHCs), Community Health Centres (CHCs) and sub centres.

2. Secondary Healthcare

When condition of a patient is not managed by PHCs, they are referred to secondary or tertiary hospitals. Health care institutes having better facilities for surgery, X-ray, ECG (Electro Cardio Graph) are called secondary healthcare institutes. They function both as primary health care provider and also provide better health care facilities. They are mostly located in district and headquarters in big towns.

3. Tertiary Healthcare

In tertiary sector, there are the hospitals which have advanced level equipment and medicines and undertake all the complicated health problems, which could not be managed by primary and secondary hospitals.

This sector also includes many premier institutes which not only impart quality medical education and conduct research but also provide specialised health care.

For example, All India Institute of Medical Sciences (AIIMSs), Post Graduate Institute (PGI), Chandigarh, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry, National Institute of Mental Health and Neuro Sciences (NIMHNSs), Bangalore and All India Institute of Hygiene and Public Health, Kolkata.

Indian Systems of Medicine ASM

It includes six systems, Ayurveda, Yoga, Unani, Siddha, Naturopathy and Homeopathy (AYUSNH). At present there are 3529 ISM hospitals 24943 dispensaries and as 6.5 lakhs registered practitioners in India.

Medical Tourism – A Great Opportunity

Now-a-days foreigners visit India for surgeries, liver transplants, dental and even cosmetic care etc, the reason is, our health services combine latest medical technologies with qualified professionals and is cheaper for foreigners as compared to costs of similar health care services in their own countries. In 2004-05, as many as 150000 foreigners visited India for medical treatment, this figure is likely to increase by 15% each year. Health infrastructure can be upgraded to attract more foreigners to India.

ISM has huge potential and can solve a large part of our health care problems because they are effective, safe, and inexpensive.

Indicators of Health an Health Infrastructure :critical Appraisal

(i) Health status of the country can be assessed through indicators such as infant mortality and maternal mortality rates, life expectancy and nutrition levels, alongwith the incidence of

communicable diseases.

Scholars argue that there is greater scope for the role of government in the health sector.

Indicators	India	China	USA	Sri Lanka
Infant mortality rate/1,000 live birth	50	16	6.5	14
Under-5 mortality/1,000 live births	63	18	8	17
Birth by skilled attendants (% of total)	53	99	99	99
Fully immunised	72	99	99	99
Health expenditure as % of GDP	4.2	4.3	15.2	4.1
Government health spending to total government spending (%)	4.4	10.3	18.7	7.9
Out of pocket expenditure as a % of private expenditure on health	74.4	82.6	24.4	86.7

Source World Health Statistics 2011. www.worldbank.org

From the given table, following facts can be concluded

- India's expenditure on health sector is only 4.2% of total GDP. This is very low as compared to other countries, both developing and developed.
- India has about 17% of the world's population but it bears a frightening 20% of the global burden of diseases.
- Global Burden of Diseases (GBD) is an indicator used by experts to gauge the number of people dying prematurely due to a particular disease as well as the number of years spent by them in state of 'disability' Owing to the disease.
- Every year around five lakh children die due to water borne diseases. The danger of AIDS is also looming large.
- Malnutrition and inadequate supply of vaccines lead to the death of 2.2 million children every year.
- At present, less than 20% of the population utilises public health facilities.
- Only 38% of PHC's, have required number of doctors and only 30% of PHC's have sufficient stock of medicines.

Urban-rural and Poor-rich Divide

Differences in medical healthcare between urban – rural and poor-rich can be understood from the points given below

- Only one-fifth of total hospitals are located in rural areas. Rural India has about half the number of dispensaries. People in rural areas do not have sufficient medical infrastructure. This leads to difference in the health status of people. Out of 7 lakhs beds, roughly 11% are available in rural areas.
- There are only 0.36% hospital for every one lakh people in rural areas while urban areas have 3.6% hospitals for the same number of people.

- The PHCs located in rural areas do not offer even X-ray or blood testing facilities which, for a city dweller, constitutes basic healthcare. Even though 315 recognised medical colleges produce 30,000 medical graduates every year. Still there is shortage of doctors in rural areas. One-fifth of these doctors migrate from one country to another for better job opportunities.
- The poorest 20% of Indians living in both urban and rural areas spend 12% of their income on healthcare while the rich spend only 2%.
- Percentage of people who have no access to proper care has risen from 15 in 1986 to 24 in 2003.

Women's Health

Women constitute about half the total population in India. They suffer many disadvantages as compared to men in the areas of education, participation in economic activities and health care. The child sex ratio has been detoured from 927 in 2001 to 914 in 2011.

There is growing incidence of female foeticide in the country. Close to 300000 girls under the age of 15 are not only married but have already borne children, at least once.

More than 50% of married women between the age group of 15 and 49 years suffer from anaemia caused by iron deficiency. It has contributed to 19% of maternal deaths. Abortions are major cause of maternal morbidity and mortality in India.

Health : A Vital Public Good and a Basic Human Right All citizens can get better health facilities if public health services are decentralised. Success against diseases depends on education and efficient health infrastructure. So it is necessary to create awareness on health and provide efficient system. The role of telecom and IT in this regard is very important. The ultimate goal should be to help people move towards a better quality of life.

Environment - Sustainable Development Chapter 9

Concept of Environment

Environment may be defined as all those conditions and their effects which influence human life. It is the sum total of surrounding and the totality of the resources.

According to the Environment Act 1986, "Environment includes, water, air and land and the inter relationship which exists among and between water air land and human beings and other creatures, plants, micro-organisms and property".

Functions of Environment

- It assimilates waste.
- It sustains life by providing genetic and bio diversity.
- It also provides aesthetic services like scenery etc.

Significance of Environment

- Environment offers resources for production.

- Environment sustains life.
- Environment Enhance quality of life.

Two Basic Problems Related to Environment

- Problem of pollution.
- Problem of excessive exploitation of natural resources.

Pollution It refers to those activities of production and consumption which challenge purity of air and water and serenity of the environment.

Pollution unfolds itself in three ways

- Air Pollution Pollution of air implies pollution of an essential elements of life.
- Water Pollution Water is an equally important element of life and its pollution is equally serious. Polluted water is the principal cause of diseases like diarrhoea and hepatitis.
- Noise Pollution Excessive noise causes irritation and unnecessarily fatigues the body and the mind.

Causes of Environmental Degradation

- Population explosion
- Widespread poverty
- Increasing urbanisation
- Increasing use of insecticides, pesticides and chemical fertilisers
- Rapid industrialisation
- Multiplicity of transport vehicles
- Disregard to the civic norms

How to Save Environment?

Following measures need to be taken to protect environment

- Social awareness
- Population control
- Enforcement of Environment Conservation Act
- Afforestation campaign
- Control over industrial and agricultural pollution
- Water management
- Management of solid waste

- Improvement in housing

Sustainable Development

It is that process of economic development which aims at raising the quality of life of both and future generation.

Features of Sustainable Development

- Sustained rise in real per capita income and economic welfare
- Rational use of natural resources
- No reduction in the ability of future generations to meet their own needs
- No increase in pollution

Strategies for Sustainable Development

- Input-efficient technology.
- Use of environment-friendly sources of energy.
- Integrated Rural Development.
- Shift to organic farming.
- Manage the wastes.
- Stringent laws on the disposal of chemical effluents.
- Awareness to conserve natural assets for inter-generational equity.
- Public means of transport.

Factors Contributing to Deforestation

- Growing industrial demand for wood and other forest products.
- Growing demand for wood owing to explosive rise in population.
- River valley projects.

The economic development we have achieved so far is on the cost of environmental degradation. The era of globalisation promises higher economic growth, but on the same side it had adverse consequences that had impacted environment.

In order to understand the sustainable path of development, the significance and contribution of environment to economic development should be understood. With this in mind, we would be able to achieve sustainable development in India.

Environment is defined as the total planetary inheritance and the totality of all resources. It includes all the biotic (e.g. birds, animals, plants, forests, etc) and abiotic (e.g., water, Sun, land, mountains, etc) factors that influence each other.

According to the Environment Act-1986, 'Environment includes, water, air and land and the inter relationship which exists among and between water, air, land and human beings and other creatures, plants, micro organisms and property'.

Functions of Environment

Environment performs four vital junctions, which are as follows

- Supply Resources Resources include both renewable and non-renewable sources of energy. Resources which can be used without any fear of getting depleted are renewable sources of energy, e.g. trees, fishes, etc. Non-renewable sources are those which are getting depleted or exhausted. e.g. fossil fuel, etc.
- Assimilates Waste Production and consumption activity generates wastes. It is generally in form of garbage which is absorbed by the environment.
- Sustains Life Sun, soil, air, water are the essential ingredients of environment for the human life. Absence of these will lead to an end of life on the Earth.
- Aesthetic Services Environment provides aesthetic services like scenery, which includes rivers, ocean, mountains and deserts. Enjoying these surroundings adds to the quality of life.

Environmental Crisis

The environment is performing its functions without any interruption as long as the demand of these functions is within its carrying capacity. This means that if the rate of extraction of resources will be above the rate of their regeneration, the environment will fail to perform its functions.

Resources are becoming extinct and wastes are generated beyond the absorptive capacity of the environment. All this has led to the environmental crisis, it refers to ecological crisis that occurs when the environment of a species or a population changes and destabilises its survival.

Consequence of Environmental Crisis

The points given below describe the consequences of environmental crisis

- Development has polluted and dried up rivers and other aquifers, which was deteriorated the quality of water.
- Intensive and extensive excavation of both renewable and non-renewable resources has exhausted some of the vital resources, compelling to spend a huge amount of money on technology and research to explore new resources.
- Decline in air and water quality have resulted in increased number of respiratory and water borne diseases i.e., expenditure of health care is also rising according to a data 70% of water of India is polluted which cannot be used for drinking purpose.

Global Environmental Issues

The environmental issues which affect the whole world are called global environmental issues such as global warming and ozone depletion. These issues also contribute to increased financial commitments for the government.

These issues are discussed below

1. Global Warming

The gradual increase in the average temperature of Earth's lower atmosphere is called global warming.

Causes/Effects

It occurs due to greenhouse gases (carbon dioxide, methane and other gases which have the capacity to absorb heat) through burning of fossil fuels (coal and petroleum) and deforestation (increases the carbon dioxide level in atmosphere). Much of the recent observed and projected global warming is human induced.

The atmospheric concentrations of carbon dioxide and methane have increased by 31% and 149% respectively above pre-industrial level since 1750.

Different effects of global warming are described below

- During the past century, the atmospheric temperature has risen by 1.10° F (0.60° C).
- Melting of polar ice resulting in increase in sea level (during the past century, sea level has risen by several inches) and the risk of coastal flooding has increased.
- Disruption of drinking water supplies dependent of snow melts.
- Extinction of species.
- More frequent tropical storms.
- Increased incidence of tropical diseases.

Action Taken

A United Nations Conference on Climate Change, held in Tokyo, Japan, in 1997, resulted in an international agreement to fight global warming which called for reductions in emissions of greenhouse gases by industrialised nations.

2. Ozone Depletion

It refers to the phenomenon of reductions in the amount of ozone layer in the stratosphere.

Causes/Effects

It is caused by high levels of chlorine and bromine compounds in the stratosphere. Origin of these compounds are Chloro fluocarbons (CFCs), used as cooling substances in air conditioners and refrigerators or as aerosol propellants and bromofluoro-carbons.(halons) used in fire extinguishers.

Different effects of ozone depletion are described below

- More ultraviolet radiation comes to Earth causing damage to living organisms, skin cancer in humans, low production of phytoplankton affecting aquatic organisms.
- Influences the growth of terrestrial plants.

Action Taken

Between 1979 to 1990, a reduction of 5% in ozone layer was detected. Since ozone layer prevents most harmful ultraviolet radiation from passing through the Earth's atmosphere, so reduction in ozone layer generated worldwide concern, leading to adoption of the montreal protocol banning the use of Chlorofluorocarbon (CFC) compounds as well as other ozone depleting chemicals such as carbon tetrachloride, trichloroethane (also known as methyl chloroform) and bromine compounds known as halons.

State of India's Environment

India has rich quality of natural resources in plenty of amount.

It is clear from the following points

- India has rich quality of soil, hundreds of rivers and tributaries, lush green forests, plenty of mineral deposits beneath the land surface, vast stretch of the Indian Ocean, ranges of mountains, etc.
- The black soil of the Deccan Plateau is particularly suitable for cultivation of cotton. It has led to concentration of textile industries in this region.
- The Indo Gangetic plains spread from Arabian Sea to the Bay of Bengal are one of the most-fertile, intensively cultivated and densely populated regions in the world.
- India's forests though unevenly distributed, provide green cover for majority of its population and natural cover for its wildlife.
- Large deposits of iron-ore, coal and natural gas are found in the country. India alone accounts for nearly 20% of the world's total iron-ore reserves.
- Bauxite, copper, chromate, diamonds, gold, lead, lignite, manganese, zinc, uranium, etc are also available in different parts of the country.

Threat to India's Environment

Threat to India's environment is poverty, pollution, rapidly growing industrial sector. Air pollution, water contamination, soil erosion, deforestation and wildlife extinction are some of the most pressing environmental concerns of India. The developmental activities in India have resulted in pressure on its finite natural resources, besides creating impacts on human health and well-being. Out of them the priority issues are

- Land degradation and solid waste management
- Biodiversity loss
- Air pollution with special reference to vehicular pollution in urban cities
- Management of fresh water Some of these issues are discussed below

Land Degradation in India

Land in India suffers from varying degrees and types of degradation stemming mainly from unstable use and inappropriate management practices.

The factors responsible for land degradation in India are

- Loss of vegetation occurring due to deforestation.
- Unsustainable fuel wood and fodder extraction.
- Shifting cultivation.
- Reduction into forest lands.
- Forest fires and overgrazing.
- Non-adoption of adequate soil conservation measures.
- Improper crop rotation.
- Indiscriminate use of agro chemicals such as fertilisers and pesticides.

- Improper planning and management of irrigation system.
- Extraction of ground water in excess of the regain capacity.
- Open access resource.
- Poverty of the agriculture-dependent people.

Biodiversity Loss

India is the owner of 2.5% of world's geographical area. India holds 17% of human and 20% of livestock population on its land. In order to hold livestock and human in country, country needs 0.47 hectare of land to meet the basic needs but it has only 0.08 hectare of land which causes felling of forests and soil erosion. 5.3 billion tonnes of soil is eroded every year. As a result quantity of nutrients lost due to erosion each year ranges from 5.8 to 8.4 million tonnes.

Chipko or Appiko : What's in a Name?

Chipko Movement aimed at protecting forests in the Himalayas. In Karnataka, a similar movement took a different name, 'Chpiko', which means to hug.

On 8th September 1983, when the felling of trees was started in Salkani forest in Sirsi district, 160 men, women and children hugged the trees and forced the woodcutters to leave. They kept vigil in the forest over the next six weeks. Only after the forest officials assured the volunteers of the trees will be cut scientifically and in accordance with the working plan of the district, did they leave the trees. When commercial felling by contractors damaged a large number of natural forests, the idea of hugging the trees gave the people hope and confidence that they can protect the forests. On that particular incident, with the felling discontinued, the people saved 12000 trees. Within months, this movement spread to many adjoining districts.

Air Pollution

In India, air pollution is widespread in urban areas where vehicles are the major contributors and in a few other areas which have a high concentration of industries and thermal power plants.

Pollution from vehicles and industries are the major sources of air pollution.

- **Vehicle Pollution** Vehicle emissions are of particular concern since these are ground level sources and thus, have the maximum impact on the general pollution. The number of vehicles has increased from 3 lakh in 1957 to 67 crores in 2003. In 2003, personal transport vehicles (two wheeled and cars only) contributed about 80% of the total number of registered vehicles thus, contributing significantly to air pollution load.
- **Industrial Pollution** India is one of the ten most industrialised nations of the world. This status has brought with it unwanted and unanticipated consequences like unplanned urbanisation, pollution and the risk of accidents. The CPCB (Central Pollution Control Board) has identified seventeen categories of industries (large and medium scale) as significantly polluting.

Management of Fresh Water

Water is an equally important element of life and its pollution is equally serious. Water becomes polluted when chemicals and other waste materials are dumped into it. Polluted water is the principal cause of diseases like diarrhoea and hepatitis. Thus, the management of fresh water is essential to sustain life.

Pollution Control Boards

To address two major environmental concerns in India; water, air and land pollution, the government set up the Central Pollution Control Board (CPCB) in 1974. This was followed by states establishing their own state level boards to address all the environmental concerns.

Different functions of pollution control boards are

- To investigate, collect and disseminate information relating to water, air and land pollution.
 - To lay down standards for sewage/trade effluent and emissions.
 - To provide technical assistance to governments in promoting cleanliness of streams and wells by prevention, control and abatement of water pollution.
 - To improve the quality of air and to prevent, control or abate air pollution in the country.
 - To carryout and sponsor investigation and research relating to problems of water and air pollution and for their prevention, control and abatement.
 - To organise mass awareness programme for pollution control.
 - To prepare manual, codes and guidelines relating to treatment and disposal of sewage and trade effluents.
 - To assess the air quality through regulation of industries.
 - State boards through their district officials, periodically inspect every industry under their jurisdiction to assess the adequacy of treatment measures provided to treat the effluent and gaseous emissions.
 - State pollution boards also provide background air quality data needed for industrial siting and town planning.
- In nutshell, it can be said that pollution control boards collect, collate and disseminate technical and statistical data relating to water pollution. They monitor the quality of water in 125 rivers (including the tributaries), wells, lakes, ponds, tanks, drains and canals.

How to Save Environment?

The various measures adopted by Ministry of Environment and the central and state pollution control boards may not yield reward unless, we make ourself concious.

Following are required measures which should be taken to save the environment

- **Social Awareness** There should be awareness among the people regarding the threats of the increasing pollution and how can each of us contribute to the check this menace.
- **Population Control** Biggest issue which should be controlled is increasing population to protect the environment.
- **Enforcement of Environment Conservation Act** The Environment act was passed in year 1986. It was passed to check the detoriated quality of the environment.
- **Afforestation Campaign** Extensive afforestation campaign should be launched to protect environment.

- Water Management There should be means which can harvest the rain water in order to use it in the areas where there is scarcity of water, so that clean drinking water can be provided to the rural people.
- Management of Solid Waste Management of solid waste is very essential. It should be treated chemically. Rural garbage should be converted into compost.

Meaning, Features, Needs and Strategies for Sustainable Development

According to the United Nations Conference on Environment and Development (UNCED), sustainable development can be defined as “development strategy that meets the need of present generation without compromising the ability of future generation to meet their own needs.”

Edward Barbier, a renowned personality had also given the definition of sustainable development. Sustainable development is one which is directly concerned with increasing the material standards of living of the poor at grass root level.

In specific term, sustainable development aims at decreasing the absolute poverty of the poor by providing lasting and securing livelihoods that minimise resource depletion, environmental degradation, cultural disruption and social instability.

The Brudtland Commission emphasises on protecting the future generation. A moral obligation to hand over the planet Earth in good order to the future generation, i. e., the present generation should bequeath a better environment to the future generation.

The present generation can promote development that enhances the natural and built environment in the way, that are compatible with

- conservation of natural as us.
- preservation of the regenerative capacity of the worlds natural ecological system.
- avoiding the imposition of added costs or risks on future generation.

Features of Sustainable Development

- Sustained rise in real per capital income and economic welfare.
- Rational use of natural resources.
- No reduction in the ability of future generations to meet their own needs.
- Check on pollution.

A Way to Sustainable Development

According to Herman Dalay, a leading environmental economist, the main needs of sustainable development are

- Limiting the human population to a level within the carrying capacity of the environment.
- Technological progress should be input efficient and not input consuming.
- Renewable resources should be extracted on a sustainable basis, i.e., rate of extraction should not exceed rate of regeneration.

- For non-renewable resources, rate of depletion should not exceed the rate of creation of renewable substitutes.
- Inefficiencies arising from pollution should be corrected.

Strategies for Sustainable Development

1. Use of Non-conventional Sources of Energy India heavily depends on thermal and hydro power plants to meet its power needs. Both of these have adverse environmental impacts. Thermal power plants emit large quantities of carbon dioxide, which is a greenhouse gas. If it is not used properly, it may cause land and water pollution.

2. LPG, Gobar Gas in Rural Areas Rural households in India generally use wood, dungcake (upla) or other biomass as fuel. This practice has several adverse implications like deforestation, reduction in green cover and air pollution.

To rectify the situation, subsidised LPG is being provided. Besides it, gobar gas plants are being encouraged through easy loans and subsidy. LPG is the clean fuel. It does not create any household pollution and also wastage is minimised. For gobar gas plants, cattle dung is fed in the plant to function which produces gas and slurry is used as organic soil fertiliser.

3. CNG in Urban Areas In Delhi, the use of Compressed Natural Gas (CNG) as fuel in public transport system has significantly lowered air pollution and the air has become cleaner in the last few years.

4. Wind Power In areas, where speed of wind is usually high, wind mills can provide electricity without any adverse impact on the environment. The turbines moves with wind and electricity gets generated. Its initial cost' remain high but it can be recovered easily.

5. Solar Power Through Photovoltaic Cells In India, solar energy is used in different forms for agriculture products, daily use products and even to warm ourselves in winters. Through photovoltaic cells, solar energy can be converted into electricity. This technology is extremely useful for remote areas and for places where supply of power lines is either not possible or proves very costly. This technique is also totally free from pollution.

6. Bio Composting In order to increase production, we have started using chemical fertilisers which are adversely affecting the waterbodies, ground water system, etc. But again farmers in large numbers have started using organic fertilisers for production.

In some parts, cattles are maintained only because their waste prouction is very useful in form of fertiliser. Earthworm can convert organic matter into compost faster than the normal composting process.

7. Mini-Hydel Plants Mountainous regions have streams every where. Most of such streams are perennial. Mini-hydel plants use the energy of such streams to move small turbines which generate electricity. Such power plants are more or less environment friendly.

8. Traditional Knowledge and Practices Traditionally, Indian people have been close to their environment. If we look back at our agriculture system, healthcare system, housing, transport, etc we find that all practices have been environment friendly. But in recent years, we have been moving away from these practices. This has caused large scale damage to our environment.

During older times, we used Ayurveda, Unani, Tibetan and Folk systems for the treatments but now we are ignoring the traditional system and we are moving towards the western system. Not only these products were environment friendly but they are free from side effects too.

9. Biopest Control With the advent of Green Revolution, the country entered into the use of chemical pesticides to produce more which laid the adverse impacts on soil, water bodies, milk, meat and fishes. To meet this challenge, better methods of pest control should be brought. One step is pesticides based on plants like neem. Even many animals also help in controlling pests like snakes, peacocks, etc.

Comparative Development Experience of India with its Neighbours

Chapter 10

Introduction

With the unfolding of the globalisation process, developing countries are keen to understand the developmental processes pursued by their neighbours as they face competition from developed nations as also amongst themselves.

Foreign Direct

Investment It is much larger compared to India and Pakistan, and a much stronger driver of growth. SEZs (Special Economic Zones) policy of China is of central significance inducing FDI. SEZs are offering robust infrastructural facilities for FDI.

Demographic Profile

Both for India and China, large size of population is a hindrance in the process of growth, as it requires a huge amount of 'maintenance investment'.

Human Development Some important parameters of human development are as these

- Life expectancy-higher the better.
- Adult literacy rate-higher the better.
- Infant mortality rate-lower the better.
- Maternal mortality rate-lower the better.
- Percentage of population having access to improved water sources-higher the better.
- Percentage of undernourished population-lower the better.

With a view to accelerating the pace of growth, different countries are forming regional and global economic grouping based on common agreements of bilateral relations. e.g., SAARC, EU, ASEAN, G-8, G-20.

Common Success Story of India and Pakistan

- A substantial rise in GDP per capita.
- Self-sufficiency in food production.
- Dualistic nature of the economy is gradually declining.
- Considerable reduction in the incidence of poverty.

Common Failures of India and Pakistan

- Relatively slow pace of GDP growth, compared with China.
- Poor performance in HDI ranking.
- Dismal Fiscal management.
- Political survival of a dominating issue rather than good governance.

Sex Ratio Sex ratio is found to be low in all three countries pointing to social backwardness, where people hold high preference for a son in the family.

This chapter will not be examined. Open Text Based Assessment (OTBA) will be based on this chapter.

Nations are also eager to know and understand about the developmental process pursued by their neighbouring nations. It allows them to comprehend their strengths and weaknesses. In the process of globalisation, it is essential for every nation to compete with developed countries.

In this chapter, we are comparing the developmental strategies pursued by India with its neighbouring economies-Pakistan and China. This will help in understanding where do we stand today in comparison to others.

Development Strategies of India, China and Pakistan

India, China, Pakistan have many similarities in their development strategies which are as follows

- India, Pakistan and China have started towards their developmental path at the same time. India and Pakistan became independent nations in 1947. While Peoples Republic of China was established in 1949.
- All the three countries had started planning their development strategies in similar ways. India announced its Five Year Plan in 1951-56, while ' Pakistan announced its first Five Year Plan in 1956, which is called Medium Term plan. China announced its First Five Year Plan in 1953.
- India and Pakistan adopted similar strategies such as creating a large public sector and raising public expenditure on social development.
- Till the 1980s, all the three countries had similar growth rates and per capita incomes.
- Economic reforms took place in all the three countries. Reforms started in India in 1991, in China in 1978 and in Pakistan in 1988.

Development Strategies of India

Some of the prominent strategies of India are discussed below

1. Sound Trade System India was a country which had the history of closed trade. Because of this historical background; there is a critical challenge for India in order to make a new policy which can support the new open trade system. This new reform in economies of India has been introduced and accelerates the economic growth of India.

2. Reduction in Poverty India has adopted several poverty alleviation programmes to reduce poverty in India. -This would help in increasing per capita income, rise in nutrition level of poors and there is a subsequent fall in percentage of absolute poor in some states.

3. Rural Development Under this strategy, India adopted various measures for the development of areas that are lagging behind in the overall development of village economy.

4. Employment Generation Several economic reforms were initiated to generate employment in the country and their aim is to provide gainful self-employment and skilled wage employment opportunities.

Development Strategies of China

After the establishment of People's Republic of China under one party rule, all the critical sectors of the economy, enterprises and lands owned and operated by individuals were brought under government control.

Certain development strategies of China are discussed below

- Great Leap Forward (GLF) This campaign initiated in 1958 aimed at industrialising the country on a massive scale. People were encouraged to set up industries in their backyards. In rural areas, communes were started. Under the commune system, people collectively cultivated lands.
- Great Proletarian Cultural Revolution (1966-76) In 1965, Mao Tse Tung started a cultural revolution on a large scale. In this revolution, students and professionals were sent to work and learn from the country side. Unlike GLF, the cultural revolution did not have an explicit economic rationale.
- 1978 Reforms Since 1978, China began to introduce many reforms in phases. The reforms were initiated in agriculture, foreign trade and investment sector. In agriculture, lands were divided into small plots which were allocated to individual households. They were allowed to keep all income from the land after paying taxes. In later phase, reforms were initiated in industrial sector. All enterprises which were owned and operated by local collectives in particular, were allowed to produce goods.

At this stage, enterprises owned by government (known as State Board Enterprises – SOEs), in India we call them public sector enterprises were made to face competition. In reform, prices were fixed in two ways, i.e., farmers and industrial units were required to buy and sell fixed quantities of inputs and outputs on the basis of prices fixed by the government and the rest were purchased and sold at market prices.

Over the years, as production increased, the proportion of goods or inputs transacted in the market also increased. The goal of Chinese economic reforms was to generate sufficient surplus to finance the modernisation of the mainland Chinese economy. In order to attract foreign investors, Special Economic Zones (SEZs) were set up.

Development Strategies of Pakistan

The development strategies of Pakistan are summarised below

- Mixed Economy Pakistan follows a mixed economy system where both public and private sectors co-existed.
- Import Substitution Pakistan adopted a regulatory policy framework in the late 1950s and 1960s for import industrialisation. The -policy combined tariff protection for manufacturing of consumer goods together with direct import controls on competing imports.

- **Green Revolution** This was introduced to increase the productivity and self sufficiency in food. This increased the output of foodgrains. This had changed the agrarian structure dramatically. In 1970's nationalisation of capital goods took place. Pakistan shifted its policy orientation in 1970's and 1980's when private sector got encouragement.

During this period, Pakistan received financial support from Western. This helped the country in stimulating economic growth. Government also offered incentives to private sector. This had a created climate for new investments. And in 1988 certain reforms were also initiated in the country.

Success and Failure of Strategies

The development strategies brought structural reforms in China, India and Pakistan. Follow the description of their success and failure one by one.

Success of Structural Reforms in China

The success of structural reforms in China are

- There was existence of infrastructure in the areas of education and health and land reforms.
- There was decentralised planning and existence of small enterprise.
- Through the commune system, there was more equitable distribution of foodgrains.
- There was extension of basic health services in rural areas.

Failures of Structural Reforms in China

The failures of structural reforms in China are

- There was slow pace of growth and lack of modernisation in the Chinese economy under the Maoist rule.
- Maoist vision of economic development based on decentralisation, self sufficiency and shunning of foreign technology had failed.
- Despite of extensive land reforms, collectivisation, the great leap forward and other initiatives, the per capita gain output in 1978 was the same as it was in the mid-1950s.

China has an Edge Over India

The Chinese reform process began more comprehensively during the 80s, when India was in the mid-stream of slow growth process.

Rural poverty in China declined by 85% during the period 1978 to 1989. In India, it declined only by 50% during this period, Global exposure of the economy has been far more wider in China than in India. China's export-driven manufacturing has recorded on exponential growth, while India continues to be only a marginal player in the international markets.

Common Success of Structural Reforms in India and Pakistan

The common success of structural reforms in India and Pakistan are

- Both India and Pakistan have succeeded in more than doubling their per capita incomes inspite of high growth rate of population.
- The incidence of poverty has also been reduced significantly. However, the level of poverty is lower in Pakistan.

- Both the countries have achieved self-sufficiency in the production of food.
- Both the countries have succeeded in developing their service and industry sectors at a fast rate.
- The use of modern technology is improving in both the countries.

Common Failures of Structural Reforms in India and Pakistan

The common failures of structural reforms in India and Pakistan are

- Growth rate of GDP and its sectoral constituents have fallen in 1990's.
- Poverty and unemployment are still areas of major concerns in both the countries.

Areas Where Pakistan has an Edge Over India

Starting from almost the same level as India, Pakistan has achieved better results with regards to

- Migration of workforce from agriculture to industry,
- Migration of people from rural to urban areas.
- Access to improved water sources.
- Reduction in below poverty line population.

Areas where India has an Edge Over Pakistan

There is little doubt that, in the area of skilled manpower and research and development institutions. India is better placed than Pakistan. Indian scientists excel in the areas of defence technology, space research, electronics and avionics, genetics, telecommunications, etc. The number of Ph.Ds produced by India in science and engineering every year (about 5000) is higher than the entire stock of Ph.Ds in Pakistan. Issues of health facilities in general and infant mortality in particular are better addressed in India.

Comparative Study

With Respect to Demographic Indicators, GDP and HDI .

I. Demographic Indicators

We shall compare some demographic indicators of India, China and Pakistan

- The population of Pakistan is very small and accounts for roughly about one-tenth of China or India. Though China is the largest nation and geographically occupies the largest area among the three nations, its density is the lowest.
- One child norm was introduced in China in late 1970's to check the problem of population growth. This measure led to decline in the sex ratio. Although sex ratio is biased against females in all three countries, in recent times, all three countries are trying to adopt various measures to improve the situation.
After few decades there will be more elderly people in proportion to young people due to one child norm.
- The fertility rate is low in China and very high in Pakistan.
- Urbanisation is high in both Pakistan and China.

Select Demographic Indicators, 2010

Country	Estimated Population (in million)	Annual Growth of Population (2001-2010)	Density (per sq. km)	Sex Ratio (out of 100 persons)	Fertility Rate	Urbanisation
India	1170	1.34	394	48.4	2.7	30.1
China	1338	0.50	144	48.1	1.6	45
Pakistan	174	1.80	225	49.2	3.5	37

Source World Development Indicators www.worldbank.org

II. Gross Domestic Product and Sectors

According to the latest data available, we find

(i) China has the second largest GDP (PPP) of US\$ 10.1 trillion whereas, India's GDP (PPP) is US \$ 4.2 trillion and Pakistan's GDP (PPP) is 0.47 trillion US\$; roughly about 10% of India's GDP.

(ii) In 1980's, Pakistan was ahead of India, China was having double digit growth and India was at the bottom.

Growth of Gross Domestic Product (%) 2000-10

Country	1980-90	2000-2010
India	5.7	7.4
China	10.3	10.3
Pakistan	6.3	4.7

Source Key indicators for Asia and Pacific 2011, Asian Development Bank, Philippines

(iii) In 2000-10 there is a marginal decline in India and China's growth rates whereas Pakistan met with drastic decline in 4.7%. The reform processes introduced in 1988 in Pakistan and political instability are reasons behind this trend.

(iv) China and Pakistan have more proportion of urban people than India.

(v) In China, due to topographic and climatic conditions, the area suitable for cultivation is relatively small-only about 10% of its total land area. The total cultivable area in China accounts for 40% of the cultivable area in India.

(vi) Until the 1980s, more than 80% of the people in China were dependent on farming as their sole source of livelihood.

(vii) The government encouraged people to leave their fields and pursue other activities such as handicrafts, commerce and transport.

(viii) In 2008, with 40% of its workforce engaged in agriculture, its contribution to GDP in China is 10%.

Sectoral Share of Employment and GDP (%) 2008-10

Sector	Contribution to GDP			Distribution of Workforce		
	India	China	Pakistan	India	China	Pakistan
Agriculture	19	10	21	56	40	45
Industry	26	47	25	19	27	20
Service	55	43	54	25	33	35
Total	100	100	100	100	100	100

(ix) In both India and Pakistan, the contribution of agriculture to GDP was at 19 and 21% respectively. But the proportion of workforce that works in this sector is more in India. In Pakistan, about 45% of people work in agriculture whereas in India it is 56%.

(x) The sectoral share of output and employment also shows that in all the three economies, the

industry and service sectors have less proportion to workforce but contribute more in terms of output.

(xi) In China, manufacturing contributes the highest to GDP at 47% whereas in India and Pakistan, it is the service sector which contributes the highest. In both these countries, service sector accounts for more than 50% of GDP. In the normal course of development, countries first shift their employment and output from agriculture to manufacturing and then to services. This is what, is happening in China.

The proportion of workforce engaged in manufacturing in India and Pakistan were low at 49 and 20% respectively.

Trends in Output Growth in Different Sectors, 1980–2010

Country	1980–90			2009–2010		
	Agriculture	Industry	Service	Agriculture	Industry	Service
India	3.1	7.4	6.9	2.7	12.4	9.4
China	5.9	10.8	13.5	4.3	7.9	9.3
Pakistan	4	7.7	6.8	0.6	8.3	2.9

(xii) The contribution of industries to GDP is also just equal to or marginally higher than the output from agriculture.

In India and Pakistan, the shift is taking place directly to the service sector.

(xiii) Thus, in both India and Pakistan, the service sector is emerging as a major player of development. It contributes more to GDP and, at the same time, emerges as a prospective employer.

(xiv) In the 1980s India, China and Pakistan employed 17, 12 and 27% of its workforce in the service sector respectively. In 2008-10 it has reached the level of 25, 33 and 35% respectively.

III. Human Development Indicator

India, China and Pakistan have performed in some of the selected indicators of human development. Some Selected Indicators of Human Development, 2009-10

Some Selected Indicators of Human Development, 2009–10

Items	India	China	Pakistan
Human Development Index (Value)	0.547	0.687	0.527
Rank (Based on HDI)	134	101	145
Life expectancy at birth (Years)	65.4	73.5	63.0
Adult literacy rate (% aged 15 and above)	62.8	94	55.5
GDP per capita (PPP US \$)	3296	6828	2609
People below poverty line (%) (2004–06)	37.2	2.8	22.3
Infant mortality rate (Per 1000 live births)	66	19	87
Maternal mortality rate (Per 1 lakh births)	230	38	260
Population with sustainable access to improved sanitation (%)	52	92	32
Population with sustainable access to an improved water source (%)	88	97	93
Percentage of children malnourished (<5)	43.5	4.5	NA

Source Human Development Report 2011 and World Development Indicators (www.worldbank.org)

Source Human Development Report 2011 and World Development Indicators (www.worldbank.org)

From the data we would be able to conclude

- China is moving ahead of both India and Pakistan in terms of indicators of human development.
- Pakistan is ahead of India in reducing proportion of people below the poverty line and also its performance in education, sanitation and access to water is better than that of India.
- In China, for one lakh births, only 38 women die whereas, in India 230 women die and in Pakistan 260 women die.

- India is in the worst scenario as compared to the other two countries with respect to access to improved sanitation and clean water.

Human Development Index (HDI)

HDI includes quantitative aspects of per capita, GDP and the quality aspects of performance in health and education. It is an average of life expectancy index, education index and GDP index.

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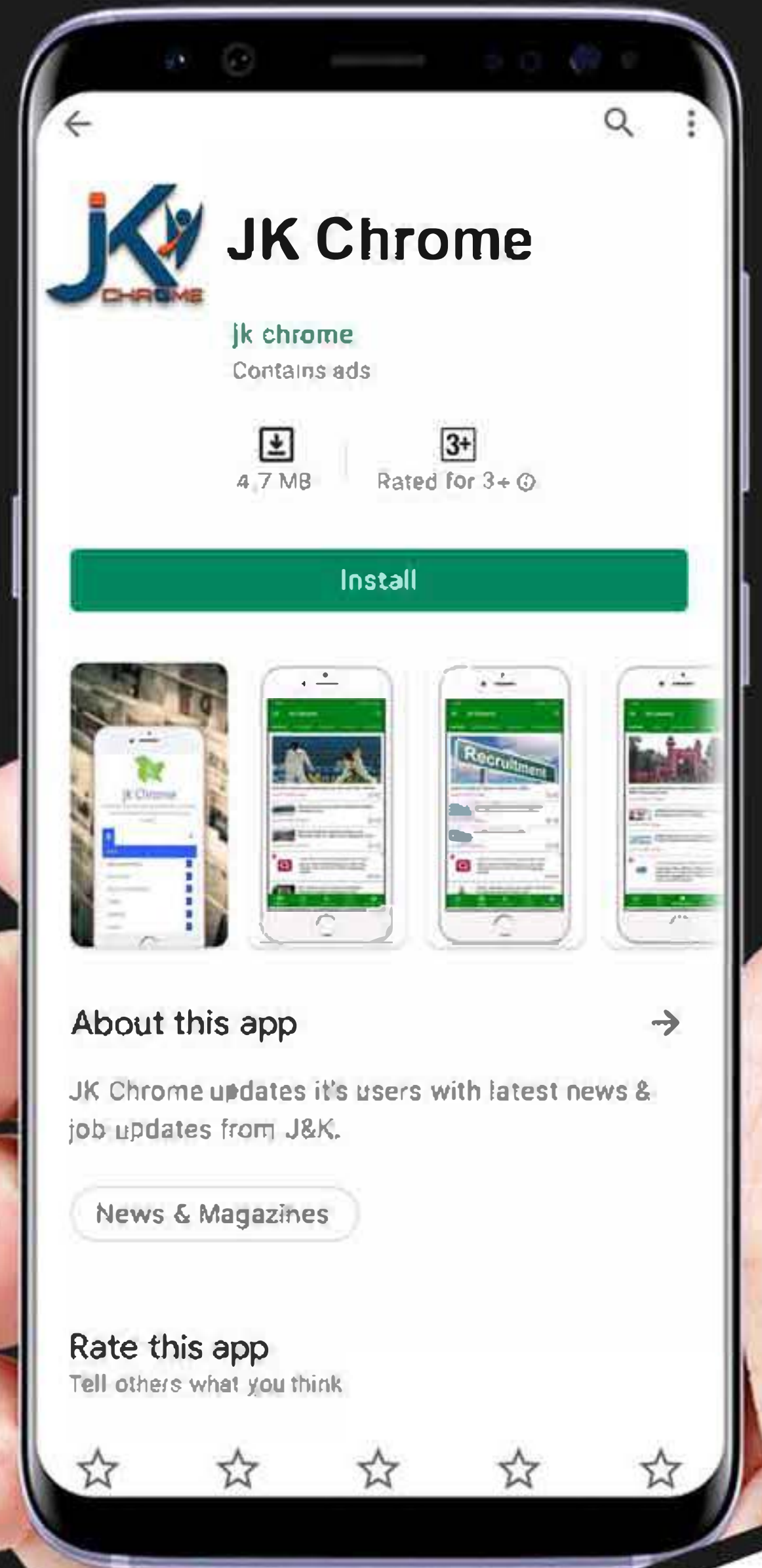
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