INDIA ECONOMIC DEVELOPMENT- XI

CONTENTS

CHAPTER.1

INDIAN ECONOMY ON THE EVE OF INDEPENDENCE

INTRODUCTION

The structure of India‘s present- day economy is not just of current making; it has its roots steeped in history, particularly in the period when India was under British rule which lasted for almost two centuries before India finally won its independence on 15 August 1947.

LOW LEVEL OF ECONOMIC DEVELOPMENT UNDER THE COLONIAL RULE

- Agriculture was the main source of livelihood for most people, yet, the country‘s economy was characterized by various kinds of manufacturing activities.
- India was particularly well known for its handicraft industries in the fields of cotton and silk textiles, metal and precious stone works etc.
- Muslin is a type of cotton textile which had its origin in Bengal, particularly, places in and around Dhaka (spelled during the pre-independence period as Dacca), now and 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 travelers also used to refer to it as malmal shahi or malmal khas implying that it was worn by, or fit for, the royalty.
- Most important roles contributed to calculate national and per capita income were Dadabhai Naoroji, William Digby, Findlay Shirras, V.K.R.V. Rao and R.C. Desai — it was Rao, whose estimates during the colonial period was considered very significant.
- Studies did find that the country‘s growth of aggregate real output during the first half of the twentieth century was less than two per cent coupled with a meager half per cent growth in per capita output per year.

AGRICULTURAL SECTOR

- Under the British colonial rule remained fundamentally agrarian — about 85 per cent of the country‘s population lived mostly in villages and derived livelihood directly or indirectly from agriculture.
- Despite being the occupation of such a large population, the agricultural sector continued to experience stagnation and, not infrequently, unusual deterioration.
- Agricultural productivity became low though, in absolute terms, the sector experienced some growth due to the expansion of the aggregate area under cultivation.

- This stagnation in the agricultural sector was caused mainly because of the various systems of land settlement that were introduced by the colonial government. Particularly, under the zamindari system which was implemented in the then Bengal Presidency comprising parts of India‘s present-day eastern states, the profit accruing out of the agriculture sector went to the zamindars instead of the cultivators.
- There was, of course, some evidence of a relatively higher yield of cash crops in certain areas of the country due to commercialization of agriculture.

INDUSTRIAL SECTOR

- India could not develop a sound industrial base under the colonial rule.
- The primary motive of the colonial government behind this policy of systematically de-industrializing India was two-fold.

1. The intention was, first, to reduce India to the status of a mere exporter of important raw materials for the upcoming modern industries in Britain.
2. Second, to turn India into a sprawling market for the finished products of those industries so that their continued expansion could be ensured to the maximum advantage of their home country — Britain.
3. During the second half of the nineteenth century, modern industry began to take root in India but its progress remained very slow.

- Initially, this development was confined to the setting up of cotton and jute textile mills.
- The cotton textile mills, mainly dominated by Indians, were located in the western parts of the country, namely, Maharashtra and Gujarat, while the jute mills dominated by the foreigners were mainly concentrated in Bengal.
- The iron and steel industries began coming up in the beginning of the twentieth century. The Tata Iron and Steel Company (TISCO) was incorporated in 1907. A few other industries in the fields of sugar, cement, paper etc. came up after the Second World War.

DRAWBACKS OF INDUSTRIAL SECTOR

- There was hardly any capital goods industry to help promote further industrialization in India. Capital goods industry means industries which can produce machine tools which are, in turn, used for producing articles for current consumption.
- The growth rate of the new industrial sector and its contribution to the Gross Domestic Product (GDP) remained very small.
- Another drawback of the new industrial sector was the very limited area of operation of the public sector.
- Sector remained confined only to the railways, power generation, communications, ports and some other departmental undertakings.

FOREIGN TRADE

- India was 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 woolen clothes and capital goods like light machinery produced in the factories of Britain.
- Britain maintained a monopoly control over India‘s exports and imports. As a result, 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).
- Opening of the Suez Canal further intensified British control over India‘s foreign trade
- Most important characteristic of India‘s 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.
- This export surplus did not result in any flow of gold or silver into India. Rather, this was used to make payments for the expenses incurred by an office set up by the colonial government in Britain, expenses on war, again fought by the British government, and the import of invisible items, all of which led to the drain of Indian wealth.

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 of transition began after 1921.
- However, neither the total population of India nor the rate of population growth at this stage was very high.
- The overall literacy level was less than 16 per cent. Out of this, the female literacy level was at a negligible low of about seven per cent.
- Public health facilities were either unavailable to large chunks of population or, when available, were highly inadequate. The overall mortality rate was very high.
- Particularly, the infant mortality rate was quite alarming— about 218 per thousand in contrast to the present infant mortality rate of 63 per thousand.

OCCUPATIONAL STRUCTURE

- The agricultural sector accounted for the largest share of workforce, which usually remained at a high of 70-75 per cent while the manufacturing and the services sectors accounted for only 10 and 15-20 per cent respectively.
- Parts of the then Madras Presidency (comprising areas of the present-day states of Tamil Nadu, Andhra Pradesh, Kerala and Karnataka), Bombay and Bengal witnessed a decline in the dependence of the workforce on the agricultural sector with a commensurate increase in the manufacturing and the services sectors.

INFRASTRUCTURE

- The real motive behind this development was not to provide basic amenities to the people but to subserve various colonial interests.
- The British introduced the railways in India in 1850 and it is considered as one of their most important contributions.
- The railways affected the structure of the Indian economy in two important ways. On the one hand it enabled people to undertake long distance travel and thereby break geographical and cultural barriers while, on the other hand, it fostered commercialization of Indian agriculture which adversely affected the self-sufficiency of the village economies in India.
- Along with the development of roads and railways, the colonial dispensation also took measures for developing the inland trade and sea lanes.
- The introduction of the expensive system of electric telegraph in India, similarly, served the purpose of maintaining law and order.
- The postal services, on the other hand, despite serving a useful public purpose, remained all through inadequate.

CHAPTER 2

INDIAN ECONOMY 1950-1990

INTRODUCTION

- The leaders of independent India had to decide, among other things, the type of economic system most suitable for our nation, a system which would promote the welfare of all rather than a few.
- There are different types of economic systems and among them, socialism appealed to Jawaharlal Nehru the most. However, he was not in favor of the kind of socialism established in the former Soviet Union where all the means of production, i.e. all the factories and farms in the country, were owned by the government.
- There was no private property. It is not possible in a democracy like India for the government to change the ownership pattern of land and other properties of its citizens in the way that it was done in the former Soviet Union.
- In this view, India would be a socialist society with a strong public sector but also with private property and democracy.

Every society has to answer three questions:

1) What goods and services should be produced in the country?

2) How should the goods and services be produced? Should producers use more human labour or

more capital (machines) for producing things?

3) How should the goods and services be distributed among people?

Answer to these questions:
From capitalist view:

A. Depend on the market forces of supply and demand. In a market economy, also called capitalism, only those consumer goods will be produced that are in demand, i.e., goods that can be sold profitably either in the domestic or in the foreign markets.
B. In a capitalist society the goods produced are distributed among people not on the basis of what people need but on the basis of Purchasing Power—the ability to buy goods and services. That is, one has to have the money in the pocket to buy it.
C. Low cost housing for the poor is much needed but will not count as demand in the market sense because the poor do not have the purchasing power to back the demand. As a result this commodity will not be produced and supplied as per market forces. Such a society did not appeal to Jawaharlal Nehru, our first prime minister,
From Socialist View:
A. A socialist society answers the three questions in a totally different manner.
B. In a socialist society the government decides what goods are to be produced in accordance with the needs of society.
C. It is assumed that the government knows what is good for the people of the country and so the desires of individual consumers are not given much importance. The government decides how goods are to be produced and how they should be distributed.
D. In principle, distribution under socialism is supposed to be based on what people need and not on what they can afford to purchase.
E. Strictly, a socialist society has no private property since everything is owned by the state. In Cuba and China, for example, most of the economic activities are governed by the socialistic principles.
F. Most economies are mixed economies, i.e. the government and the market together answer the three questions of what to produce, how to produce and how to distribute what is produced. In a mixed 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 do.
G. The Industrial Policy Resolution‘ of 1948 and the Directive Principles of the Indian Constitution reflected this outlook.
H. In 1950, the Planning Commission was set up with the Prime Minister as its Chairperson. The era of five year plans had begun.

What is a Plan?

- A plan spells out how the resources of a nation should be put to use.
- In India plans are of five years duration and are called five year plans (we borrowed this from the former Soviet Union, the pioneer in national planning).
- Our plan documents not only specify the objectives to be attained in the five years of a plan but also what is to be achieved over a period of twenty years. This long-term plan is called perspective plan‘.
- The five year plans are supposed to provide the basis for the perspective plan.

THE GOALS OF FIVE YEAR PLANS

- The goals of the five year plans are: growth, modernization, self-reliance and equity.
- The planners have to ensure that, as far as possible, the policies of the plans do not contradict these four goals.

Growth:

i. It refers to increase in the country‘s capacity to produce the output of goods and services within the country.

ii. The GDP of a country is derived from the different sectors of the economy, namely the agricultural sector, the industrial sector and the service sector. The contribution made by each of these sectors makes up the structural composition of the economy.

Modernisation:

i. To increase the production of goods and services the producers have to adopt new technology. For example, a farmer can increase the output on the farm by using new seed varieties instead of using the old ones.

ii. However, modernization does not refer only to the use of new technology but also to changes in social outlook such as the recognition that women should have the same rights as men.

Self-reliance:

i. A nation can promote economic growth and modernisation by using its own resources or by using resources imported from other nations.

ii. Further, it was feared that dependence on imported food supplies, foreign technology and foreign capital may make India‘s sovereignty vulnerable to foreign interference in our policies.

Equity:

i. It is important to ensure that the benefits of economic prosperity reach the poor sections as well instead of being enjoyed only by the rich. So, in addition to growth, modernisation and self-reliance, equity is also important.

ii. Every Indian should be able to meet his or her basic needs such as food, a decent house, education and health care and inequality in the distribution of wealth should be reduced.

AGRICULTURE

- The policy makers of independent India had to address these issues which they did through land reforms and promoting the use of _High Yielding Variety‘ (HYV) seeds which ushered in a revolution in Indian agriculture.
- Land Reforms: At the time of independence, the land tenure system was characterized by intermediaries who merely collected rent from the actual tillers of the soil without contributing towards improvements on the farm.
- Equity in agriculture called for land reforms which primarily refer to change in the ownership of landholdings.
- Just a year after independence, steps were taken to abolish intermediaries and to make the tillers the owners of land.
- Land ceiling was another policy to promote equity in the agricultural sector. This means fixing the maximum size of land which could be owned by an individual. The purpose of land ceiling was to reduce the concentration of land ownership in a few hands.
- Land reforms were successful in Kerala and West Bengal because these states had governments committed to the policy of land to the tiller. Unfortunately other states did not have the same level of commitment and vast inequality in landholding continues to this day.

The Green Revolution:

- The stagnation in agriculture during the colonial rule was permanently broken by the green revolution.
- This refers to the large increase in production of food grains resulting from the use of high yielding variety (HYV) seeds especially for wheat and rice.
- The use of these seeds required the use of fertiliser and pesticide in the correct quantities

as well as regular supply of water; the application of these inputs in correct proportions is vital.

- The farmers who could benefit from HYV seeds required reliable irrigation facilities as well as the financial resources to purchase fertiliser and pesticide. As a result, in the first phase of the green revolution (approximately mid 1960s upto mid 1970s), the use of HYV seeds was restricted to the more affluent states such as Punjab, Andhra Pradesh and Tamil Nadu. Further, the use of HYV seeds primarily benefited the wheat- growing regions only.
- In the second phase of the green revolution (mid-1970s to mid-1980s), the HYV technology spread to a larger number of states and benefited more variety of crops.
- The spread of green revolution technology enabled India to achieve self-sufficiency in food grains; we no longer had to be at the mercy of America, or any other nation, for meeting our nation‘s food requirements.
- The portion of agricultural produce which is sold in the market by the farmers is called marketed surplus
- In India, between 1950 and 1990, the proportion of GDP contributed by agriculture declined significantly but not the population depending on it (67.5 per cent in 1950 to 64.9 per cent by 1990).
- Why was such a large proportion of the population engaged in agriculture although agricultural output could have grown with much less people working in the sector? The answer is that the industrial sector and the service sector did not absorb the people working in the agricultural sector.
- Many economists call this an important failure of our policies followed during 1950-1990

INDUSTRY AND TRADE

- Industry provides employment which is more stable than the employment in agricultlot of emphasis on industrial development.

<u>Public and Private Sectors in Indian Industrial Development:</u>

i State had to play an extensive role in promoting the industrial sector.
ii In addition, the decision to develop the Indian economy on socialist lines led to the policy of the state controlling the commanding heights of the economy, as the Second Five Year plan put it.
iii This meant that the state would have complete control of those industries that were vital for the economy.

Industrial Policy Resolution 1956 (IPR 1956):

- In accordance with the goal of the state controlling the commanding heights of the

economy, the Industrial Policy Resolution of 1956 was adopted. This resolution formed the basis of the Second Five Year Plan, the plan which tried to build the basis for a socialist pattern of society.

- This resolution classified industries into three categories.

1. The first category comprised industries which would be exclusively owned by the state.
2. The second category consisted of industries in which the private sector could supplement the efforts of the state sector, with the state taking the sole responsibility for starting new units.
3. The third category consisted of the remaining industries which were to be in the private sector.

Although there was a category of industries left to the private sector, the sector was kept under state control through a system of licenses. No new industry was allowed unless a license was obtained from the government.

- This policy was used for promoting industry in backward regions; it was easier to obtain a license if the industrial unit was established in an economically backward area.
- In addition, such units were given certain concessions such as tax benefits and electricity at a lower tariff. The purpose of this policy was to promote regional equality.

Small-Scale Industry: ('labour intensive')

- In 1955, the Village and Small-Scale Industries Committee, also called the Karve Committee, noted the possibility of using small-scale industries for promoting rural development.
- A small-scale industry' is defined with reference to the maximum invest- ment allowed on the assets of a unit. This limit has changed over a period of time. In 1950 a small-scale industrial unit was one which invested a maximum of rupees five lakh; at present the maximum investment allowed is rupees one crore.

TRADE POLICY: IMPORT SUBSTITUTION

I. The industrial policy that we adopted was closely related to the trade policy.
II. In the first seven plans, trade was characterized by what is commonly called an inward looking trade strategy. Technically, this strategy is called import substi- tution.
III. This policy aimed at replacing or substituting imports with domestic production.
IV. In this policy the government protected the domestic industries from foreign competition. Protection from imports took two forms: tariffs and quotas.

Tariffs are a tax on imported goods; they make imported goods more expensive and discourage

their use. Quotas specify the quantity of goods which can be imported. The effect of tariffs and quotas is that they restrict imports and, therefore, protect the domestic firms from foreign competition.

CHAPTER 3

LIBERALISATION, PRIVATISATION AND GLOBALISATION: AN APPRAISAL

INTRODUCTION

- In 1991, India met with an economic crisis relating to its external debt — the government was not able to make repayments on its borrowings from abroad; foreign exchange reserves, which we generally maintain to import petrol and other important items, dropped to levels that were not sufficient for even a fortnight.
- The crisis was further compounded by rising prices of essential goods. All these led the government to introduce a new set of policy measures which changed the direction of our developmental strategies.
- The origin of the financial crisis can be traced from the inefficient management of the Indian economy in the 1980s.
- When expenditure is more than income, the government borrows to finance the deficit from banks and also from people within the country and from international financial institutions.
- India agreed to the conditionalities of World Bank and IMF and announced the New Economic Policy (NEP).
- This set of policies can broadly be classified into two groups:

  The stabilization measures and the structural reform measures. Stabilization measures are short- term measures, intended to correct some of the weaknesses that have developed in the balance of payments and to bring inflation under control.

LIBERALISATION

- Liberalization was introduced to put an end to these restrictions and open up various sectors of the economy. Though a few liberalization measures were introduced in 1980s in areas

of industrial licensing, export-import policy, technology upgradation, fiscal policy and foreign investment, reform policies initiated in 1991 were more comprehensive.

Deregulation of Industrial Sector:

- In India, regulatory mechanisms were enforced in various ways;

(i) industrial licensing under which every entrepreneur had to get permission from government officials to start a firm, close a firm or to decide the amount of goods that could be produced (ii) private sector was not allowed in many industries (iii) some goods could be produced only in small scale industries and (iv) controls on price fixation and distribution of selected industrial products.

- The only industries which are now reserved for the public sector are defence equipments, atomic energy generation and railway transport.

Financial Sector Reforms:

- Financial sector includes financial institutions such as commercial banks, investment banks, stock exchange operations and foreign exchange market.
- The financial sector in India is controlled by the Reserve Bank of India (RBI).
- One of the major aims of financial sector reforms is to reduce the role of RBI from regulator to facilitator of financial sector. This means that the financial sector may be allowed to take decisions on many matters without consulting the RBI.
- Foreign Institutional Investors (FII) such as merchant bankers, mutual funds and pension funds are now allowed to invest in Indian financial markets.

Tax Reforms:

- Tax reforms are concerned with the reforms are concerned with the reforms in government‘s taxation and public expenditure policies which are collectively known as its fiscal policy. There are two types of taxes: direct and indirect.

Foreign Exchange Reforms:

- The first important reform in the external sector was made in the foreign exchange market. In 1991, as an immediate measure to resolve the balance of payments crisis, the rupee was devalued against foreign currencies. This led to an increase in the inflow of foreign exchange.

Trade and Investment Policy Reforms:

- Liberalization of trade and investment regime was initiated to increase international competitiveness of industrial production and also foreign investments and technology into the

economy.

PRIVATISATION

Government companies are converted into private companies in two ways:

(i) By withdrawal of the government from ownership and management of public sector companies and or
(ii) By outright sale of public sector companies.
Privatization of the public sector undertakings by selling off part of the equity of PSUs to the public is known as disinvestment.

GLOBALIZATION

- Globalization is generally understood to mean integration of the economy of the country with the world economy, it is a complex phenomenon. It is an outcome of the set of various policies that are aimed at transforming the world towards greater interdependence and integration. It involves creation of networks and activities transcending economic, social and geographical boundaries.
- Outsourcing: This is one of the important outcomes of the globalization process. In outsourcing, a company hires regular service from external sources, mostly from other countries, which was previously provided internally or from within the country.

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 multilateral trade agreements by providing equal opportunities to all countries in the international market for trading purposes.
- WTO is expected to establish a rule- based trading regime in which nations cannot place arbitrary restrictions on trade.
- The WTO agreements cover trade in goods as well as services to facilitate international trade (bilateral and multilateral) through removal of tariff as well as non-tariff barriers and providing greater market access to all member countries.

INDIAN ECONOMY DURING REFORMS: AN ASSESSMENT

A. Growth and Employment: Though the GDP growth rate has increased in the reform period, reform-led growth has not generated sufficient employment opportunities in the country.
B. Reforms in Agriculture: Reforms have not been able to benefit agriculture, where the growth rate has been decelerating.
C. Reforms in Industry: Industrial growth has also recorded a slowdown. This is because of decreasing demand of industrial products due to various reasons such as cheaper imports, inadequate investment in infrastructure etc.

D. Disinvestment: Every year, the government fixes a target for disinvestment of PSUs. Critics point out that the assets of PSUs have been undervalued and sold to the private sector. This means that there has been a substantial loss to the government.

E. Reforms and Fiscal Policies: Economic reforms have placed limits on the growth of public expenditure especially in social sectors. The tax reductions in the reform period, aimed at yielding larger revenue and to curb tax evasion, have not resulted in increase in tax revenue for the government.

CHAPTER.4
POVERTY

WHO ARE THE POOR?

- The poor people possess few assets and reside in kutcha hutments with walls made of baked mud and roofs made of grass, thatch, bamboo and wood.
- The poorest of them do not even have such dwellings. In rural areas many of them are landless. Even if some of them possess land, it is only dry or waste land.
- Many do not get to have even two meals a day. Starvation and hunger are the key features of the poorest households. The poor lack basic literacy and skills and hence have very limited economic opportunities. Poor people also face unstable employment.

HOW ARE POOR PEOPLE IDENTIFIED

- In pre-independent India, Dadabhai Naoroji was the first to discuss the concept of a Poverty Line. He used the menu for a prisoner and used appropriate prevailing prices to arrive at what may be called _jail cost of living‘. However, only adults stay in jail whereas, in an actual society, there are children too. He, therefore, appropriately adjusted this cost of living to arrive at the poverty line.
- In 1962, the Planning Commission formed a Study Group. In 1979, another body called the "Task Force on Projections of Minimum Needs and Effective Consumption Demand" was formed. In 1989 and 2005, an Expert Group was constituted for the same purpose.
- For the purpose of defining poverty we divide people into two categories; the poor and the non-poor and the poverty line separates the two. However, there are many kinds of poor; the absolutely poor, the very poor and the poor.
- Similarly there are various kinds of non-poor; the middle class, the upper middle class, the rich, the very rich and the absolutely rich. Think of this as a line or continuum from the very poor to the absolutely rich with the poverty line dividing the poor from the non- poor.

WHAT CAUSES POVERTY?

- The causes of poverty lie in the institutional and social factors that mark the life of the poor. The poor are deprived of quality education and unable to acquire skills which fetch better incomes.
- These can be caused as a result of social, economic and political inequality (ii) social exclusion (iii) unemployment (iv) indebtedness (v) unequal distribution of wealth. Aggregate poverty is just the sum of individual poverty.
- Poverty is also explained by general, economy-wide problems, such as (i) low capital formation (ii) lack of infrastructure (iii) lack of demand (iv) pressure of population (v) lack of social/welfare nets.

POLICIES AND PROGRAMMES TOWARDS POVERTY ALLEVIATION.

- The Indian Constitution and five year plans state social justice as the primary objective of the developmental strategies of the government.
- First Five Year Plan (1951-56): The urge to bring economic and social change under present conditions comes from the fact of poverty and inequalities in income, wealth and opportunity.
- The Second Five Year Plan (1956-61): the benefits of economic development must accrue more and more to the relatively less privileged classes of society.
- Third Five Year Plan (1961-66): progressively enlarged since then. One of the noted programmes initiated in the 1970s was Food for Work.
- Fifth Five Year Plan: even with expanded employment opportunities, the poor will not be able to buy for themselves all the essential goods and services.
- They have to be supplemented up to at least certain minimum standards by social consumption and investment in the form of essential food grains, education, health, nutrition, drinking water, housing, communications and electricity.

CHAPTER 5

HUMAN CAPITAL FORMATION IN INDIA

WHAT IS HUMAN CAPITAL?

- 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 human capital like engineers and doctors.
- In other words, we need good human capital to produce other human capital (say, doctors, engineers...). This means that we need investment in human capital to produce more human capital out of human resources.

Let us understand a little more of what human capital means by posing the following questions:

1. What are the sources of human capital?
2. Is there any relation between human capital and economic growth of a country?
3. Is the formation of human capital linked to man‘s all-round development or, as it is now called, human development?
4. What role can the government play in human capital formation in India?

SOURCES OF HUMAN CAPITAL

- Investment in education is considered as one of the main sources of human capital. There are several other sources as well. Investments in health, on- the- job training, migration and information are the other sources of human capital formation.
- Like education, health is also considered as an important input for the development of a nation as much as it is important for the development of an individual. Health expenditure directly increases the supply of healthy labour force and is, thus, a source of human capital formation.
- Expenditure incurred for acquiring information relating to the labour market and other markets is also a source of human capital formation.

Human Capital and Economic Growth:

- Economic growth means the increase in real national income of a country; naturally, the contribution of the educated person to economic growth is more than that of an illiterate person. If a healthy person could provide uninterrupted labour supply for a longer period of time, then health is also an important factor for economic growth. Thus, both education and health, along with many other factors.
- The Seventh Five Year Plan says, ―Human resources development (read human capital) has necessarily to be assigned a key role in any development strategy, particularly in a country with a large population. Trained and educated on sound lines, a large population can itself become an asset in accelerating economic growth and in ensuring social change in desired directions.

STATE OF HUMAN CAPITAL FORMATION IN INDIA

- We know that ours is a federal country with a union government, state governments and local governments (Municipal Corporations, Municipalities and Village Panchayats). The Constitution of India mentions the functions to be carried out by each level of government. Accordingly, expenditures on both education and health are to be carried out simultaneously by all the three tiers of the government.
- In India, the ministries of education at the union and state level, departments of education and various organizations like National Council of Educational Research and Training (NCERT), University Grants Commission (UGC) and All India Council of Technical Education (AICTE) facilitate institutions which come under the education sector.
- Similarly, the ministries of health at the union and state level, departments of health and various organizations like Indian Council for Medical Research (ICMR) facilitate institutions

which come under the health sector.

CHAPTER-6

RURAL DEVELOPMENT

WHAT IS RURAL DEVELOPMENT?

Rural development is a comprehensive term. It essentially focuses on action for the development of areas that are lagging behind in the overall development of the village economy. Some of the areas which are challenging and need fresh initiatives for development in rural India include

- Development of human resources including, Literacy, more specifically, female literacy, education and skill development, Health, addressing both sanitation and public health
- Land reforms
- Development of the productive resources of each locality
- 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 population emphasising access to productive employment opportunities.

CREDIT AND MARKETING IN RURAL AREAS

- **Credit**: Growth of rural economy depends primarily on infusion of capital, from time to time, to realise higher productivity in agriculture and non-agriculture sectors.
- At the time of independence, moneylenders and traders exploited small and marginal farmers and landless labourers by lending to them on high interest rates and by manipulating the accounts to keep them in a debt-trap.
- A major change occurred after 1969 when India adopted social banking and multi-agency approach to adequately meet the needs of rural credit. Later, the National Bank for Agriculture and Rural Development (NABARD) was set up in 1982 as an apex body to coordinate the activities of all institutions involved in the rural financing system. The Green

Revolution was a harbinger of major changes in the credit system as it led to the diversification of the portfolio of rural credit towards production- oriented lending.

AGRICULTURAL MARKET SYSTEM

- Agricultural marketing is a process that involves the assembling, storage, processing, transportation, packaging, grading and distribution of different agricultural commodities across the country.

Four such measures that were initiated to improve the marketing aspect.

I. The first step was regulation of markets to create orderly and transparent marketing conditions.

II. Second component is provision of physical infrastructure facilities like roads, railways, warehouses, god owns, cold storages and processing units.

III. Cooperative marketing, in realising fair prices for farmers‘ products, is the third aspect of government initiative.

IV. The fourth element is the policy instruments like (i) assurance of minimum support prices (MSP) for agricultural products (ii) maintenance of buffer stocks of wheat and rice by Food Corporation of India and (iii) distribution of food grains and sugar through PDS. These instruments are aimed at protecting the income of the farmers and providing food grains at a subsidized rate to the poor.

Emerging Alternate Marketing Channels:

It has been realised that if farmers directly sell their produce to consumers, it increases their incomes. Some examples of these channels are Apni Mandi (Punjab, Haryana and Rajasthan); Hadaspar Mandi (Pune); Rythu Bazars (vegetable and fruit markets in Andhra Pradesh) and Uzhavar Sandies (farmers markets in Tamil Nadu).

Animal Husbandry:

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

Fisheries:

- The fishing community regards the water body as _mother‘ or _provider‘.
- The water bodies consisting of sea, oceans, rivers, lakes, natural aquatic ponds, streams etc. are, therefore, an integral and life-giving source for the fishing community.

- In India, after progressive increase in budgetary allocations and introduction of new technologies in fisheries and aquaculture, the development of fisheries has come a long way.

Horticulture:

- Blessed with a varying climate and soil conditions, India has adopted growing of diverse horti- cultural crops such as fruits, vegetables, tuber crops, flowers, medicinal and aromatic plants, spices and plantation crops.
- These crops play a vital role in providing food and nutrition, besides addressing employment concerns.
- The period between1991-2003 is also called an effort to heralding a Golden Revolution‘ because during this period, the planned investment in horticulture became highly productive and the sector emerged as a sustainable livelihood option.

CHAPTER-7

EMPLOYMENT: GROWTH, INFORMALISATION AND OTHER ISSUES

INTRODUCTION

What is employment? Who is a worker? When a farmer works on fields, he or she produces food grains and raw materials for industries.

- We know that the total money value of all such goods and services produced in a country in a year is called its gross domestic product for that year.
- When we also consider what we pay for our imports and get from our exports we find that there is a net earnings for the country which may be positive (if we have exported more in value terms than imported) or negative (if imports exceeded exports in value terms) or zero (if exports and imports were of the same value). When we add this earning (plus or minus) from foreign transactions, what we get is called the country‘s gross national product for that year.
- Those activities which contribute to the gross national product are called economic activities.
- The nature of employment in India is multifaceted. Some get employment throughout the year; some others get employed for only a few months in a year. Many workers do not get fair wages for their work. While estimating the number of workers, all those who are engaged in economic activities are included as employed.
- About 70 per cent of the workers are men and the rest are women (men and women include child labourers in respective sexes). Women workers account for one-third of the rural workforce whereas in urban areas, they are just one-fifth of the workforce.

PARTICIPATION OF PEOPLE IN EMPLOYMENT:

Worker-population ratio is an indicator which is used for analysing the employment situation in the country. This ratio is useful in knowing the proportion of population that is actively contributing to the production of goods and services of a country.

- If the ratio is higher, it means that the engagement of people is greater;
- If the ratio for a country is medium, or low, it means that a very high proportion of its population is not involved directly in economic activities.

EMPLOYMENT IN FIRMS, FACTORIES AND OFFICES

In this process, workers migrate from rural to urban areas. Eventually, at a much later stage, the industrial sector begins to lose its share of total employment as the service sector enters a period of rapid expansion. This shift can be understood by looking at the distribution of workers by industry.
They are;
(i) Agriculture (ii) Mining and Quarrying
(iii) Manufacturing (iv) Electricity, Gas and Water Supply (v) Construction (vi) Trade (vii) Transport and Storage and (viii) Services. For simplicity, all the working persons engaged in these divisions can be clubbed into three major sectors viz. (a) primary sector which includes (i) and (ii) (b) secondary sector which includes (iii), (iv) and (v) and (c) service sector which includes divisions (vi), (vii) and (viii).

GROWTH AND CHANGING STRUCTURE OF EMPLOYMENT

Here we will look at two developmental indicators — growth of employment and GDP. 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 per cent.

UNEMPLOYMENT

- There are three sources of data on unemployment : Reports of Census of India, National Sample Survey Organisation‘s Reports of Employment and Unemployment Situation and Directorate General of Employment and Training Data of Registration with Employment Exchanges.
- Economists call unemployment prevailing in Indian farms as disguised unemployment.
- What is disguised unemployment? Suppose a farmer has four acres of land and he actually needs only two workers and himself to carry out various operations on his farm in a year, but if he employs five workers and his family members such as his wife and children, this situation is known as disguised unemployment.

GOVERNMENT AND EMPLOYMENT GENERATION

The government 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 many measures governments implement to generate employment for those who are in need of jobs in rural areas.

CHAPTER-8

INFRASTRUCTURE

WHAT IS INFRASTRUCTURE?

- It provides supporting services in the main areas of industrial and agricultural production, domestic and foreign trade and commerce.
- Services include roads, railways, ports, airports, dams, power stations, oil and gas pipelines, telecommunication facilities, the 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.
- Facilities have a direct impact on production of goods and services while others give indirect support by building the social sector of the economy
- Some divide infrastructure into two categories — economic and social.
- Economic Infrastructure associated with energy, transportation and communication are included in the former category.
- Whereas Social Infrastructure related to education, health and housing.

RELEVANCE OF INFRASTRUCTURE

- Infrastructure is the support system on which depends the efficient working of a modern industrial economy.
- Modern agriculture also largely depends on it for speedy and large-scale transport of seeds, pesticides, fertilisers and the produce using modern roadways, railways and shipping facilities.
- Agriculture also depends on insurance and banking facilities
- Infrastructure contributes to economic development of a country both by increasing the

productivity of the factors of production and improving the quality of life of its people.

- Inadequate infrastructure can have multiple adverse effects on health.
- Improvements in water supply and sanitation have a large impact by reducing **morbidity** (meaning proneness to fall ill) from major waterborne diseases and reducing the severity of disease when it occurs. In addition to the obvious linkage between water and sanitation and health, the quality of transport and communication infrastructure can affect access to health care.
- Air pollution and safety hazards connected to transportation also affect morbidity, particularly in densely populated areas.

THE STATE OF INFRASTRUCTURE IN INDIA

- Government has been solely responsible for developing the country‘s infrastructure.
- 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.
- Rural women are still using bio-fuels such as crop residues, dung and fuel wood to meet their energy requirement.
- Walk long distances to fetch fuel, water and other basic needs.
- Tap water availability is limited to only 24 per cent rural households.
- About 76 per cent of the population drinks water from open sources such as wells, tanks, ponds, lakes, rivers, canals, etc.
- Access to improved sanitation in rural areas was only 20 per cent.
- Infrastructure is the foundation of development,
- India is yet to wake up to the call.
- India invests only 5 per cent of its GDP on infrastructure, which is far below that of China and Indonesia.
- In any country, as the income rises, the composition of infrastructure requirements changes significantly. For low-income countries, basic infrastructure services like irrigation, transport and power are more important.
- As economies mature and most of their basic consumption demands are met, the share of agriculture in the economy shrinks and more service related infrastructure is required.
- The share of power and telecommunication infrastructure is greater in high-income countries.
- Industrial progress depends on the development of power and electricity generation, transport and communications.

ENERGY

- Energy is a critical aspect of the development process of a nation.
- It is, of course, essential for industries.
- Used on a large scale in agriculture and related areas like production and transportation of fertilisers, pesticides and farm equipment.
- It is required in houses for cooking, household lighting and heating.

Sources of Energy:

- There are commercial and non-commercial sources of energy.
- Commercial sources are coal, petroleum and electricity as they are bought and sold.
- Non-commercial sources of energy are firewood, agricultural waste and dried dung. These are non-commercial as they are found in nature/forests.
- While commercial sources of energy are generally exhaustible (with the exception of hydropower).
- Non- commercial sources are generally renewable.
- More than 60 per cent of Indian households depend on traditional sources of energy for meeting their regular cooking and heating needs

Non-conventional Sources of Energy:

- Both commercial and non-commercial sources of energy are known as conventional sources of energy.
- There are three other sources of energy which are commonly termed as non-conventional sources — solar energy, wind energy and tidal power.
- Being a tropical country, India has almost unlimited potential for producing all three types of energy if some appropriate cost effective technologies that are already available are used. Even cheaper technologies can be developed.

Consumption Pattern of Commercial Energy:

- In India, commercial energy consumption makes up about 74 per cent of the total energy consumed in India.
- This includes coal with the largest share of 54 per cent, followed by oil at 33 per cent, natural gas at 9 per cent and hydro energy at 3 per cent.
- Non-commercial energy sources consisting of firewood, cow dung and agricultural wastes account for over 26 per cent 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 in the near future**.**
- The transport sector was the largest consumer of commercial energy in 1953-54.
- There has been continuous fall in the share of the transport sector while the shares of the household, agriculture and industrial sector have been increasing.
- The share of oil and gas is highest among all commercial energy consumption. With the rapid rate of economic growth, there has been a corresponding increase in the use of energy.

Power/Electricity:

- The most visible form of energy, which is often identified with progress in modern civilization, is power, commonly called electricity.
- 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 cent GDP growth per annum, power supply needs to grow around 12 per cent annually. thermal sources accounted for almost 65 per cent of the power generation capacity.
- Hydel and wind power accounted for 32.5 per cent while nuclear power accounted only for per cent. India‘s energy policy encourages two energy sources— hydel and wind—as they do not rely on fossil fuel and, hence, avoid carbon emissions.
- This has resulted in faster growth of electricity produced from these two sources.
- Atomic energy is an important source of electric power, it has economic advantages.

Some Challenges in the Power Sector:

- Electricity generated by various power stations is not consumed entirely by ultimate consumers; a part is consumed by power station auxiliaries.
- Also, while transmitting power, a portion is lost in transmission.
- What we get in our houses, offices and factories is the net availability.
- 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 per cent. In order to meet the growing demand for electricity, India‘s commercial energy supply needs to grow at about 7 per cent. At present, India is able to add only 20,000 MW a year. Even the installed capacity is underutilized because plants are not run properly

(ii) State Electricity Boards (SEBs), which distribute electricity, incur losses which exceed Rs 500 billion. This is due to transmission and distribution losses, wrong pricing of electricity and other inefficiencies. Some scholars also say that distribution of electricity to farmers is the main reason for the losses; electricity is also stolen in different areas which also adds to the woes of SEBs

(iii) private sector power generators are yet to play their role in a major way; same is the case with foreign investors

(iv) there is general public unrest due to high power tariffsand prolonged power cuts in different parts of the country

(v) thermal power plants which are the mainstay of India‘s power sector are facing shortage of raw material and coal supplies.

- Thus, continued economic development and population growth are driving the demand for energy faster than what India is producing currently.
- More public investment, better research and development efforts, exploration technological innovation and use of renewable energy sources can ensure additional supply of electricity.
- Instead of investing in the power sector by adding to installed capacity, the government has gone for privatisation of the power sector and particularly the distribution and allowed much

higher prices of electricity that have impacted certain sectors very badly (see Box 3.3). Do you think it is a right policy?

HEALTH

- 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 the holistic process related to the overall growth and development of the nation.
- Though the twentieth century has seen a global transformation in human health unmatched in history, it may be difficult to define the health status of a nation in terms of a single set of measures.
- Scholars assess people‘s health by taking into account indicators like infant mortality and maternal mortality rates, life expectancy and nutrition levels, along with the incidence of communicable and non- communicable diseases
- Development of health infrastructure ensures a country of healthy manpower for production of goods and services. In recent times, scholars argue that people are entitled to health care facilities.
- It is the responsibility of the government to ensure the right to healthy living. Health infrastructure includes hospitals, doctors, nurses and other para-medical professionals, beds, equipment required in hospitals and a well-developed pharmaceutical industry.
- Mere presence of health infrastructure is not sufficient to have healthy people: the same should be accessible to all the people.
- The initial stages of planned development, policy-makers envisaged that no individual should fail to secure medical care, curative and preventive, because of the inability to pay for it.

State of Health Infrastructure:

- 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.
- The Union Government evolves broad policies and plans through the Central Council of Health and Family Welfare.
- It 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.
- Over the years, India has built up a vast health infrastructure and manpower at different levels.
- At the village level, a variety of hospitals technically known as Primary Health Centres (PHCs) have been set up by the government.
- Large number of hospitals run by voluntary agencies and the private sector.

- These hospitals are manned by 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.
- Expansion of health infrastructure has resulted in the eradication of smallpox, guinea worms and the near eradication of polio and leprosy.

Private Sector Health Infrastructure:

- The public health sector has not been so successful in delivering the goods.
- More than 70 per cent of the hospitals in India are run by the private sector.
- Provide healthcare for 80 per cent of out- patients and 46 per cent of in-patients. In recent times, private sector has been playing a dominant role in medical education and training, medical technology and diagnostics, manufacture and sale of pharmaceuticals, hospital construction and the provision of medical services.
- Scholars point out that the private sector in India has grown independently without any major regulation; some private practitioners are not even registered doctors and are known as quacks Since the 1990s, owing to liberalisation measures, many non- resident Indians and industrial and pharmaceutical companies have set up state-of-the-art super-specialty hospitals to attract India‘s rich and medical tourists.
- Do you think most people in India can get access to such super- specialty hospitals? Why not? What could be done so that every person in India access a decent quality health care?

Indian Systems of Medicine (ISM)

- It includes six systems — Ayurveda, Yoga, Unani, Siddha, Naturopathy and Homeopathy (AYUSH).
- But little has been done to set up a framework to standardise education or to promote research.
- ISM has huge potential and can solve a large part of our health care problems because they are effective, safe and inexpensi

Health System in India

- India‘s health infrastructure and health care is made up of a three-tier system— primary, secondary and tertiary.
- Primary health care 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 mental health and provision of essential drugs Auxiliary Nursing Midwife (ANM) is the first person who provides primary healthcare in rural areas. In order to provide primary health care, hospitals have been set up in villages and small towns which are generally manned by a single doctor, a nurse and a

limited quantity of medicines. They are known as Primary Health Centres (PHC), Community Health Centres (CHC) and sub-centres.

- When the condition of a patient is not managed by PHCs, they are referred to secondary or tertiary hospitals. Hospitals which have better facilities for surgery, X-ray, Electro Cardio Gram (ECG) are called secondary health care institutions.
- They function both as primary health care provider and also provide better health care facilities.
- Mostly located in district headquarters and in big towns.
- All those 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, come under the tertiary sector.
- The tertiary sector also includes many premier institutes which not only impart quality medical education and conduct research but also provide specialised health care. Some of them are — All India Institute of Medical Science, New Delhi; Post Graduate Institute, Chandigarh; Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry; National Institute of Mental Health and Neuro Sciences, Bangalore and All India Institute of Hygiene and Public Health, Kolkata.

Community and Non-Profit Organisations in Healthcare

- One of the important aspects of a good healthcare system is community participation. It functions with the idea that the people can be trained and involved in primary healthcare system.
- This method is already being used in some parts of our country. SEWA in Ahmedabad and ACCORD in Nilgiris could be the examples of some such NGOs working in India.
- Trade unions have built alternative health care services for their members and also to give low-cost health care to people from nearby villages.
- The most well-known and pioneering initiative in this regard has been Shahid Hospital, built in 1983 and sustained by the workers of CMSS (Chhattisgarh Mines Shramik Sangh) in Durg, Madhya Pradesh.
- A few attempts have also been made by rural organisations to build alternative healthcare initiatives. One example is in Thane, Maharashtra, where in the context of a tribal people's organisation, *Kashtakari Sangathan*, trains women health workers at the village level to treat simple illnesses at minimal cost.

Indicators of Health and Health Infrastructure—A Critical Appraisal:

- The health status of a country can be assessed through indicators such as infant mortality and maternal mortality rates, life expectancy and nutrition levels, along with the incidence of

communicable and non- communicable diseases.

- India has about 17 per cent of the world‘s population but it bears a frightening 20 per cent of the global burden of diseases (GBD).
- 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 a state of disability‘ owing to the disease.
- In India, more than half of GBD is accounted for by communicable diseases such as diarrhoea, malaria and tuberculosis. Every year around five lakh children die of water-borne diseases.
- The danger of AIDS is also looming large. Malnutrition and inadequate supplys of vaccines lead to the death of 2.2 million children every year.
- At present, less than 20 per cent of the population utilises public health facilities.
- One study has pointed out that only 38 per cent of the PHCs have the required number of doctors and only 30 per cent of the PHCs have sufficient stock of medicines.

Urban-Rural and Poor-Rich Divide:

¬ Though 70 per cent of India‘s population lives in rural areas, only one-fifth of its hospitals are located in rural areas. Rural India has only about half the number of dispensaries.

¬ Out of about 7 lakh beds, roughly 11 per cent are available in rural areas. Thus, people living in rural areas do not have sufficient medical infrastructure. This has led to differences in the health status of people.

¬ As far as hospitals are concerned, there are only 0.36 hospitals 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.

¬ States like Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh are relatively lagging behind in health care facilities.

¬ Villagers have no access to any specialised medical care like paediatrics, gynaecology, anaesthesia and obstetrics.

¬ Even though 315 recognised medical colleges produce 30,000 medical graduates every year, the shortage of doctors in rural areas persists.

¬ While one-fifth of these doctor graduates leave the country for better monetary prospects, many others opt for private hospitals which are mostly located in urban areas.

¬ The poorest 20 per cent of Indians living in both urban and rural areas spend 12 per cent of their income on healthcare while the rich spend only 2 per cent. What happens when the poor fall sick?

¬ Many have to sell their land or even pledge their children to afford treatment. Since government-run hospitals do not provide sufficient facilities, the poor are driven to private hospitals which makes them indebted forever. Or else they opt to die

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 deterioration in the child sex ratio in the country from 927 in 2001 to 914, as revealed by the census of 2011, points to the growing incidence of female foeticide in the country.

¬ Close to 3,00,000 girls under the age of 15 are not only married but have already borne children at least once.

¬ More than 50 per cent of married women between the age group of 15 and 49 have anaemia and nutritional anaemia caused by iron deficiency, which has contributed to 19 per cent of maternal deaths.

¬ Abortions are also a major cause of maternal morbidity and mortality in India.
¬ All citizens can get better health facilities if public health services are decentralised.

¬ Success in the long-term battle against diseases depends on education and efficient health infrastructure.

¬ It is, therefore, critical to create awareness on health and hygiene and provide efficient systems.

¬ The role of telecom and IT sectors cannot be neglected in this process.

¬ The effectiveness of healthcare programmes also rests on primary healthcare.

¬ The ultimate goal should be to help people move towards a better quality of life. There is a sharp divide between the urban and rural healthcare in India. If we continue to ignore this deepening divide, we run the risk of destabilising the socio- economic fabric of our country.

¬ In order to provide basic healthcare to all, accessibility and affordability need to be integrated in our basic health infrastructure.

CHAPTER-9

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT
ENVIRONMENT — DEFINITION AND FUNCTIONS

¬ Environment is defined as the total planetary inheritance and the totality of all resources. It includes all the bioticand abiotic factors that influence each other.

¬ While all living elements — the birds, animals and plants, forests, fisheries etc.— are biotic elements, abiotic elements include air, water, land etc. Rocks and sunlight are all examples of abiotic elements of the environment.

¬ A study of the environment then calls for a study of the inter- relationship between these biotic and abiotic components of the environment.

Functions of the Environment:

¬ The environment performs four vital functions:
(i) it supplies resources: resources here include both renewable and non-renewable resources. Renewable resources are those which can be used without the possibility of the resource becoming depleted or exhausted. That is, a continuous supply of the resource remains available. Examples of renewable resources are the trees in the forests and the fishes in the ocean. Non-renewable resources, on the other hand, are those which get exhausted with extraction and use, for example, fossil fuel
¬ This is the situation today all over the world.

¬ The rising population of the developing countries and the affluent consumption and production standards of the developed world have placed a huge stress on the environment in terms of its first two functions.

¬ Many resources have become extinct and the wastes generated are beyond the absorptive capacity of the environment.

¬ **Absorptive capacity** means the ability of the environment to absorb degradation. The result — we are today at the threshold of environmental crisis. The past development has polluted and dried up rivers and other aquifers making water an economic good.

¬ Besides, the intensive and extensive extraction of both renewable and non-renewable resources has exhausted some of these vital resources and we are compelled to spend huge amounts on technology and research to explore new resources.

¬ Added to these are the health costs of degraded environmental quality — decline in air and water quality (seventy per cent of water in India is polluted) have resulted in increased incidence of

respiratory and water-borne diseases.

¬ Hence the expenditure on health is also rising. To make matters worse, global environmental issues such as **global warming** and **ozone depletion** also contribute to increased financial commitments for the government Thus, it is clear that the **opportunity costs** of negative environmental impacts are high.

¬ This meant that pollution was within the absorptive capacity of the environment and the rate of resource extraction was less than the rate of regeneration of these resources. Hence environmental problems did not arise.

Global Warming

¬ **Global warming** is a gradual increase in the average temperature of the earth‘s lower atmosphere as a result of the increase in greenhouse gases since the **Industrial Revolution**.

¬ Much of the recent observed and projected global warming is human-induced. It is caused by man-made increases in carbon dioxide and other **greenhouse gases** through the burning of **fossil fuels** and **deforestation**.

¬ Adding carbon dioxide, methane and such other gases (that have the potential to absorb heat) to the atmosphere with no other changes will make our planet‘s surface warmer.

¬ The atmospheric concentrations of carbon dioxide and CH4 have increased by 31 per cent and 149 per cent respectively above pre-industrial levels since 1750. During the past century, the atmospheric temperature has risen by 1.1°F (0.6°C) and sea level has risen several inches.

¬ the longer-term results of global warming are melting of polar ice with a resulting rise in sea level and coastal flooding; disruption of drinking water supplies dependent on snow melts; extinction of species as ecological niches disappear; more frequent tropical storms; and an increased incidence of tropical diseases.

¬ Among factors that may be contributing to global warming are the burning of coal and petroleum products (sources of carbon dioxide, methane, nitrous oxide, ozone); deforestation, which increases the amount of carbon dioxide in the atmosphere; methane gas released in animal waste; and increased cattle production, which contributes to deforestation, methane production, and use of fossil fuels.

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

¬ But with population explosion and with the advent of industrial revolution to meet the growing needs of the expanding population, things changed.

¬ The result was that the demand for resources for both production and consumption went beyond the rate of regeneration of the resources; the pressure on the absorptive capacity of the environment increased tremendously — this trend continues even today.

¬ Thus what has happened is a reversal of supply-demand relationship for environmental quality — we are now faced with increased demand for environmental resources and services but their supply is limited due to overuse and misuse.

¬ Hence the environmental issues of waste generation and pollution have become critical today

Ozone Depletion

¬ refers to the phenomenon of reductions in the amount of ozone in the **stratosphere**.

¬ The problem of ozone depletion is caused by high levels of chlorine and bromine compounds in the stratosphere.

¬ The origins of these compounds are chlorofluorocarbons (CFC), used as cooling substances in air-conditioners and refrigerators, or as aerosol propellants, and bromofluorocarbons (halons), used in fire extinguishers.

¬ As a result of depletion of the ozone layer, more ultraviolet (UV) radiation comes to Earth and causes damage to living organisms.

¬ UV radiation seems responsible for skin cancer in humans;

¬ it also lowers production of phytoplankton and thus affects other aquatic organisms.

¬ It can also influence the growth of terrestrial plants.

¬ A reduction of approximately 5 per cent in the ozone layer was detected from 1979 to 1990.

¬ Since the **ozone layer** prevents most harmful wavelengths of ultraviolet light from passing through the **Earth's atmosphere**, observed and projected decreases in ozone have generated worldwide concern.

¬ This led to the 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 abundant natural resources in terms of 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, leading to concentration of textile industries in this region.

¬ The Indo-Gangetic plains — spread from the 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 a 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 per cent 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.

¬ However, the developmental activities in India have resulted in pressure on its finite natural resources, besides creating impacts on human health and well-being.

¬ The threat to India‘s environment poses a dichotomy —threat of poverty-induced environmental degradation and, at the same time, threat of pollution from affluence and a 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 priority issues identified are (i) land degradation (ii) biodiversity loss (iii) air pollution with special reference to vehicular pollution in urban cities (iv) management of fresh water and (v) solid waste management. Land in India suffers from varying degrees and types of degradation stemming mainly from unstable use and inappropriate management practices.

Chipko or Appiko — What’s in a Name?

¬ the Chipko Movement, which aimed at protecting forests in the Himalayas.

¬ In Karnataka, a similar movement took a different name, ‗Appiko‘, which means to hug. On 8 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 that 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 12,000 trees. Within months, this movement spread to many adjoining districts.

Some of the factors responsible for land degradation are

(i) loss of vegetation occuring due to deforestation

(ii) unsustainable fuel wood and fodder extraction

(iii) shifting cultivation

(iv) encroachment into forest lands

(v) forest fires and over grazing

(vi) non-adoption of adequate soil conservation measures

(vii) improper crop rotation

(viii) indiscriminate use of agro-chemicals such as fertilisers and pesticides

(ix) improper planning and management of irrigation systems extraction of ground water in the competing uses of land for forestry, agriculture, pastures, human settlements and industries exert an enormous pressure on the country‘s finite land resources.

¬ Estimates of soil erosion show that soil is being eroded at a rate of 5.3 billion tonnes a year for the entire excess of the recharge capacity (xi) open access resource and (xii) poverty of the agriculture-

dependent people.

¬ India supports approximately 17 per cent of the world‘s human and 20 per cent of livestock population on a mere 2.5 per cent of the world‘s geographical area. The high density of population and livestock and country as a result of which the country loses 0.8 million tonnes of nitrogen, 1.8 million tonnes of phosphorus and 26.3 million tonnes of potassium every year. According to the Government of India, the quantity of nutrients lost due to erosion each year ranges from 5.8 to 8.4 million tonnes.

Pollution Control Boards

¬ In order to address two major environmental concerns in India, viz. water and air 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.

¬ investigate, collect and disseminate information relating to water, air and land pollution, lay down standards for sewage/trade effluent and emissions.

¬ provide technical assistance to governments in promoting cleanliness of streams and wells by prevention, control and abatement of water pollution, and improve the quality of air and to prevent, control or abate air pollution in the country.

¬ carry out and sponsor investigation and research relating to problems of water and air pollution and for their prevention, control or abatement.

¬ organise, through mass media, a comprehensive mass awareness programme for the same.

¬ prepare manuals, codes and guidelines relating to treatment and disposal of sewage and trade effluents.

¬ assess the air quality through regulation of industries.

¬ In fact, state boards, through their district level officials, periodically inspect every industry under their jurisdiction to assess the adequacy of treatment measures provided to treat the effluent and gaseous emissions.

¬ provides background air quality data needed for industrial siting and town planning.

¬ collect, collate and disseminate technical and statistical data relating to water pollution.

¬ monitor the quality of water in 125 rivers (including the tributaries), wells, lakes, creeks, ponds, tanks, drains and canals.

- . Visit a nearby factory/irrigation department and collect the details of measures that they adopt to control water and 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.

- Vehicular emissions are of particular concern since these are ground level sources and, thus, have the maximum impact on the general population.
- . India is one of the ten most industrialised nations of the world.
- But this status has brought with it unwanted and unanticipated consequences such as 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
- . The above points highlight the challenges to India‘s environment.
- The various measures adopted by the Ministry of Environment and the central and state pollution control boards may not yield reward unless we consciously adopt a path of sustainable development.
- . The concern for future generations alone can make development last forever. Development to enhance our current living styles, without concern for posterity, will deplete resources and degrade environment at a pace that is bound to result in both environmental and economic crisis.

SUSTAINABLE DEVELOPMENT

- . Environment and economy are interdependent and need each other. Hence, development that ignores its repercussions on the environment will destroy the environment that sustains life forms. What is needed is sustainable development:
- Development that will allow all future generations to have a potential average quality of life that is at least as high as that which is being enjoyed by the current generation.
- The concept of sustainable development was emphasised by the United Nations Conference on Environment and Development (UNCED), which defined it as: _Development that meets the need of the present generation without compromising the ability of the future generation to meet their own needs‘.
- . The use of the concept needs‘ in the definition is linked to distribution of resources. The seminal report — ***Our Common Future*** — that gave the above definition explained sustainable development as _meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life‘.
- . Meeting the needs of all requires redistributing resources and is hence a moral issue.
- . Edward Barbier defined sustainable development as one which is directly concerned with increasing the material standard of living of the poor at the grass root level — this can be quantitatively measured in terms of increased income, real income, educational services, health care, sanitation, water supply etc.
- . In more specific terms, sustainable development aims at decreasing the absolute poverty of the poor by providing lasting and secure livelihoods that minimise resource depletion, environmentaldegradation, cultural disruption and social instability.

- Sustainable development is, in this sense, a development that meets the basic needs of all, particularly the poor majority, for employment, food, energy, water, housing, and ensures growth of agriculture, manufacturing, power and services to meet these needs
- The **Brundtland Commission** emphasises on protecting the future generation.
- . This is in line with the argument of the environmentalists who emphasise that we have a moral obligation to hand over the planet earth in good order to the future generation; that is, the present generation should bequeath a better environment to the future generation.
- . At least we should leave to the next generation a stock of _quality of life‘ assets no less than what we have inherited.

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

(i) conservation of natural assets

(ii) preservation of the regenerative capacity of the world‘s natural ecological system (iii) avoiding the imposition of added costs or risks on future generations.

- . According to Herman Daly, a leading environmental economist, to achieve sustainable development, the following needs to be done (i) limiting the human population to a level within the carrying capacity of the environment.
- The carrying capacity of the environment is like a _plimsoll line‘ of the ship which is its load limit mark. In the absence of the plimsoll line for the economy, human scale grows beyond the carrying capacity of the earth and deviates from sustainable development (ii) technological progress should be input efficient and not input consuming (iii) renewable resources should be extracted on a sustainable basis, that is, rate of extraction should not exceed rate of regeneration (iv) for non-renewable resources rate of depletion should not exceed the rate of creation of renewable substitutes and (v) inefficiencies arising from pollution should be corrected.

STRATEGIES FOR SUSTAINABLE DEVELOPMENT

Use of Non-conventional Sources of Energy:

India, as you know, is hugely dependent 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 green house gas. It also produces fly ash which, if not used properly, can cause pollution of water bodies, land and other components of the environment.

Hydroelectric projects inundate forests and interfere with the natural flow of water in catchment areas and the river basins.

Wind power and solar rays are good examples of conventional but cleaner and greener energy sources but are not yet been explored on a large scale due to lack of technological devices.

LPG, Gobar Gas in Rural Areas:

Households in rural areas generally use wood, dung cake or other biomass as fuel. This practice has several adverse implications like deforestation, reduction in green cover, wastage of cattle dung and air pollution.

To rectify the situation, subsidised LPG is being provided. In addition, gobar gas plants are being provided through easy loans and subsidy.

As far as liquefied petroleum gas (LPG) is concerned, it is a clean fuel — it reduces household pollution to a large extent. Also, energy wastage is minimised.

For the gobar gas plant to function, cattle dung is fed to the plant and gas is produced which is used as fuel while the slurry which is left over is a very good organic fertiliser and soil conditioner.

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.

Wind Power:

In areas where speed of wind is usually high, wind mills can provide electricity without any adverse impact on the environment.

Wind turbines move with the wind and electricity is generated. No doubt, the initial cost is high. But the benefits are such that the high cost gets easily absorbed **Solar Power through Photovoltaic Cells:**

India is naturally endowed with a large quantity of solar energy in the form of sunlight. We use it in different ways.

For example, we dry our clothes, grains, other agricultural products as well as various items made for daily use.

We also use sunlight to warm ourselves in winter. Plants use solar energy to perform photosynthesis. Now, with the help of photovoltaic cells, solar energy can be converted into electricity.

These cells use special kind of materials to capture solar energy and then convert the energy into electricity.

This technology is extremely useful for remote areas and for places where supply of power through grid or power lines is either not possible or proves very costly. This technique is also totally free from pollution. **Mini-hydel Plants:**

In mountainous regions, streams can be found almost everywhere. A large percentage of such streams are perennial.

Mini-hydel plants use the energy of such streams to move small turbines. The turbines generate electricity which can be used locally. Such power plants are more or less environment-friendly as they do not change the land use pattern in areas where they are located; they generate enough power to meet local demands.

This means that they can also do away with the need for large scale transmission towers and cables and avoid transmission loss.

Traditional Knowledge and Practices:

Traditionally, Indian people have been close to their environment

They have been more a component of the environment and not its controller. If we look back at our agriculture system, healthcare system, housing, transport etc., we find that all practices have been environment friendly.

Only recently have we drifted away from the traditional systems and caused large scale damage to the environment and also our rural heritage. Now, it is time to go back. One apt example is in healthcare.

India is very much privileged to have about 15,000 species of plants which have medicinal properties. About 8,000 of these are in regular use in various systems of treatment including the folk tradition.

With the sudden on slaught of the western system of treatment, we were ignoring our traditional systems such as Ayurveda, Unani, Tibetan and folk systems.

These healthcare systems are in great demand again for treating chronic health problems. Now a days every cosmetic produce — hair oil, toothpaste, body lotion, face cream and what not — is herbal in composition.

Not only are these products environment friendly, they are relatively free from side effects and do not involve large-scale industrial and chemical processing.

Biocomposting:

In our quest to increase agricultural production during the last five decades or so, we almost totally neglected the use of compost and completely switched over to chemical fertilisers.

The result is that large tracts of productive land have been adversely affected, water bodies including ground water system have suffered due to chemical contamination and demand for irrigation has been going up year after year Farmers, in large numbers all over the country, have again started using compost made from organic wastes of different types.

In certain parts of the country, cattle are maintained only because they produce dung which is an important fertiliser and soil conditioner. Earthworms can convert organic matter into compost faster than the normal composting process. This process is now being widely used. Indirectly, the civic authorities are benefited too as they have to dispose reduced quantity of waste.

Biopest Control:

With the advent of green revolution, the entire country entered into a frenzy to use more and more chemical pesticides for higher yield.

Soon, the adverse impacts began to show; food products were contaminated, soil, water bodies and even ground water were polluted with pesticides.

milk, meat and fishes were found to be contaminated.

To meet this challenge, efforts are on to bring in better methods of pest control. One such step is the use of pesticides based on plant products.

Neem trees are proving to be quite useful.

Several types of pest controlling chemicals have been isolated from neem and these are being used.

Mixed cropping and growing different crops in consecutive years on the same land have also helped farmers.

In addition, awareness is spreading about various animals and birds which help in controlling pests. For example, snakes are one of the prime group of animals which prey upon rats, mice and various other pests.

Similarly, large varieties of birds, for example, owls and peacocks, prey upon vermin and pests.

If these are allowed to dwell around the agricultural areas, they can clear large varieties of pests including insects. Lizards are also important in this regard. We need to know their value and save them.

Sustainable development has become a catch phrase today. It is _indeed' a paradigm shift in development thinking. Though it has been interpreted in a number of ways, adherence to this path ensures lasting development and non-declining welfare for all.

CHAPTER-10

COMPARATIVE DEVELOPMENT EXPERIENCES OF INDIA AND ITS NEIGHBOURS

- . Nations have been primarily trying to adopt various means which will strengthen their own domestic economies.
- . To this effect, they are forming regional and global economic groupings such as the **SAARC, European Union, ASEAN, G-8, G-20, BRICS** etc.
- . In addition, there is also an increasing eagerness on the parts of various nations to try and understand the developmental processes pursued by their neighbouring nations as it allows them to better comprehend their own strengths and weaknesses vis-à-vis their neighbours.

In the unfolding process of globalisation, this is particularly considered essential by developing countries as they face competition not only from developed nations but also amongst themselves in the relatively limited economic space enjoyed by the developing world.

In this chapter we will compare the developmental strategies pursued by India and the largest two of its neighbouring economies—Pakistan and China.

It has to be remembered that despite being endowed with vast natural resources, there is little similarity between the political power setup of India - the largest democracy of the world which is wedded to a secular and deeply liberal Constitution for over half a century, and the militarist political power structure of Pakistan or the command economy of China that has only recently started moving towards a democratic system and more liberal economic restructuring respectively.

DEVELOPMENTAL PATH—A SNAPSHOT VIEW

Do you know that India, Pakistan and China have many similarities in their developmental strategies? All the three nations have started towards their developmental path at the same time.

While India and Pakistan became independent nations in 1947, People's Republic of China was established in 1949.

In a speech at that time Jawaharlal Nehru had said, ―these new and revolutionary changes in China and India, even though they differ in content, symbolise the new spirit of Asia and new vitality which is finding expression in the countries in Asia.‖

All the three countries had started planning their development strategies in similar ways. While India announced its first Five Year Plan for 1951-56, Pakistan announced its first five year plan, now called the Medium Term Development Plan, in 1956.

China announced its First Five Year Plan in 1953.

Till 1998, Pakistan had eight five year plans whereas China's tenth five year period was 2001-06. The current planning in India is based on Eleventh Five Year Plan (2007-12). 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. Where do they stand today in comparison to one another? Before we answer this question let us trace the historical path of developmental policies in China and Pakistan.

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.

The Great **Leap Forward (GLF)** 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.
In 1958, there were 26,000 communes covering almost all the farm population.

GLF campaign met with many problems. A severe drought caused havoc in China killing about 30 million people.

When Russia had conflicts with China, it withdrew its professionals who had earlier been sent to China to help in the industrialisation process. In 1965, Mao introduced the **Great Proletarian Cultural Revolution** (1966-76) under which students and professionals were sent to work and learn from the countryside.

The present-day fast industrial growth in China can be traced back to the reforms introduced in 1978. China introduced reforms in phases.

In the initial phase, reforms were initiated in agriculture, foreign trade and investment sectors.

In agriculture, for instance, commune lands were divided into small plots which were allocated (for use not ownership) to individual households. They were allowed to keep all income from the land after paying stipulated taxes.

In the later phase, reforms were initiated in the industrial sector. Private sector firms, in general, and township and village enterprises, i.e. those 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 Owned Enterprises—SOEs), which we, in India, call public sector enterprises, were made to face competition.

The reform process also involved dual pricing. This means fixing the prices in two ways; 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. In order to attract foreign investors, **special economic zones** were set up.

Pakistan:

Pakistan adopted various economic policies, that have many similarities with India.
Pakistan also follows the mixed economy model with co-existence of public and private sectors. In the late 1950s and 1960s, Pakistan introduced a variety of regulated policy framework (for import substitution industrialization).
The policy combined tariff protection for manufacturing of consumer goods together with direct import controls on competing imports.
The introduction of Green Revolution led to mechanization and increase in public investment in infrastructure in select areas, which finally led to a rise in the production of food grains.
This changed the agrarian structure dramatically. In the 1970s, **nationalization** of capital goods industries took place. Pakistan then shifted its policy orientation in the late 1970s and 1980s when the major thrust areas were denationalization and encouragement to private sector.
During this period, Pakistan also received financial support from western nations and remittances from continuously increasing outflow of emigrants to the Middle-east. This helped the country in stimulating economic growth. The then government also offered incentives to the private sector.
All this created a conducive climate for new investments. In 1988, reforms were initiated in the country. Having studied a brief outline of the developmental strategies of China and Pakistan, let us now compare some of the developmental indicators of India, China and Pakistan.

DEMOGRAPHIC INDICATORS

If we look at the global population, out of every six persons living in this world, one is an Indian and another Chinese.

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.

Scholars point out the one- child norm introduced in China in the late 1970s as the major reason

for low population growth.

They also state that this measure led to a decline in the sex ratio, the proportion of females per 1000 males.

the sex ratio is low and biased against females in all the three countries. Scholars cite son-preference prevailing in all these countries as the reason.

In recent times, all the three countries are adopting various measures to improve the situation.

One-child norm and the resultant arrest in the growth of population also have other implications. For instance, after a few decades, in China, there will be more elderly people in proportion to young people.

This will force China to take steps to provide social security measures with fewer workers.

The fertility rate is also low in China and very high in Pakistan.

Urbanisation is high in both Pakistan and China with India having 28 per cent of its people living in urban areas

GROSS DOMESTIC PRODUCT AND SECTORS (Data may vary with compared to the recent trend)

One of the much-talked issues around the world about China is its growth of Gross Domestic Product. China has the second largest GDP (PPP) of $10.1 trillion whereas India‘s GDP (PPP) is $4.2 trillion and Pakistan‘s GDP is $0.47 trillion, roughly about 10 per cent of India‘s GDP.
When many developed countries were finding it difficult to maintain a growth rate of even 5 per cent, China was able to maintain near double-digit growth for more than two decades as can be seen from Table
Also notice that in the 1980s Pakistan was ahead of India; China was having double-digit growth and India was at the bottom. In 2000-10, there is a marginal decline in India and
China‘s growth rates whereas Pakistan met with drastic decline at 4.7 per cent.
Some scholars hold the reform processes introduced in 1988 in Pakistan and political instability as reasons behind this trend. We will study in a later section which sector contributed to this trend in these countries.
First, look at how people engaged in different sectors contribute to Gross Domestic Product.
It was pointed out in the previous section that China and Pakistan have more proportion of urban people than India.
In China due to topographic and climatic conditions, the area suitable for cultivation is relatively small — only about 10 per cent of its total land area.
The total cultivable area in China accounts for 40 per cent of the cultivable area in India.
Until the 1980s, more than 80 per cent of the people in China were dependent on farming as their sole source of livelihood.
Since then, the government encouraged people to leave their fields and pursue other activities such as handicrafts, commerce and transport. In 2008, with 40 per cent of its workforce engaged in agriculture, itscontribution to GDP in China is 10 per cent.

In both India and Pakistan, the contribution of agriculture to GDP were at 19 and 21 per cent, respectively, but the proportion of workforce that works in this sector is more in India.
In Pakistan, about 45 per cent of people work in agriculture whereas in India it is 56 per cent.
The sectoral share of output and employment also shows that in all the three economies, the industry and service sectors have less proportion of workforce but contribute more in terms of output.
In China manufacturing contributes the highest to GDP at 47 per cent 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 per cent of GDP.
In the normal course of development, countries first shift their employment and output from agriculture to manufacturing and then to services.
The proportion of workforce engaged in manufacturing in India and Pakistan were low at 19 and 20 per cent respectively.
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.
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.
If we look at the proportion of workforce in the1980s, Pakistan was faster in shifting its workforce to service sector than India and China In the 1980s, India, China and Pakistan employed 17, 12 and 27 per cent of its workforce in the service sector respectively. In 2008-10, it has reached the level of 25, 33 and 35 per cent, respectively.
In the last two decades, the growth of agriculture sector, which employs the largest proportion of workforce in all the three countries, has declined.
In the industrial sector, China has maintained a double-digit growth ratewhereas for India and Pakistan growth rate has declined. In the case of service sector, China has been able to raise its rate of growth in 2008-10 while India and Pakistan stagnated with their service sector growth.
Thus, China‘s growth is mainly contributed by the manufacturing sector and India‘s growth by service sector. During this period, Pakistan has shown deceleration in all the three sectors

INDICATORS OF HUMAN DEVELOPMENT

China is moving ahead of India and Pakistan. This is true for many indicators — income indicator such as GDP per capita, or proportion of population below poverty line or health indicators such as mortality rates, access to sanitation, literacy, life expectancy or malnourishment.
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 India. But neither of these two countries have been able to save women from maternal mortality.
In China, for one lakh births, only 38 women die whereas in India and Pakistan, more than 200 women die.
Surprisingly all the three countries report providing improved water sources for most of its population.
the proportion of people below the international poverty rate of $1 a day, India has the largest

share of poor among the three countries.

¬Along with these, we also need what may be called _liberty indicators‘.

¬One such indicator has actually been added as a measure of _the extent of democratic participation in social and political decision-making ’but it has not been given any extra weight.

¬_liberty indicators‘ like measures of ‘the extent of Constitutional protection given to rights of citizens‘ or _the extent of constitutional protection of the Independence of the Judiciary and the Rule of Law‘ have not even been introduced so far.

¬Without including these (and perhaps some more) and giving them overriding importance in the list, the construction of a human development index may be said to be incomplete and its usefulness limited.

DEVELOPMENT STRATEGIES — AN APPRAISAL

- . It is common to find developmental strategies of a country as a model to others for lessons and guidance for their own development. It is particularly evident after the introduction of the reform process in different parts of the world.
- . Though countries go through their development phases differently, let us take the initiation of reforms as a point of reference.
- . Reforms were initiated in China in 1978, Pakistan in 1988 and India in 1991. Let us briefly assess their achievements and failures in pre- and post-reform periods.
- . Why did China introduce structural reforms in 1978? China did not have any compulsion to introduce reforms as dictated by the World Bank and International Monetary Fund to India and Pakistan.
- . The new leadership at that time in China was not happy with the slow pace of growth and lack of modernisation in the Chinese economy under the Maoist rule.
- . They felt that Maoist vision of economic development based on decentralisation, self sufficiency and shunning of foreign technology, goods and capital had failed.
- . Despite extensive land reforms, collectivisation, the Great Leap Forward and other initiatives, the per capita grain output in 1978 was the same as it was in the mid-1950s.

    - It was found that establishment of infrastructure in the areas of education and health, land reforms, long existence of dcentralized planning and existence of small enterprises helped positively in improving the social and income indicators in the post reform period. Before the introduction of reforms, there had already been massive extension of basic health services in rural areas.
- Through the commune system, there was more equitable distribution of food grains.

Experts also point out that each reform measure was first implemented at a smaller level and then extended on a massive scale.

- . The experimentation under decentralised government enabled to assess the economic,

social and political costs of success or failure.

- . For instance, when reforms were made in agriculture, as pointed out earlier by handing over plots of land to individuals for cultivation, it brought prosperity to a vast number of poor people.
- . It created conditions for the subsequent phenomenal growth in rural industries and built up a strong support base for more reforms.
- . Though the data on international poverty line for Pakistan is quite healthy, scholars using the official data of Pakistan indicate rising poverty there.
- The reasons for the slow-down of growth and re-emergence of poverty in Pakistan‘s economy, as scholars put it, are agricultural growth and food supply situation were based not on an institutionalized process of technical change but on good harvest.
- . When there was a good harvest, the economy was in good condition, when it was not, the economic indicators showed stagnation or negative trends.
- . India had to borrow from the IMF and World Bank to set right its balance of payments crisis; foreign exchange is an essential component for any country and it is important to know how it can be earned.
- If a country is able to build up its foreign exchange earnings by sustainable export of manufactured goods, it need not worry. In Pakistan most foreign exchange earnings came from remittances from Pakistani workers in the Middle-east and the exports of highly volatile agricultural products; there was also growing dependence on foreign loans on the one hand and increasing difficulty in paying back the loans on the other.
- . To quote, ―the economy is under stress as the floods, delays in implementation of economic reforms; dilapidated security situation and low foreign direct investment inflows are hampering growth in all major sectors.
- . Massive floods took a heavy toll on agriculture and infrastructure while energy crisis coupled with steep decline in foreign direct investment is soaking up business activity. Besides facing high rates of inflation and rapid privatisation, the government is increasing the expenditure on various areas that can reduce poverty.