

INDIAN ECONOMIC DEVELOPMENT

TEXTBOOK FOR CLASS XI

PART – I

ਇਹ ਪੁਸਤਕ ਪੰਜਾਬ ਸਰਕਾਰ ਦੁਆਰਾ ਮੁਫਤ ਦਿੱਤੀ
ਜਾਣੀ ਹੈ ਅਤੇ ਵਿਕਾਊ ਨਹੀਂ ਹੈ।



Punjab School Education Board

Sahibzada Ajit Singh Nagar

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FOREWORD

It gives me immense pleasure and great satisfaction in presenting to you the English Medium Text Book for class XI Economics students. The guidelines of NCF 2023 recommends that the child's life at school must be linked to their life outside the school. The syllabi and textbook in hand has been adapted from NCERT which makes a departure from the legacy of bookish learning to activity-based learning in the direction of child-centered approach.

The success of this effort depends upon the steps that school principals and teachers will encourage pupils to reflect on their own learning and to pursue imaginative activities which will inculcate creativity. This initiative is possible if we perceive and treat children as participants in learning not as receivers of a fixed body of knowledge.

The methodology of teaching and evaluation will also determine how effective this textbook proves for making children's life a happy learning experience at school rather than a source of stress or boredom.

Punjab School Education Board appreciates the hard work done by the conscientious effort made by the textbook development committee responsible for this book. We are especially grateful to Professor M.V. Srinivasan, DESS, NCERT, Professor Jaya Singh Professor DESS, NCERT for their guidance and approval of the work of this committee.

PSEB welcomes comments and suggestions for First Edition of this book which will enable us to undertake further revision and refinement.

Chairperson

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‘ਸਮਾਜਿਕ ਨਿਆਂ, ਅਧਿਕਾਰਤਾ ਅਤੇ ਘੱਟ ਗਿਣਤੀ ਵਿਭਾਗ’ ਪੰਜਾਬ।

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UNIT-1

Indian Economy on the Eve of Independence

After studying this chapter the students will be able to know-

- The state of the Indian economy in 1947
- The factors which were responsible for the under-development and stagnation of the Indian economy.

CHAPTER - 1

Indian Economy on the Eve of Independence

"India is the pivot of our Empire... If the Empire loses any other part of its Dominion we can survive, but if we lose India, the Sun of our Empire will have set."

-Victor Alexander Vruce, the Viceroy of British India in 1894

1.1 Introduction

The primary objective of this book, Indian Economic Development, is to familiarise with the basic features of the Indian economy, and its development, as it is today and in the aftermath of Independence. However, it is equally important to know something about the country's economic past even as you learn about its present state and future prospects. So, let us first look at the state of India's economy prior to the country's independence and form an collective idea of the various considerations that shaped India's post-independence development strategy.

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 15th August 1947. The sole purpose of the British colonial rule in India was to reduce the country to being a raw material supplier for Great Britain's own rapidly expanding modern industrial base. An understanding of the exploitative nature of this relationship is essential for any assessment of the kind and level of development which the Indian economy has been able to attain over the last seven and a half decades.

1.2 Low Level of Economic Development under the Colonial Rule

India had an independent economy before the advent of the British rule. Though agriculture was the main source of livelihood for most of the people, yet, the country's economy was

Box 1.1: Textile Industry in Bengal

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 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. Sometimes, foreign travellers also used to refer to it as malmalshaht or malmalkhas implying that it was worn by, or fit for, the royalty.

characterised by various kinds of manufacturing activities. India was particularly well known for its handicraft industries in the field of cotton and silk textiles, metal and precious stone works etc. These products enjoyed a worldwide market based on the reputation of the fine quality of material used and the high standards of craftsmanship seen in all imports from India (See Box 1.1).

The economic policies introduced by the colonial government in India were concerned more with the protection and promotion of the economic interests of their home country than with the development of the Indian economy. Such policies brought about a fundamental change in the structure of the Indian economy, transforming the country into a supplier of raw materials and consumer of finished industrial products from Britain.

It was obvious that the colonial government never made any sincere attempt to estimate India's national and per capita income. Some individual attempts which were made to measure such incomes yielded conflicting and inconsistent results. Among the notable estimators — Dadabhai Naoroji, William Digby, Findlay Shirras, V.K.R.V. Rao and R.C. Desai — it was Rao, whose estimates during the colonial period were considered very significant. However, most 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 meagre half per cent growth in per capita output per year.

1.3 Sectors of Economy

In any economy, the population is engaged in Primary Sector, Secondary Sector and Tertiary Sector.

Primary Sector : It includes activities carried out with the help of natural resources. Most of the natural products that we get are from agriculture, therefore, agriculture sector is known as the primary sector. It provides raw material to secondary sector in the absence of which production cannot take place. Main examples of primary sector are agriculture, fishing, dairy farming, mining and forestry, etc.

Secondary Sector : This sector is called the manufacturing sector or industrial sector. It uses raw material produced by primary sector and produces final products. It increases the value of products produced by primary sector. In this sector, production can be increased to any limit. Textile industry is an example of the secondary sector. It uses cotton produced by primary sector as raw material and produces fabric from it.

Tertiary Sector : The tertiary sector is also called the service sector. The term service sector refers to, at the most aggregate level, a large group of activities that includes trade, hospitality (hotels, restaurants), transportation, communication, entertainment, health, education, production of information, personal and public services, money-lending, administrative, defence and social services, professional services and so on. The basic characteristic of the service sector is the production of services rather

than final products. Services are intangible goods. These are used to enhance productivity, performance, potential and sustainability.

It can be argued that even at the aggregate level, the service sector is more heterogeneous than the other two sectors; agriculture (primary sector) and industry (secondary sector).

1.3.1 Agricultural Sector

India's economy 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 (See Box 1.2).

Activity : Take note of the agricultural prosperity in our country in the seventeenth century. Contrast it with agricultural stagnation around the time when the British left India, around 200 years later.

However, despite being the occupation of such a large population, the agricultural sector continued to experience stagnation and at times, unusual deterioration. Agricultural productivity became low although, 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. However, a considerable number of zamindars, and not just the colonial government, did nothing to improve the condition of agriculture. The main interest of the zamindars was only to collect rent regardless of the economic condition of the cultivators; this caused immense misery and social tension among the latter. To a very great extent, the terms of the revenue settlement were also responsible for the zamindars adopting such an attitude; dates for depositing specified sums of revenue were fixed, failing which the zamindars were to lose their rights. Besides this, low levels of technology, lack of irrigation facilities and negligible use of fertilisers, all added up to aggravate the plight of the farmers and contributed to the dismal level of agricultural productivity.

Box 1.2: Agriculture During Pre-British India

The French traveller, Bernier, described seventeenth century Bengal in the following way: The knowledge I have acquired of Bengal in two visits inclines me to believe that it is richer than Egypt. It exports, in abundance, cottons and silks, rice, sugar and butter. It produces amply - for its own consumption - such as wheat, vegetables, grains, fowls, ducks and geese. It has immense herds of pigs and flocks of sheep and goats. Fish of every kind it has in profusion. From rajmahal to the sea there is an endless number of canals, cut in bygone ages from the Ganges by immense labour for navigation and irrigation."

There was, of course, some evidence of a relatively higher yield of cash crops in certain areas of the country due to commercialisation of agriculture. India became an exporter of primary products such as raw silk, cotton, wool, sugar, indigo, jute etc. But this could hardly help farmers in improving their economic condition as, instead of producing food crops, now they were producing cash crops which were to be ultimately used by British industries back home. Despite some progress made in irrigation, India's agriculture was starved of investment in terracing, flood-control, drainage and desalinisation of soil. While a small section of farmers changed their cropping pattern from food crops to commercial crops, a large section of tenants, small farmers and sharecroppers neither had resources and technology nor had incentive to invest in agriculture.

Productivity of agriculture sector in India was among the lowest in the world. This is clearly brought out in Table-1.

Table-1 : Yield per hectare in 1946 (in quintals)

Country	Rice	Wheat	Barley	Maize
Italy	41.7	13.3	9.7	15.1
Spain	42.2	9.6	12.9	14.8
Argentina	33.9	10.0	11.9	22.3
Japan	36.9	9.7	10.7	12.5
India	12.3	6.0	7.9	6.2

Table-1 clearly brings out the fact of low agricultural productivity in India on the eve of Independence. Low productivity in the agricultural sector could be explained by a number of factors; more important among these were (i) the rising pressure of population on land and (ii) the neglect of agricultural improvements at the hands of British Government in India.



Stagnation in Agriculture Sector during colonial period

Work These Out

- Compare the map of British India with that of independent India and find out the areas that became parts of Pakistan. Why were those parts so important to India from the economic point of view? (Refer, to your advantage, Dr Rajendra Prasad's book, *India Divided*).
- What were the various forms of revenue settlement adopted by the British in India? Where did they implement them and to what effect? How far do you think those settlements have a bearing on the current agricultural scenario in India? (In your attempt to find answers to these questions, you may refer to Ramesh Chandra Dutt's Economic History of India, which comes in three volumes, and B.H. Baden-Powell's "*The Land Systems of British India*", also in two volumes). For better comprehension of the subject, you can also try and develop an illustrated agrarian map of British India either by hand or with the help of your school computer. Remember, nothing helps better than an illustrated map to understand the subject at hand.

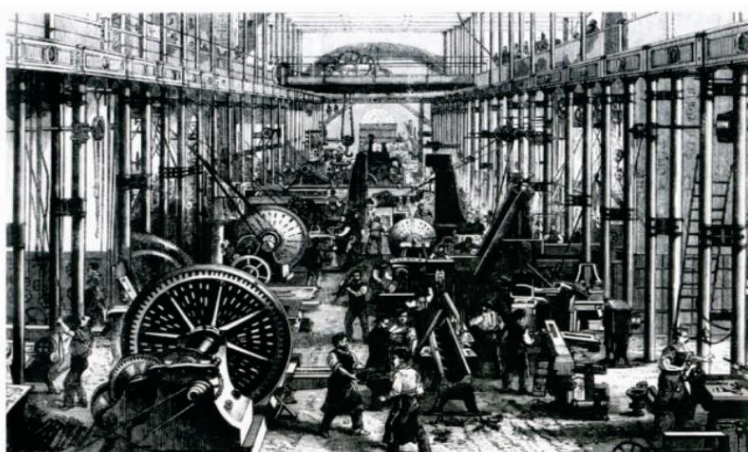
1.3.2. Manufacturing Sector (Industrial Sector)

As in the case of agriculture, so also in manufacturing, India could not develop a sound industrial base under the colonial rule. Even as the country's world famous handicraft industries declined, no corresponding modern industrial base was allowed to come up to take the pride place of that was for long enjoyed by the former. The primary motive of the colonial government behind this policy of systematically de-industrialising India was two-fold. 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 and, 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. India became an importer of finished consumer goods like cotton, silk and woollen clothes and capital goods like light machinery produced in the factories of Britain. In the unfolding economic scenario, the decline of the indigenous handicraft industries created not only massive unemployment in India but also a new demand in the Indian consumer market, which was now deprived of the supply of locally made goods. This demand was profitably met by the increasing imports of cheap manufactured goods from Britain.

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. Subsequently, 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.

However, there was hardly any capital goods industry to help promote further industrialisation in India, Capital goods industry means industries which can produce machine tools which are, in turn, used for producing articles for current consumption. The establishment of a few manufacturing units here and there was no substitute to the near overall displacement of the country's traditional handicraft industries. Furthermore, the growth rate of the new industrial sector and its contribution to the Gross Domestic Product (GDP) or Gross Value Added remained very small. Another significant drawback of the new industrial sector was the very limited area of operation of the public sector. This sector remained confined only to the railways, power generation, communications, ports and some other departmental undertakings.



Cotton textile under British Rule in India

Work These Out

Prepare a list showing where and when other modern industries of India were first set up. Can you also find out what the basic requirements are for setting up any modern industry? What, for example, might have been the reasons for the setting up of the Tata Iron and Steel Company at Jamshedpur. This is now in the state of Jharkhand? How many Iron and Steel factories are there in India at present? Are these Iron and steel factories among the best in the world or do you think that these factories need restructuring and upgradation? If yes, how can this be done? There is an argument that industries which are not strategic in nature should not continue to be in the public sector. What is your view? On a map of India, mark the cotton textiles, jute mills and textile mills that existed at the time of independence.

1.3.3. Service Sector

The service sector in the economy is important as it contributes significantly to the domestic and global economy. However, there was an increase in the share of the workforce in agriculture with a corresponding increase in the workforce in the service

sector. During the British Colonial rule, apart from agriculture and industrial sector, about 17.2% of the total working population was engaged in the service sector or tertiary sector of the economy on the eve of independence and afterwards. Eventually, there was an unbalanced growth of the Indian economy on the eve of independence.



1.4 Occupational Structure

During the colonial period, the occupational structure of India, i.e., distribution of working persons across different industries and sectors, showed little sign of change. 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 service sectors accounted for only 10 and 15-20 per cent, respectively. Another striking aspect was the growing regional variation. 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 service sectors. However, there had been an increase in the share of workforce in agriculture during the same time in states such as Orissa, Rajasthan and Punjab.

1.5 Demographic Structure

Various details about the population of British India were first collected through a census in 1881. Though suffering from certain limitations, it revealed the unevenness in India's population growth. Subsequently, every ten years such census operations were carried out. 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 various social development indicators were also not quite encouraging. 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. Consequently, water and air-borne diseases were rampant and took a huge toll on life. No wonder, the overall mortality rate was very high and in that, particularly, the infant mortality rate was quite alarming-about 218 per thousand in contrast to the present infant mortality rate of 33 per thousand. Life expectancy was also very low - 32 years in contrast to the present 70 years. In the absence of reliable data, it is difficult to specify the extent of poverty at

that time but there is no doubt that extensive poverty prevailed in India during the colonial period which contributed to the worsening profile of India's population of the time.

1.6 Conclusion

By the time India won its independence, the impact of the two-century long British colonial rule was already showing on all aspects of the Indian economy. The agricultural sector was already saddled with surplus labour and extremely low productivity. The industrial sector was crying for modernisation, diversification, capacity building and increased public investment. Foreign trade was oriented to feed the Industrial Revolution in Britain. Infrastructure facilities, including the famed railway network, needed upgradation, expansion and public orientation. Prevalence of rampant poverty and unemployment required welfare orientation of public economic policy. In a nutshell, the social and economic challenges before the country were enormous.

Activity

Even now there is a consensus among various sectors that British rule was beneficial for India. This consensus needs a discussion based on related information. What is your point of view regarding this? Discuss this subject in your class, what are the good and bad effects of British rule in India?

Recap

- An understanding of the economy before independence is necessary to know and appreciate the level of development achieved during the post-independence period.
- Under the colonial dispensation, the economic policies of the government were concerned more with the protection and promotion of British economic interests than with the need to develop the economic condition of the colonised country and its people.
- The agricultural sector continued to experience stagnation and deterioration despite the fact that the largest section of Indian population depended on it for sustenance.
- The rule of the British India government led to the collapse of India's world famous handicraft.
- Lack of adequate public health facilities, occurrence of frequent natural calamities and famines pauperised the hapless Indian people and resulted in engendering high mortality rates.
- Some efforts were made by the colonial regime to improve infrastructure facilities but these efforts were spiced with selfish motives.

●●● Exercises ●●●

A. Multiple Choice Questions:

- (i) When did India become Independent ?
 - (a) 15 August 1947
 - (b) 26 January 1947
 - (c) 14 August 1947
 - (d) 25 January 1947
- (ii) Under British Rule, India became a supplier of
 - (a) finished goods
 - (b) capital goods
 - (c) raw material
 - (d) consumer goods
- (iii) Which of the following is not an example of primary sector?
 - (a) agriculture
 - (b) mining
 - (c) banking
 - (d) fishing
- (iv) Which of the following is not an example of service sector?
 - (a) trade
 - (b) forestry
 - (c) financing
 - (d) hair dressing
- (v) What percentage of population was engaged in agriculture during the colonial period?
 - (a) 10%
 - (b) 15-20%
 - (c) 70-75%
 - (d) 90%
- (vi) Who under Zamindar System suffered the most ?
 - (a) Zamindars
 - (b) cultivators
 - (c) government
 - (d) none of these
- (vii) What was the yield of wheat (in quintals) in India in 1946?
 - (a) 12.3
 - (b) 6.0
 - (c) 7.9
 - (d) 6.2
- (viii) Which of the following goods were imported from Britain to India under Colonial rule?
 - (a) Cotton Cloth
 - (b) Woollen cloth
 - (c) Capital goods
 - (d) All of these
- (ix) When was the census held in India for the first time under British Rule?
 - (a) 1921
 - (b) 1891
 - (c) 1841
 - (d) 1881
- (x) What was the infant mortality rate under British government ?
 - (a) 218 per thousand
 - (b) 33 per thousand
 - (c) 100 per thousand
 - (d) 69 per thousand

B. Fill in the blanks.

- (i) Under British rule, India was the of raw material. (supplier, importer)
- (ii) Before Independence the growth rate of per capita output per year was less than percent. (2,3)
- (iii) In sector of the economy, the economic activities are carried out with the help of natural resources. (Primary sector, Secondary sector)
- (iv) In state of India the dependence of population on agriculture decreased under British rule. (Punjab, Bengal)
- (v) The overall literacy rate was less than under British rule. (16%,18%)
- (vi) The life expectancy was years under British rule. (32, 68)

C. Very Short Answer Type Questions.

- (i) When was India's first official census operation undertaken?
- (ii) Which sector of production was the main source of livelihood under British rule?
- (iii) For which product was India well known before British rule ?
- (iv) Which fundamental change in policy was made about raw material by British Government?
- (v) What was the annual growth rate of per capita output in India under British rule?
- (vi) Write any two activities of primary sector.
- (vii) What was the primary motive of British Government regarding manufacturing sector?
- (viii) Where were the cotton textile mills situated in India in 19th century?
- (ix) Write any two activities of Service sector.

D. Short Answer Type Questions

- (i) Name some notable economists who estimated India's per capita income during the colonial period.
- (ii) Name some modern industries which were in operation in our country at the time of independence.
- (iii) Which is regarded as the defining year to mark the demographic transition from its first to the second decisive stage?
- (iv) What was the focus of the economic policies pursued by the colonial government in India? What were the impacts of these policies?
- (v) What were the main causes of India's agricultural stagnation during the colonial period?
- (vi) What was the two-fold motive behind the systematic deindustrialisation adopted by the British in pre-independent India?

- (vii) The traditional handicrafts industries were ruined under the British rule. Do you agree with this view? Give reasons in support of your answer.
- (viii) What objectives did the British intend to achieve through their policies of infrastructure development in India?
- (ix) Critically appraise some of the shortfalls of the industrial policy pursued by the British colonial administration.

E. Long Answer Type Questions

- (i) Highlight the salient features of India's pre-independence occupational structure.
- (ii) Underscore some of India's most crucial economic challenges at the time of independence.
- (iii) Explain the condition of Agriculture sector under British rule.
- (iv) Explain the industrial policy of British in India.

SUGGESTED ADDITIONAL ACTIVITIES

Prepare a list of goods and services that were available to people in pre-independence India in rural and urban areas. Compare it with the consumption pattern of such goods and services by the people today. Highlight the perceptible difference in the people's standard of living.

Find pictures of towns/villages in your vicinity, of the pre-independence period and compare these with their present scenario. What changes can you mark? Are such changes for better or for worse? Discuss.

Rally around with your teacher and organise a group discussion on 'Has the zamindari system really been abolished in India, If the consensus is negative, then what measures do you think should be taken to banish it and why?'

Identify the major occupations followed by the people of our country at the time of Independence. What major occupations do the people follow today? In the light of reform policies, how would you visualise the occupational scenario in India after 15 years from now?

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Indian Economy 1950-1990

After studying this chapter the students will be able to know-

- Learn the importance of planning;
- Develop the skills necessary for the effective practice of planning and adopt planning;
- Learn the development policies in different sectors such as agriculture and industry from 1950-1990;
- Learn to think about the merits and limitations of a regulated economy.

CHAPTER - 2

Indian Economy 1950-1990

The central objective of Planning in India... is to initiate a process of development which will raise the living standards and open out to the people new opportunities for a richer and more varied life. **First Five Year Plan**

2.1 Introduction

On 15 August 1947, India woke to a new dawn of freedom. Finally, we were masters of our own destiny after about two hundred years of British rule; the job of nation building was now in our own hands. 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 (see Box 2.1) and among them, socialism appealed to Jawahar Lal Nehru the most. However, he was not in favour 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.

Nehru and many other leaders and thinkers of the newly independent India, sought an alternative to the extreme versions of capitalism and socialism. Basically, sympathizing with the socialist outlook, they found the answer in an economic system, which in their view, combined the best features of socialism without its drawbacks. In this view, India would be a

Work These Out

Prepare a chart on the different types of economic systems prevalent in the world. List out the countries as capitalist, socialist and mixed economy.

Plan a class trip to an agriculture farm. Divide the class into seven groups with each group to plan a specific goal, for example, the purpose of the visit, money expenditure involved, time taken, resources, people accompanying the group and who need to be contacted, possible places of visit, possible questions to be asked etc. Now, with the help of your teacher, compile these specific goals and compare with long-term goals of successful visit to an agricultural farm.

socialist society with a strong public sector but also with private property and democracy; the government would plan (see Box 2.2) for the economy with the private sector being encouraged to be part of the plan effort. The 'Industrial Policy Resolution' of 1948 and the Directive Principles of the Indian Constitution reflects this outlook. In 1950, the Planning Commission was set up with the Prime Minister as its Chairperson. The era of five-year plans had begun.

Box 2.1: Types of Economic Systems

Every society has to answer three questions

- What goods and services should be produced in the country?
- How should the goods and services be produced? Should producers use more human labour or more capital (machines) for producing things?
- How should the goods and services be distributed among people?

Different economies answer these questions in different ways. There are three types of economies:

1. One answer to these questions is to 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. If cars are in demand, cars will be produced and if bicycles are in demand, bicycles will be produced. If labour is cheaper than capital, more labour-intensive methods of production will be used and vice-versa. In a **capitalist** system 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. Such a society did not appeal to Jawaharlal Nehru, our first prime minister, for it meant that the great majority of people of the country would be left behind without the chance to improve their quality of life.
2. A **socialist** society answers the three questions in a totally different manner. In a socialist society the government decides what goods are to be produced in accordance with the needs of society. 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. In principle, distribution under socialism is supposed to be based on what people need and not on what they can afford to purchase. A socialist nation provides free health care to all its citizens. Strictly, a socialist society has no private property since everything is owned by the state.
3. 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.

Box 2.2: What is a Plan?

A plan spells out how the resources of a nation should be put to use. It should have some general goals as well as specific objectives which are to be achieved within a specified period of time; in India plans were of five years duration and were called five-year plans (we borrowed this idea from the former Soviet Union, the pioneer in national planning). Our plan documents up to the year 2017 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 were supposed to provide the basis for the perspective plan.

It will be unrealistic to expect all the goals of a plan to be given equal importance in all the plans. In fact, the goals may actually be in conflict. For example, the goal of introducing modern technology may be in conflict with the goal of increasing employment if the technology reduces the need for labour. The planners have to balance the goals, a very difficult job indeed. We find different goals being emphasized in different plans in India.

India's five-year plans did not spell out how much of each and every good and service is to be produced. This is neither possible nor necessary (the former Soviet Union tried to do this and failed). It is enough if the plan is specific about the sectors where it plays a commanding role, for instance, power generation and irrigation, while leaving the rest to the market.

2.2 THE GOALS OF FIVE-YEAR PLANS

A plan should have some clearly specified goals. The goals of the five -year plans were: growth, modernization, self-reliance and equity. This does not mean that all the plans have given equal importance to all these goals. Due to limited resources, a choice has to be made in each plan about which of the goals is to be given primary importance. Nevertheless, the planners have to ensure that, as far as possible, the policies of the plans do not contradict these four goals. Let us now learn about the goals of planning in some detail.

Growth : It refers to increase in the country's capacity to produce the output of goods and services within the country. It implies either a larger stock of productive capital, or a larger size of supporting services like transport and banking, or an increase, in the efficiency of productive capital and services. In the language of economics, a good indicator of economic growth is steady increase in the Gross Domestic Product

Box 2.3: Mahalanobis: the Architect of Indian Planning

Many distinguished thinkers contributed to the formulation of India's five-year plans. Among them, the name of the statistician, Prasanta Chandra Mahalanobis, stands out.

Planning, in the real sense of the term, began with the Second Five Year Plan. The Second Plan, a landmark contribution to development planning in general, laid down the basic ideas regarding goals of Indian planning, this plan was based on the ideas of Mahalanobis. In that sense, he can be regarded as the architect of Indian planning.

Mahalanobis was born in 1893 in Kolkata. He was educated at the Presidency College in Kolkata and at Cambridge University in England. His contributions to the subject of statistics brought him international fame.

In 1945 he was made a Fellow (member) of Britain's Royal Society, one of the most prestigious organizations of scientists; only the most outstanding scientists are made members of this Society.

Mahalanobis established the Indian Statistical Institute (ISI) in Calcutta and started a journal, Sankhya, which still serves as a respected forum for statisticians to discuss their ideas. Both, the ISI and Sankhya, are highly regarded by statisticians and economists all over the world to this day.

During the second plan period, Mahalanobis invited many distinguished economists from India and abroad to advise him on India's economic development. Some of these economists became Nobel Prize winners later, which shows that he could identify individuals with talent. Among the economists invited by Mahalanobis were those who were very critical of the socialist principles of the second plan. In other words, he was willing to listen to what his critics had to say, the mark of a great scholar.

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

Source: Sukhamoy Chakravarty, 'Mahalanobis, Prasanta Chandra' in John Eatwell et.al, (Eds.) *The New Palgrave Dictionary: Economic Development*, W.W. Norton, New York and London.



Box 2.4: The Service Sector

As a country develops, it undergoes 'structural change'. In the case of India, the structural change is peculiar. Usually, with development, the share of agriculture declines and the share of industry becomes dominant. At higher levels of development, the service sector contributes more to the GDP than the other two sectors. In India, the share of agriculture in the GDP was more than 50 per cent—as we would expect for a poor country. But by 1990 the share of the service sector was 40.59 per cent, more than that of agriculture or industry, like what we find in developed nations. This phenomenon of growing share of the service sector was accelerated in the post 1991 period (this marked the introduction of LPG policies in the country which will be discussed in chapter 3).

(GDP). The GDP is the market value of all the final goods and services produced in the country during a year. You have studied this concept in class X as well. You can think of the GDP as a cake and growth is increase in the size of the cake. If the cake is larger, more people can enjoy it. It is necessary to produce more goods and services if the people of India are to enjoy (in the words of the First Five-Year Plan) a more rich and varied life.

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. In some countries, growth in agriculture contributes more to the GDP growth, while in some countries the growth in the service sector contributes more to GDP growth (see Box 2.4).

Modernisation : 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. Similarly, a factory can increase output by using a new type of machine. Adoption of new technology is called modernisation.

However, modernisation 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. In a traditional society, women are supposed to remain at home while men work outside. A modern society makes use of the talent of women in the work place— in banks, factories, schools etc. And such a society in most occasions is also prosperous.

Self-reliance : A nation can promote economic growth and modernisation by using its own resources or by using resources imported from other nations. The first seven five-year plans gave importance to self-reliance which means avoiding imports of those goods which could be produced in India itself. This policy was considered a necessity in

Work These Out

- Discuss in your class the changes in technology used for
 - (a) Production of food grains
 - (b) Packaging of products
 - (c) Mass communication
 - Find out and prepare a list of major items that India exported during 1990-91 and 2018-19.
 - (a) Observe the difference
 - (b) Do you see the impact of self-reliance ? Discuss.
- For getting these details you may refer to *Economic Survey* of the latest year.

order to reduce our dependence on foreign countries, especially for food. It is understandable that people who were recently freed from foreign domination should give importance to self-reliance. 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 : Now growth, modernisation and self-reliance, by themselves may not improve the kind of life which people are living. A country can have high growth, the most modern technology developed in the country itself, and also have most of its people living in poverty. 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. 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.

Let us now see how the first seven five-year plans, covering the period 1950-1990, attempted to attain these four goals and the extent to which they succeeded in doing so with reference to agriculture, industry and trade. You will study the policies and developmental issues taken up after 1991 in Chapter 3.

2.3 AGRICULTURE

You have learnt in Chapter 1 that during the colonial rule there was neither growth nor equity in the agricultural sector. 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 (mostly called zamindars, jagirdars etc.) who merely collected rent from the actual tillers of the soil without contributing towards improvements on the farm. The low productivity of the agricultural sector forced India to import food

Box 2.5: Ownership and Incentives

The policy of 'land to the tiller' is based on the idea that the cultivators will take more interest— they will have more incentive— in increasing output if they are the owners of the land. This is because ownership of land enables the tiller to make profit from the increased output. Tenants do not have the incentive to make improvements on land since it is the landowner who would benefit more from higher output. The importance of ownership in providing incentives is well illustrated by the carelessness with which farmers in the former Soviet Union used to pack fruits for sale. It was not uncommon to see farmers packing rotten fruits along with fresh fruits in the same box. Now, every farmer knows that the rotten fruits will spoil the fresh fruits if they are packed together. This will be a loss to the farmer since the fruits cannot be sold. So why did the Soviet farmers do something which would so obviously result in loss for them? The answer lies in the incentives facing the farmers. Since farmers in the former Soviet Union did not own any land, they neither enjoyed the profits nor suffered the losses. In the absence of ownership, there was no incentive on the part of farmers to be efficient, which also explains the poor performance of the agricultural sector in the Soviet Union despite availability of vast areas of highly fertile land.

Source : Thomas Sowell, *Basic Economics: A Citizen's Guide to the Economy*, New York: Basic Books, 2004, Second Edition.

from the United States of **America** (USA). 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. The idea behind this move was that ownership of land would give incentives (see Box 2.5) to the tillers to invest in making improvements provided sufficient capital was made available to them.

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.

The abolition of intermediaries meant that some 200 lakh tenants came into direct contact with the government — they were thus freed from being exploited by the zamindars. The ownership conferred on tenants gave them the incentive to increase output and this contributed to growth in agriculture. However, the goal of equity was not fully served by abolition of intermediaries. In some areas the former zamindars continued to own large areas of land by making use of some loopholes in the legislation. There were cases where tenants evicted and the landowners claimed to be self-cultivators (the actual tillers), claiming ownership of the land; and even when the tillers got ownership of land, the poorest of the agricultural labourers (such as sharecroppers and landless labourers) did not benefit from land reforms.

The land ceiling legislation also faced hurdles. The big landlords challenged the legislation in the courts for delaying its implementation. They used this delay to register their lands in the name of close relatives, thereby escaping from the legislation. The legislation also had a lot of loopholes which were exploited by the big landholders to retain their land. 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 land ownership continues to this day.

The Green Revolution : At independence, about 75 per cent of the country's population was dependent on agriculture. Productivity in the agricultural sector was very low because of the use of traditional technology and the absence of required infrastructure for the vast majority of farmers. India's agriculture vitally depends on the monsoon and if the monsoon fell short the farmers were in trouble unless they had access to irrigation facilities which very few had. 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 fertilizer 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 fertilizer 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, Haryana and some parts of Uttar Pradesh. 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; India no longer had to be at the mercy of the USA, or any other nation for meeting its food requirements.

Growth in agricultural output is important but it is not enough. If a large proportion of this increase is consumed by the farmers themselves instead of being sold in the market, the higher output will not make much of a difference to the economy as a whole. If, on the other hand, a substantial amount of agricultural produce is sold in the market by the farmers, the higher output can make a difference to the economy. The portion of agricultural produce which is sold in the market by the farmers is called **marketed surplus**. A good proportion of the rice and wheat produced during the green revolution period (available as marketed surplus) was sold by the farmers in the market. As a result, the price of food grains declined relative to other items of consumption. The low-income groups, who spend a large percentage of their income on food benefited from this decline in relative prices. The green revolution enabled the government to



procure sufficient amount of food grains to build a stock which could be used in times of food shortage.

While the nation had immensely benefitted from the green revolution, the technology involved was not free from risks. One such risk was the possibility that it would increase the disparities between small and big farmers—since only the big farmers could afford the required inputs, thereby reaping most of the benefits of the green revolution. Moreover, the HYV crops were also more prone to attack by pests and the small farmers who adopted this technology could lose their produce in a pest attack.

Fortunately, these fears did not come true because of the steps taken by the government. The government provides loans at a low interest rate to small farmers and subsidized fertilizers so that small farmers could also have access to the needed inputs. Since the small farmers could obtain the required inputs, the output on small farms equalled the output on large farms in the course of time. As a result, the green revolution benefitted the small as well as the rich farmers. The risk of the small farmers being ruined when pests attack their crops was considerably reduced by the services rendered by research institutes established by the government. You should note that the green revolution would have favoured the rich farmers only if the state did not play an extensive role in ensuring that the small farmer also gains from the new technology.

Thus, by the late 1960s, Indian agricultural productivity had increased sufficiently to enable the country to be self-sufficient in food grains. This is an achievement to be proud of. On the negative side, some 65 per cent of the country's population continued to be employed in agriculture even as late as 1990s. Economists have found that as a nation becomes more prosperous, the proportion of GDP contributed by agriculture as well as the proportion of population working in the sector declines considerably. 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.

2.4 INDUSTRY AND TRADE

Economists have found that poor nations can progress only if they have a good industrial sector. Industry provides employment which is more stable than the employment in agriculture; it promotes modernisation and overall prosperity. It is for this reason that the five-year plans placed a lot of emphasis on industrial development. You might have studied in the previous chapter that, at the time of independence, the variety of industries was very narrow largely confined to cotton textiles and jute. There were two well-managed iron and steel plants – one in Jamshedpur and the other in Kolkata. But, obviously, we needed to expand the industrial base with a variety of industries if the economy is to grow.

Public and Private Sector in Indian Industrial Development

The big question facing the policy makers was— what should be the role of the government and the private sector in industrial development? At the time of independence, Indian industrialists did not have the capital to undertake investment in industrial ventures required for the development of Indian economy nor was the market big enough to encourage industrialists to undertake major projects even if they had the capital to do so. It is principally for these reasons that the erstwhile governments had to play an extensive role in promoting the industrial sector. In addition, the decision to develop the Indian economy on socialist lines led to the policy of the government controlling the commanding heights of the economy as the Second Five Year plan put it. This meant that the government would have complete control of those industries that were vital for the economy. The policies of the private sector would have to be complimentary to those of the public sector, with the public sector leading the way.

Box 2.6: Prices as Signals

You would have learnt in an earlier class about how prices of goods are determined in the market. It is important to understand that prices are signals about the availability of goods. If a good becomes scarce, its price will rise and those who use this good will have the incentive to make efficient decisions about its use based on the price. If the price of water goes up because of lower supply, people will have the incentive to use it with greater care. For example, they may stop watering the garden to conserve

water. We complain whenever the price of petrol increases and blame it on the government. But the increase in petrol price reflects greater scarcity and the price rise is a signal that less petrol is available— this provides an incentive to use less petrol or look for alternate fuels.

Some economists point out that subsidies do not allow prices to indicate the supply of a good. When electricity and water are provided at a subsidized rate or free, they will be used wastefully without any concern for their scarcity. Farmers will cultivate water intensive crops if water is supplied free. Although the water resources in that region may be scarce and such crops will further deplete the already scarce resources. If water is priced to reflect scarcity, farmers will cultivate crops suitable to the region. Fertilizer and pesticide subsidies result in overuse of resources which can be harmful to the environment. Subsidies provide an incentive for wasteful use of resources.

Think about subsidies in terms of incentives and ask yourself whether it is wise from the economic viewpoint to provide free electricity to farmers.

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. The first category comprised industries which would be exclusively owned by the government; the second category consisted of industries in which the private sector could supplement the efforts of the public sector, with the government taking the sole responsibility for starting new units; 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**. Even an existing industry had to obtain a license for expanding output or for diversifying production (producing a new variety of goods). This was meant to ensure that the quantity of goods produced was not more than what the economy required. License to expand production was given only if the government was convinced that the economy required a larger quantity of goods.

Small-Scale Industry : 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 investment 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 five crore.

Work These Out

- A group of students make a visit to the farm, prepare a case study on the method of farming used, that is, types of seeds, fertilizers, machines, means of irrigation, cost involved, marketable surplus and income earned. It will be beneficial if the changes in cultivation methods could be collected from an elderly member of the farming family.
 - (a) Discuss the findings in your class.
 - (b) The different groups can then prepare a chart showing variations in cost of production, productivity, use of seeds, fertilizers, means of irrigation, time taken, marketable surplus and income of the family.
- Collect newspaper cuttings related to the World Bank, International Monetary Fund, World Trade Organization (and meets of G7, G8, G10 countries). Discuss the views shared by the developed and developing countries on farm subsidies.
- Prepare pie charts on the occupational structure of the Indian economy available in the following table. Discuss the possible reasons for the change in the shape of pies.

Sector	1950–51	1990–91
Agriculture	72.1	66.8
Industry	10.7	12.7
Services	17.2	20.5

- Study the arguments for and against agricultural subsidies. What is your view on this issue?
- Some economists argue that farmers in other countries particularly developed countries are provided with high amount of subsidies and are encouraged to export their produce to other countries. Do you think our farmers will be able to compete with farmers from developed countries? Discuss.

It is believed that small-scale industries are more 'labour intensive' i.e., they use more labour than the large-scale industries and therefore, generate more employment. But these industries cannot compete with the big industrial firms. It is obvious that development of small-scale industry requires them to be shielded from the large firms. For this purpose, the production of a number of products was reserved for the small-scale industry. The criterion of reservation being the ability of these units to manufacture

the goods. They were also given concessions such as lower excise duty and bank loans at lower interest rates.

2.5 TRADE POLICY : IMPORT SUBSTITUTION

The industrial policy that India adopted was closely related to the **trade policy**. In the first seven plans, trade was characterized by what is commonly called an inward-looking trade strategy. Technically, this strategy is called **import substitution**. This policy aimed at replacing or substituting imports with domestic production. For example, instead of importing vehicles made in a foreign country, industries would be encouraged to produce them in India itself. 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.

The policy of protection was based on the notion that industries of developing countries were not in a position to compete against the goods produced by more developed economies. It was assumed that if the domestic industries were protected, they would learn to compete in the course of time. Our planners also feared the possibility of foreign exchange being spent on import of luxury goods if no restrictions were placed on imports. Nor was any serious thought given to promote exports until the mid 1980s.

Effect of Policies on Industrial Development : The achievements of India's industrial sector during the first seven plans are impressive indeed. The proportion of GDP contributed by the industrial sector increased in the period from 13 per cent in 1950-51 to 24.6 per cent in 1990-91. The rise in the industry's share of GDP is an important indicator of development. The six per cent annual growth rate of the industrial sector during the period is commendable. No longer was Indian industry restricted largely to cotton textiles and jute. In fact, the industrial sector became well diversified by 1990s, largely due to the public sector. The promotion of small-scale industries gave opportunities to those people who did not have the capital to start large firms to get into business. Protection from foreign competition enabled the development of indigenous industries in the areas of electronics and automobile sectors which otherwise could not have developed.

In spite of the contributions made by the public sector to the growth of the Indian economy, some economists are critical of the performance of many public sector enterprises. It was proposed at the beginning of this chapter that initially public sector was required in a big way. It is now widely held that state enterprises continued to produce certain goods and services (often monopolizing them) although this was no longer required. An example is the provision of telecommunication service. This industry

continued to be reserved for the Public Sector even after it was realized that private sector firms could also provide it. Due to the absence of competition, even till the late 1990s, one had to wait for a long time to get a telephone connection. Another instance could be the establishment of Modern Bread, a bread-manufacturing firm, as if the private sector could not manufacture bread!

In 2001, this firm was sold to the private sector. The point is that after four decades of planned development of Indian Economy no distinction was made between (i) what the public sector alone can do and (ii) what the private sector can also do. For example, even now only the public sector supplies national defense. And even though the private sector can manage hotels well, yet, the government also runs hotels. This has led some scholars to argue that the state should get out of areas which the private sector can manage and the government may concentrate its resources on important services which the private sector cannot provide.

Many public sector firms incurred huge losses but continued to function because it is difficult to close a government undertaking even if it is a drain on the nation's limited resources. This does not mean that private firms are always profitable (indeed, quite a few of the public sector firms were originally private firms which were on the verge of closure due to losses. These were then nationalized to protect the jobs of the workers). However, a loss-making private firm will not waste resources by being kept running despite the losses.

The need to obtain a license to start an industry was misused by industrial houses. A big industrialist would get a license not for starting a new firm but to prevent competitors from starting new firms. The excessive regulation of what came to be called the permit license raj prevented certain firms from becoming more efficient. More time was spent by industrialists in trying to obtain a license or lobby with the concerned ministries rather than on thinking about how to improve their products. The protection from foreign competition was also being criticized on the ground that it continued even after it proved to do more harm than good. Due to restrictions on imports, the Indian consumers had to purchase whatever the Indian producers produced. The producers were aware that they had a captive market. So they had no incentive to improve the quality of their goods. Why should they think of improving quality when they could sell low quality items at a high price? Competition from imports forces our producers to be more efficient.

A few economists also point out that the public sector is not meant for earning profits but to promote the welfare of the nation. The public sector firms, on this view, should be evaluated on the basis of the extent to which they contribute to the welfare of people and not on the profits they earn. Regarding protection, some economists hold that we should protect our producers from foreign competition as long as the rich nations continued to do so. Owing to all these conflicts, economists called for a change in our policy. This, along with other problems, led the government to introduce a new economic policy in 1991.

The government of India has initiated many programs regarding industrial development. Some of them are:

1. Make in India -2014
2. Shramev Jayate Yojana -2014
3. Kaushal Vikas Yojana -2015
4. Aspire Scheme -2015
5. Pradhan Mantri Mudra Yojana -2015
6. Atal Innovation Mission -2016
7. Start Up India -2016
8. Nirvik Yojana (Niryat Rin Vikas Yojana)- 2020

12 Five Year Plans have been completed in India so far, the details of which are as follows:-

Table 2.1

Plan	Time	Targeted Rate of GDP (%)	Actual Rate (%)
First Five Year Plan	1951-1956	2.1	3.6
Second Five Year Plan	1956-1961	4.5	4.3
Third Five Year Plan	1961-1966	5.6	2.7
Annual Plans	1966-1969	-	-
Fourth Five Year Plan	1969-1974	5.7	3.3
Fifth Five Year Plan	1974-1979	4.4	4.8
Rolling Plans	1978-1980	-	-
Sixth Five Year Plan	1980-1985	5.2	5.7
Seventh Five Year Plan	1985-1990	5	6
Two One Year Plan	1990-1992	-	-
Eighth Five Year Plan	1992-1997	5.6	6.8
Ninth Five Year Plan	1997-2002	6.5	5.4
Tenth Five Year Plan	2002-2007	8	7.6
Eleventh Five Year Plan	2007-2012	9	8
Twelfth Five Year Plan	2012-2017	8	7

2.6 NITI AAYOG (National Institution for Transforming India)

The Planning Commission made plans from 1951 to 2017 and contributed significantly to the development of the country. After the economic reforms of 1991, the role of private sector became very important. A change in planning structure was felt to promote the development of the country. So NITI Aayog was established on January 1, 2015. With the establishment of NITI Aayog, sustainable development was adopted along with collective federalism. Niti Aayog makes policies for economic development according to the priorities of each state and provides direction to the monitoring and evaluation of policies. Niti Aayog is also known as the 'Think Tank' of the government.

Do you know?

'Think Tank' is a group of experts gathered by an organization or government to consider a problem and find its solution.

Structure of Niti Aayog

1. Chief/Chairperson – Prime Minister of India
2. Governing Council – Chief Ministers of all States and Chief Ministers/ Lt Governors of all Union Territories
3. Regional Council – Chief Ministers of the States and Chief Ministers/ Lt Governors of Union Territories
4. Special invitees – Experts, academic experts and especially experienced persons nominated by the Prime Minister

Organizational Structure

1. Chairperson - Prime Minister of India
2. Vice Chairperson - Cabinet Minister nominated by the Prime Minister
Permanent Members = 5 (Central or State Ministers)
Temporary Members = 2 (Scholars from leading universities or research institutes)
3. Ex-officio Members- Maximum 4 ministers from among the Union Ministers
4. Chief Executive Officer- Secretary level officer nominated by the Prime Minister
5. Secretary- As per requirement

Objectives of NITI Aayog

1. To evolve national developmental priorities and strategies with full participation of States ;
2. To promote cooperative federalism, emphasizing the fact that strong states make strong nations ;

3. To follow a 'bottom-up' approach for making plans first at the village level, then at the district level, then at the state level and then at the national level ;
4. To ensure that the interests of national security are included in the economic strategy ;
5. To give special attention to those sections of the society who have not benefited much from economic progress ;
6. To design strategic long-term policies and monitoring their achievements ;
7. To create knowledge, research and entrepreneurial support systems with national and international experts ;
8. To create a platform for resolution for inter-sectoral and inter-departmental issues so that plans can be implemented effectively ;
9. To focus on technology upgradation and capacity building ;
10. To actively monitor and evaluate the implementation of programmes and initiatives.

2.7 CONCLUSION

The progress of the Indian economy during the first seven plans was impressive indeed. Our industries became far more diversified compared to the situation at independence. India became self-sufficient in food production due to the green revolution. Land reforms resulted in abolition of the hated zamindari system. In industrial sector, many economists became dissatisfied with the performance of many public sector enterprises. Excessive government regulation prevented growth of entrepreneurship. In the name of self-reliance, Indian producers were protected against foreign competition and this did not give them the incentive to improve the quality of goods that they produced. Indian policies were 'inward oriented' that failed to develop a strong export sector. The need for reform of economic policy was widely felt in the context of changing global economic scenario, and the new economic policy was initiated in 1991 to make Indian economy more efficient. This is the subject of the next chapter.

Recap

- After independence, India envisaged an economic system which combines the best features of socialism and capitalism— this culminated in the mixed economy model.
- All the economic planning has been formulated through five-year plans.
- Common goals of five-year plans are growth, modernisation, self-sufficiency and equity.
- The major policy initiatives in agriculture sector were land reforms and green revolution. These initiatives helped India to become self-sufficient in food grains production.

- The proportion of people depending on agriculture did not decline as expected.
- Import substitution policy initiatives in the industrial sector raised its contribution to GDP.
- One of the major drawbacks in the industrial sector was the inefficient functioning of the public sector as it started incurring losses leading to drain on the nation's limited resources.

●●● *Exercises* ●●●

A. Multiple Choice Questions

- What type of economy did India adopt after independence?
 - Socialism
 - Capitalism
 - Mixed economy
 - None of these
- Which of the following is not a common objective of five year plans?
 - Development
 - Self-reliance
 - Alleviation of poverty
 - Equity
- Who makes plans in India at present?
 - Ministry of Finance
 - Planning Commission
 - National Development Council
 - NITI Aayog
- What is the full form of G.D.P.?
 - Gross Domestic Product
 - Gross Deviated Product
 - Great Domestic Price
 - Gross Devaluation Price
- Who was the architect of Indian planning?
 - Jawahar Lal Nehru
 - Mahatma Gandhi
 - P.C. Mahalonobis
 - B.R. Ambedkar
- Protection of trade was mainly done through and
 - tariff, quota
 - import, export
 - quota, license
 - all of these
- Name the two states in which land reforms were successful?
 - Maharashtra and Tamil Nadu
 - Karnataka and West Bengal
 - U.P. and Bihar
 - West Bengal and Kerala

8. What are the central problems of an economy?
(a) What to produce? (b) How to produce?
(c) For whom to produce? (d) All of the above
9. Modernisation means adoption of new technology and a change in
(a) social outlook (b) food habits
(c) life style (d) all of these
10. When was Niti Aayog established?
(a) 1950 (b) 1951
(c) 2014 (d) 2015

B. Fill in the blanks.

1. After independence, India adopted the planning in which sector was very important.
2. To promote equity in agriculture, land was adopted.
3. Import Substitution policy was introduced to protect from foreign competition.
4. For revolutionary increase in agriculture, seeds were used.
5. shows maximum limit of goods to import or export.
6. Production of and increased with green revolution.
7. NITI Aayog is headed by

C. True/False

1. Increase in GDP indicates economic growth.
2. Objectives that persist across multiple plans are long-term objectives.
3. Planning commission was established in 1951.
4. Green revolution resulted in marketable surplus.
5. Tariff on imports is called 'quota'.
6. Land reforms are the reforms concerning agricultural sector.
7. Industrial policy resolution was passed in 1955.

D. Very Short Answer Type Questions.

1. Name the different sectors of the economy.
2. What is modernisation?
3. What are the common objectives of Indian planning?
4. What is self-reliance in agriculture?

5. Which states were benefitted by green revolution in first phase?
6. What are small scale industries ?

E. Match the following.

1.	Prime Minister	High yielding variety seeds
	Gross Domestic Product	Imported amount of goods
	Land Reforms	Chairperson of Planning Commission
	HYV seeds	Reforms to increase agricultural production
	Quota	Monetary value of all goods and services produced in an economy in a year

2.	Architect of Indian planning	1967-68
	Green revolution	1956
	First Five-Year Plan	1951
	Industrial Policy Resolution	P.C.Mahalonobis

3.	Five Year Plan	Period
	Second	2007-2012
	First	1956-1961
	Eleventh	2012-2017
	Twelfth	1951-1956

F. Very Short Answer Type Questions

1. Define planning.
2. What is meant by economic planning?
3. What are high yielding varieties (HYV) seeds?
4. What is marketable surplus?
5. What was the main objective of licensing policy ?
6. What do you mean by import substitution?
7. What are land reforms?
8. What is the 'bottom-up' approach to economic development?

G. Short Answer Type Questions

1. Why did India adopt planning?
2. What should be the goals of planning?
3. Explain 'equitable development' as the objective of planning.
4. Why was it necessary for a developing country like India to take 'self-reliance' as an objective of planning?
5. Does modernisation as a planning objective create a contradiction in the light of employment generation? Explain.
6. What is sectoral composition of an economy? Is it necessary that the service sector should contribute maximum to GDP of an economy? Comment.
7. Why was public sector given a leading role in industrial development during the planning period?
8. Explain the statement that green revolution enabled the govt to procure sufficient food grains to build its stocks that can be used during times of shortage.
9. Why 65% of India's population continued to engage in agricultural sector till 1990 despite the implementation of green revolution?

H. Long Answer Type Questions

1. What is economic planning? Discuss the common objectives of Indian planning.
2. Explain the need and type of land reforms implemented in agriculture sector.
3. What is Green Revolution? Why was it implemented and how did it benefit the farmers? Explain.
4. What is NITI Aayog? Describe its structure and objectives.

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UNIT II

Economic Reforms Since 1991

After forty years of planned development, India has been able to achieve a strong industrial base and became self-sufficient in the production of food grains. Nevertheless, a major segment of the population continues to depend on agriculture for its livelihood. In 1991, a crisis in the balance of payments led to the introduction of economic reforms in the country. This unit is an appraisal of the reform process and its implications for India.

3

Liberalisation, Privatisation & Globalisation : An Appraisal

After studying this chapter the students will be able to ;

- Understand the background of the reform policies introduced in India in 1991.
- Understand the mechanism through which reform policies were introduced.
- Comprehend the process of globalisation and its implications for India.
- Be aware of the impact of the reform process in various sectors.

CHAPTER - 3

Liberalisation, Privatisation & Globalisation : An Appraisal

There is a consensus in the world today that economic development is not all and the GDP is not necessarily a measure of progress of a society.

K.R. Narayanan, Former President of India

3.1 Introduction

You have studied in the previous chapter that since independence, India followed the mixed economy framework by combining the advantages of the capitalist economic system with those of the socialist economic system. Some scholars argue that over the years, this policy resulted in the establishment of a variety of rules and laws which were aimed at controlling and regulating the economy, ended up instead in hampering the process of growth and development. Others state that India which started its developmental path from near stagnation has since been able to achieve growth in savings, developed a diversified industrial sector which produces a variety of goods and has experienced sustained expansion of agricultural output which has ensured food security.

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 petroleum 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. In this chapter, we will look at the background of the crisis, measures that the government has adopted and their impact on various sectors of the economy.

3.2 BACKGROUND

The origin of the financial crisis can be traced from the inefficient management of the Indian economy in the 1980s. We know that for implementing various policies and its general administration, the government generates funds from various sources such as taxation, running of public sector enterprises etc. 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**. When we import goods like petroleum, we pay in dollars which we earn from our exports.

Development policies required that even though the revenues were very low, the government had to overshoot its revenue to meet challenges like unemployment, poverty and population explosion. The continued spending on development programmes of the government did not generate additional revenue. Moreover, the government was not able to generate sufficiently from internal sources such as taxation. When the government was spending a large share of its income on areas which do not provide immediate returns such as the social sector and defence, there was a need to utilise the rest of its revenue in a highly efficient manner. The income from public sector undertakings was also not very high to meet the growing expenditure. At times, our foreign exchange borrowed from other countries and international financial institutions was spent on meeting consumption needs. Neither was an attempt made to reduce such profligate spending nor sufficient attention was given to boost exports to pay for the growing imports. In the late 1980s, government expenditure began to exceed its revenue by such large margins that meeting the expenditure through borrowings became unsustainable. Prices of many essential goods rose sharply. Imports grew at a very high rate without matching growth of exports. As pointed out earlier, foreign exchange reserves declined to a level that was not adequate to finance imports for more than two weeks. There was also not sufficient foreign exchange to pay the interest that needed to be paid to international lenders. Also no country or international funder was willing to lend to India.

India approached the **International Bank for Reconstruction and Development (IBRD)**, popularly known as **World Bank and International Monetary Fund (IMF)**, and received \$7 billion as loan to manage the crisis. For availing the loan, these international agencies expected India to liberalise and open up the economy by removing restrictions on the private sector, reduce the role of the government in many areas and remove trade restrictions between India and other countries.

India agreed to the conditionalities of World Bank and IMF and announced the **New Economic Policy (NEP)**. The NEP consists of wide ranging economic reforms. The thrust of the policies was towards creating a more competitive environment in the economy and removing the barriers to entry and growth of firms. This set of policies can broadly be classified into two groups: the stabilisation measures and the structural reform measures. Stabilisation 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. In simple words, this means that there was a need to maintain sufficient foreign exchange reserves and keep the rising prices under control. On the other hand, structural reform policies are long-term measures aimed at improving the efficiency of

the economy and increasing its international competitiveness by removing the rigidities in various segments of the Indian economy. The government initiated a variety of policies which fall under three heads viz., liberalisation, privatisation and globalisation.

3.3 LIBERALISATION

As pointed out in the beginning, rules and laws which were aimed at regulating the economic activities became major hindrances in growth and development. Liberalisation was introduced to put an end to these restrictions and open various sectors of the economy. Though a few liberalisation 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. Let us study some important areas, such as the industrial sector, financial sector, tax reforms, foreign exchange markets and trade and investment sectors which received greater attention in and after 1991.

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 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 reform policies introduced in and after 1991 removed many of these restrictions. Industrial licensing was abolished for almost all but product categories — alcohol, cigarettes, hazardous chemicals, industrial explosives, electronics, aerospace, drugs and pharmaceuticals. The only industries which are now reserved for the public sector are a part of atomic energy generation and some core activities in railway transport. Many goods produced by small-scale industries have now been **dereserved**. In most industries, the market has been allowed to determine the prices.

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 regulated by the Reserve Bank of India (RBI). You may be aware that all banks and other financial institutions in India are regulated through various norms and regulations of the RBI. The RBI decides the amount of money that the banks can keep with themselves, fixes interest rates, nature of lending to various sectors, etc. One of the major aims of financial sector reforms is to reduce the role of RBI from regulator to facilitator of the financial sector. This means that the financial sector may be allowed to take decisions on many matters without consulting the RBI.

The reform policies led to the establishment of Indian private sector banks and foreign banks. Foreign investment limit in banks was raised to around 74 per cent. Those banks which fulfil certain conditions have been given freedom to set up new

branches without the approval of the RBI and rationalise their existing branch networks. Though banks have been given permission to generate resources from India and abroad, certain managerial aspects have been retained with the RBI to safeguard the interests of the account-holders and the nation. **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 in the government's taxation and public expenditure policies, which are collectively known as its **fiscal policy**. There are two types of taxes: direct and indirect. **Direct taxes** consist of taxes on incomes of individuals, as well as, profits of business enterprises. Since 1991, there has been a continuous reduction in the taxes on individual income as it was felt that high rates of income tax were an important reason for tax evasion. It is now widely accepted that moderate rates of income tax encourage savings and voluntary disclosure of income. The rate of **corporation tax**, which was very high earlier, has been gradually reduced. Efforts have also been made to reform the **indirect taxes**, taxes levied on commodities, in order to facilitate the establishment of a common national market for goods and commodities.

In 2016, the Indian Parliament passed a law, Goods and Services Tax Act 2016, to simplify and introduce a unified indirect tax system in India. This law came into effect from July 2017. This is expected to generate additional revenue for the government, reduce tax evasion and create 'one nation, one tax and one market'. Another component of reform in this area is simplification. In order to encourage better compliance on the part of taxpayers, many procedures have been simplified and the rates also substantially lowered.

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 payment crisis, the rupee was **devalued** against foreign currencies. This led to an increase in the inflow of foreign exchange. It also set the tone to free the determination of rupee value in the foreign exchange market from government control. Now, more often the markets determine exchange rates based on the demand and supply of foreign exchange.

Trade and Investment Policy Reforms : Liberalisation of trade and investment regime was initiated to increase international competitiveness of industrial production and also foreign investments and technology into the economy. The aim was also to promote the efficiency of local industries and adoption of modern technologies.

In order to protect domestic industries, India was following a regime of **quantitative restrictions** on imports. This was encouraged through tight control over imports and by keeping the **tariffs** very high. These policies reduced efficiency and competitiveness which led to slow growth of the manufacturing sector. The trade policy reforms aimed at

(i) dismantling of quantitative restrictions on imports and exports (ii) reduction of tariff rates and (iii) removal of licensing procedures for imports. **Import licensing** was abolished except in case of hazardous and environmentally sensitive industries. Quantitative restrictions on imports of manufactured consumer goods and agricultural products were also fully removed from April 2001. **Export duties** have been removed to increase the competitive position of Indian goods in the international markets.

Work These Out

- Give one example each of nationalised bank, private bank, private foreign bank, FII and a mutual fund.
- Visit a bank in your locality with your parents. Observe and find out the functions it performs. Discuss the same with your classmates and prepare a chart on it.
- Find out from your parents if they pay taxes. If yes, why do they do so and how?
- Do you know that for a very long time, countries used to keep silver and gold as reserves to make payments abroad? Find out in what form do we keep our foreign exchange reserves and find out from newspapers, magazines and the Economic Survey how much foreign exchange reserves India had during the last year. Also find the foreign currency of the following countries and its latest rupee exchange rate.

Country	Currency	Value of 1(one) unit of foreign currency in Indian rupee
U.S.A.		
U.K.		
Japan		
China		
Korea		
Singapore		
Germany		

3.4 PRIVATISATION

It implies shedding of the ownership or management of a government owned enterprise. 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 (ii) by outright sale of public sector companies.

Privatisation of the public sector enterprises by selling off part of the equity of PSEs to the public is known as disinvestment. According to the government, the purpose

of the sale was mainly to improve financial discipline and facilitate modernisation. It was also envisaged that private capital and managerial capabilities could be effectively utilised to improve the performance of the PSUs.

Box 3.1: Navratnas and Public Enterprise Policies

You must have read in your childhood about the famous Navratnas or Nine Jewels in the Imperial Court of King Vikramaditya who were eminent persons of excellence in the fields of art, literature and knowledge. In order to improve efficiency, infuse professionalism and enable them to compete more effectively in the liberalised global environment, the government identifies PSEs and declare them as maharatnas, navratnas and miniratnas. They were given greater managerial and operational autonomy, in taking various decisions to run the company efficiently and thus increase their profits. Greater operational, financial and managerial autonomy has also been granted to profit-making enterprises referred to as miniratnas.

The Central Public Sector Enterprises are designated with different status. A few examples of public enterprises with their status are as follows: (i) Maharatnas – (a) Indian Oil Corporation Limited, and (b) Steel Authority of India Limited, (ii) Navratnas – (a) Hindustan Aeronautics Limited, (b) Mahanagar Telephone Nigam Limited; and (iii) Miniratnas – (a) Bharat Sanchar Nigam Limited; (b) Airport Authority of India and (c) Indian Railway Catering and Tourism Corporation Limited.

Many of these profitable PSEs were originally formed during the 1950s and 1960s when self-reliance was an important element of public policy. They were set up with the intention of providing infrastructure and direct employment to the public so that quality end-product reaches the masses at a nominal cost and the companies themselves were made accountable to all stakeholders. The granting of status resulted in better performance of these companies.

Scholars allege that instead of facilitating public enterprises in their expansion and enabling them to become global players, the government partly privatised them through disinvestment. Of late, the government has decided to retain them in the public sector and enable them to expand themselves in the global markets and raise resources by themselves from financial markets.

The government envisaged that privatisation could provide strong impetus to the inflow of FDI.

The government has also made attempts to improve the efficiency of PSUs by giving them autonomy in taking managerial decisions. For instance, some PSUs have been granted special status as maharatnas, navratnas and miniratnas (see Box 3.1).

Work These Out

- Some scholars refer to disinvestment as the wave of privatisation spreading all over the world to improve the performance of public sector enterprises whereas others call it as outright sale of public property to the vested interests. What do you think?
- Prepare a poster which contains 10-15 news clippings which you consider as important and relating to navaratnas from newspapers. Also collect the logos and advertisements of these PSEs. Put these on the notice board and discuss them in the classroom.
- Do you think only loss making companies should be privatised? Why?
- Losses incurred by public sector enterprises are to be met out of the public budget. Do you agree with this statement? Discuss.

3.5 GLOBALISATION

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

Outsourcing: This is one of the important outcomes of the globalisation 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 (like legal advice, computer service, advertisement, security — each provided by respective departments of the company). As a form of economic activity, outsourcing has intensified, in recent times, because of the growth of fast modes of communication, particularly the growth of Information Technology (IT). Many of the services such as voice-based business processes (popularly known as BPO or call centres), record keeping, accountancy, banking services, music recording, film editing, book transcription, clinical advice or even teaching are being outsourced by companies in developed countries to India. With the help of modern telecommunication links including the Internet, the text, voice and visual data in respect of these services is digitised and transmitted in real time over continents and national boundaries. Most multinational corporations, and even small companies, are outsourcing their services to India where they can be availed at a cheaper cost with reasonable degree of skill and accuracy. The low wage rates and availability of skilled manpower in India have made it a destination for global outsourcing in the post-reform period.

Box 3.2: Global Footprint!

Owing to globalisation, you might find many Indian companies have expanded their wings to many other countries. For example, ONGC Videsh, a subsidiary of the Indian public sector enterprise, Oil and Natural Gas Corporation engaged in oil and gas exploration and production has projects in 16 countries. Tata Steel, a private company established in 1907, is one of the top ten global steel companies in the world which have operations in 26 countries and sell its products in 50 countries. It employs nearly 50,000 persons in other countries. HCL Technologies, one of the top five IT companies in India has offices in 31 countries and employs about 15,000 persons abroad. Dr Reddy's Laboratories, initially was a small company supplying pharmaceutical goods to big Indian companies, today has manufacturing plants and research centres across the world.

Source : *www.rediff.com accessed on 14.10.2014*

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. In addition, its purpose is also to enlarge production and trade of services, to ensure optimum utilisation of world resources and to protect the environment. 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.

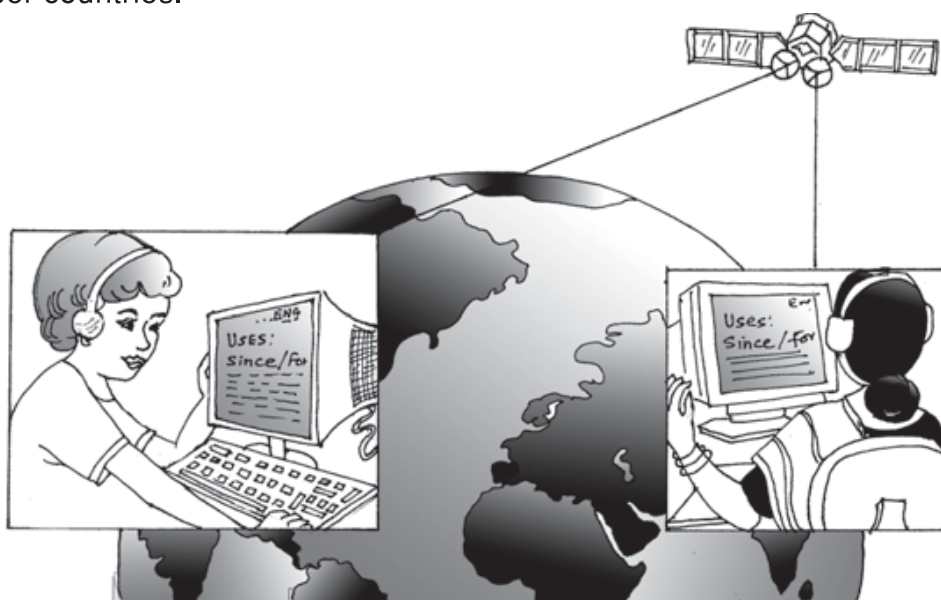


Fig. 3.1 Outsourcing: a new employment opportunity in big cities

Work These Out

- Many scholars argue that globalisation is a threat as it reduces the role of the government in many sectors. Some counter argue that it is an opportunity as it opens up markets to compete in and capture. Debate in the classroom.
- Prepare a chart consisting of a list of five companies that have BPO services in India, along with their turnover.
- Did you attend online classes or watched videos of your teachers or any other teacher taking classes during the last year through television, mobile phone or computers due to Covid 19 Pandemic? Share your experiences related to information technology.
- Is employment in call centres sustainable? What kind of skills should people working in call centres acquire to get a regular income?
- If the multinational companies outsource many services to countries like India because of cheap manpower, what will happen to people living in the countries where the companies are located? Discuss.

As an important member of WTO, India has been in the forefront of framing fair global rules, regulations and safeguards and advocating the interests of the developing world. India has kept its commitments towards liberalisation of trade made in the WTO, by removing quantitative restrictions on imports and reducing tariff rates.

TABLE 3.1

Growth of GDP and Major Sectors (in %)

Sector	1980-91	1992-2001	2002-07	2007-12	2012-13	2013-14	2014-15
Agriculture	3.6	3.3	2.3	3.2	1.5	4.2	– 0.2*
Industry	7.1	6.5	9.4	7.4	3.6	5	7.0*
Services	6.7	8.2	7.8	10	8.1	7.8	9.8*
Total	5.6	6.4	7.8	8.2	5.6	6.6	7.4

Source : *Economic Survey for various years, Ministry of Finance, Government of India*

Note : **Data pertaining to Gross Value Added (GVA). The GVA is estimated from GDP by adding subsidies on production and subtracting indirect taxes.*

Some scholars question the usefulness of India being a member of the WTO as a major volume of international trade occurs among the developed nations. They also say that while developed countries file complaints over agricultural subsidies given in their countries. The developing countries feel cheated as they are forced to open their markets

for developed countries but are not allowed access to the markets of developed countries. What do you think?



Fig. 3.2 IT industry is seen as a major contributor to India's exports

3.6 INDIAN ECONOMY DURING REFORMS: AN ASSESSMENT

The reform process has completed three decades since its introduction. Let us now look at the performance of the Indian economy during this period. In economics, the growth of an economy is measured by the Gross Domestic Product. Look at Table 3.1. The post 1991 India witnessed a rapid growth in GDP on a continual basis for two decades. The growth of GDP increased from 5.6 per cent during 1980–91 to 8.2 per cent during 2007–12. During the reform period, the growth of agriculture has declined. While the industrial sector reported fluctuation, the growth of the service sector has gone up. This indicates that GDP growth is mainly driven by growth in the service sector. During 2012–15, there has been a setback in the growth rates of different sectors witnessed post 1991. While agriculture recorded a high growth rate during 2013–14, this sector witnessed negative growth in the subsequent year. While the service sector continued to witness a high level of growth — higher than the overall GDP growth in 2014–15, this sector witnessed the high growth rate of 9.8 per cent. The industrial sector witnessed a steep decline during 2012–13, in the subsequent years it began to show a continuous positive growth.

The opening of the economy has led to a rapid increase in foreign direct investment and foreign exchange reserves. The foreign investment, which includes **foreign direct investment (FDI) and foreign institutional investment (FII)**, has increased from about US \$100 million in 1990–91 to US \$ 30 billion in 2017–18. There has been an increase in the foreign exchange reserves from about US \$ 6 billion in 1990–91 to about US \$ 413 billion in 2018–19. India is one of the largest foreign exchange reserve holders in the world.

Since 1991, India is seen as a successful exporter of auto parts, pharmaceutical goods, engineering goods, IT software and textiles. Rising prices have also been kept under control.

Work These Out

- In the previous chapter, you might have studied about subsidies in various sectors, including agriculture. Some scholars argue that subsidy in agriculture should be removed to make the sector internationally competitive. Do you agree? If so, how can it be done? Discuss in class.
- Read the following passage and discuss in class.

Groundnut is a major oilseed crop in Andhra Pradesh. Sandeep, who was a farmer in Anantpur district of Andhra Pradesh, used to spend Rs 10,000/- for growing groundnut on his plot of half an acre. The cost included expenditure on raw material (seeds, fertilisers, etc.), labour, bullock power and machinery used. On an average, Sandeep used to get two quintals of groundnut, and each quintal was sold for Rs 7,000/-. Sandeep, thus, was spending Rs 10,000/- and getting an income of Rs 14,000/-. Anantpur district is a drought-prone area. As a result of economic reforms, the government did not undertake any major irrigation project. Recently, groundnut crop in Anantpur is facing problems due to crop disease. Research and extension work has gone down due to lower government expenditure. Sandeep and his friends brought this matter repeatedly to the notice of the government officials entrusted with this responsibility but failed. Subsidy was reduced on inputs (seeds, fertilisers) which increased Sandeep cost of cultivation. Moreover, the local markets were flooded with cheap imported edible oils which was a result of removal of restriction on imports. Sandeep was not able to sell his groundnut produce in the market as he was not getting the price to cover his cost.

What could be done to farmers like Sandeep from incurring losses? Discuss in the class.

On the other hand, the reform process has been widely criticised for not being able to address some of the basic problems facing our economy especially in areas of employment, agriculture, industry, infrastructure development and fiscal management.

Growth and Employment : Though the GDP growth rate has increased in the reform period, scholars point out that the reform-led growth has not generated sufficient employment opportunities in the country. You will study the link between different aspects of employment and growth in the next unit.

Reforms in Agriculture : Reforms have not been able to benefit agriculture where the growth rate has been decelerating.

Since 1991, public investment in agriculture sector especially in infrastructure, which includes irrigation, power, roads, market linkages and research and extension (which played a crucial role in the Green Revolution) has fallen. Further, the partial removal of fertiliser subsidy has led to increase in the cost of production, which has severely affected the small and marginal farmers. This sector has been experiencing a number of policy changes such as reduction in import duties on agricultural products, low minimum support price and lifting of quantitative restrictions on the imports of agricultural products. These have adversely affected Indian farmers as they now have to face increased international competition.

Moreover, because of export-oriented policy strategies in agriculture, there has been a shift from production for the domestic market towards production for the export market focusing on cash crops in lieu of production of food grains. This puts pressure on prices of food grains.

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. In a globalised world, developing countries are compelled to open up their economies to greater flow of goods and capital from developed countries and rendering their industries vulnerable to the imported goods. Cheaper imports have thus replaced the demand for domestic goods. Domestic manufacturers are facing competition from imports. The infrastructure facilities including power supply have remained inadequate due to lack of investment. Globalisation is, thus often seen as creating conditions for the free movement of goods and services from foreign countries that adversely affect the local industries and employment opportunities in developing countries.

Moreover, a developing country like India still does not have the access to developed countries' markets because of high non-tariff barriers. For example, although all quota restrictions on exports of textiles and clothing have been removed in India, USA has not removed their quota restriction on import of textiles from India and China.

Disinvestment : Every year, the government fixes a target for disinvestment of PSEs. For instance, in 1991-92, it was targeted to mobilise Rs 2500 crore through disinvestment. The government was able to mobilise Rs 3,040 crore more than the target. In 2017-18, the target was about Rs 1,00,000 crore, and the achievement was about Rs 1,00,057 crore. Critics point out that the assets of PSEs have been undervalued and sold to the private sector. This means that there has been a substantial loss to the government and the outright sale of public assets. Moreover, the proceeds from disinvestment are used to offset the shortage of government revenues rather than using it for the development of PSEs and building social infrastructure in the country. Do you think selling a part of the properties of government companies is the best way to improve their efficiency?

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 curb tax evasion have not resulted in increase in tax revenue for the government. Also, the reform policies involving tariff reduction have curtailed the scope for raising revenue through custom duties. In order to attract foreign investment, tax incentives are provided to foreign investors which further reduced the scope for raising tax revenues. This has a negative impact on developmental and welfare expenditures.

3.7 CONCLUSION

The process of globalisation, liberalisation and privatisation policies has produced positive as well as negative results both for India and other countries. Some scholars argue that globalisation should be seen as an opportunity in terms of greater access to global markets, high technology and increased possibility of large industries of developing countries to become important players in the international arena.

Box 3.3 : Siricilla Tragedy

Power sector reforms in many Indian states led to do away with the supply of electricity at subsidised rates and steep rise in power tariff. This has affected workers engaged in small industries. Powerloom textile industry in Andhra Pradesh is an example. Since the wages of the powerloom workers are linked to the production of cloth, power cut means cut in wages of weavers, who were already suffering from hike in tariff. A few years ago, this led to a crisis in the livelihood of the weavers and 50 powerloom workers committed suicide in a small town called 'Siricilla' in Andhra Pradesh.

- Do you think the power tariff should not be raised?
- What would be your suggestions to revive small industries affected by reforms?

On the contrary, the critics argue that globalisation is a strategy of the developed countries to expand their markets in other countries. According to them, it has compromised the welfare and identity of people belonging to poor countries. It has further been pointed out that market-driven globalisation has widened the economic disparities among nations and people.

Viewed from the Indian context, some studies have stated that the crisis that erupted in the early 1990s was basically an outcome of the deep-rooted inequalities in Indian society and the economic reform policies initiated as a response to the crisis by the government with externally advised policy package further aggravated the inequalities. Further, it has increased the income and quality of consumption of only high-income groups and the growth has been concentrated only in some select areas in the services sector such as telecommunication, information technology, finance, entertainment, travel

and hospitality services, real estate and trade, rather than vital sectors such as agriculture and industry which provide livelihoods to millions of people in the country.

Recap

- The economy was facing problems of declining foreign exchange, growing imports without matching rise in exports and high inflation. India changed its economic policies in 1991 due to a financial crisis and pressure from international organisations like the World Bank and IMF.
- In the domestic economy, major reforms were undertaken in the industrial and financial sectors. Major external sector reforms included foreign exchange deregulations and import liberalisation.
- With a view to improving the performance of the public sector, there was a consensus on reducing its role and opening it up to the private sector. This was done through disinvestment and liberalisation measures.
- Globalisation is the outcome of the policies of liberalisation and privatisation. It means an integration of the economy of the country with the world economy.
- Outsourcing is emerging as a major activity in industrial and service sectors.
- The objective of the WTO is to establish a rule based trade regime to ensure optimum utilisation of world resources.
- During the reforms, growth of agriculture and industry has gone down but the service sector has registered growth.
- Reforms have not benefitted the agriculture sector. There has also been a decline in public investment in this sector.
- Industrial sector growth has slowed down due to availability of cheaper imports and lower investment.

●●● Exercises ●●●

A. Multiple Choice Questions

1. Economic Reforms 1991 refer to-
 - (a) Liberalisation
 - (b) Privatisation
 - (c) Globalisation
 - (d) All of the above
2. Reasons for adopting Economic Reforms 1991 were-
 - (a) Decrease in foreign exchange reserves
 - (b) Increase in prices
 - (c) Expenditure of public enterprises exceeding income
 - (d) All of the above

3. What reforms were introduced under the liberalisation policy?
 - (a) Deregulation of the industrial sector
 - (b) Financial Sector Reforms
 - (c) Foreign Exchange Reforms, Trade and Investment Policy Reforms
 - (d) All of the above
4. By what means are public sector companies converted into private companies under Privatisation?
 - (a) By withdrawing the ownership and management of the public sector companies from the government
 - (b) By selling the public sector companies outright
 - (c) Both of the above
 - (d) None of the above
5. Which of the following titles does the government give to public sector enterprises while identifying them?
 - (a) Maharatnas
 - (b) Navratnas
 - (c) Miniratnas
 - (d) All of the above
6. What is the purpose of globalisation?
 - (a) Linking the country's economy with the global economy
 - (b) Moving the entire world towards interdependence and integration
 - (c) Making the entire world economically borderless
 - (d) All of the above
7. After adopting economic reforms 1991 in India-
 - (a) Service sector growth increased
 - (b) Industrial sector started showing positive growth after 2012-13
 - (c) Growth in agriculture sector has not been seen
 - (d) All of the above

B. Fill in the Blanks.

1. India has adopted mixed economic structure by combining the advantages of socialist economic system and economic system.
(capitalist/democratic)
2. In 1991, India faced a/an related to its external debt.
(economic crisis/political crisis)

3. The economic reforms implemented in 1991 in India were more
(expanded/contracted)
4. in India is regulated by the Reserve Bank of India (RBI).
(Financial Sector/Private Sector)
5. Privatisation of public sector enterprises by selling equity part of public sector enterprises to is called disinvestment. (government/public)
6. Tata Steel, founded in 1907, was a company.
(government/private)
7. According to scholars, reforms led growth has the necessary employment opportunities in the country. (produced / not produced)
8. Market driven globalisation has led to economic inequalities among countries and people. (increase/decrease)

C. True/False

1. In 1991, India faced an economic crisis related to its external debt.
2. Mismanagement of the Indian economy in the 1980s was one of the factors that led to Economic Reforms in 1991.
3. Before 1991, under the industrial licensing, the industrialists had to take no permission from government officials to start or close a firm or to decide the amount of goods to be produced.
4. In the financial sector, financial institutions such as commercial banks, investment banks, stock exchanges and foreign exchange markets are included.
5. The World Trade Organisation was established in 1995.
6. One of the objectives of trade policy reforms was to eliminate quantitative restrictions on imports and exports.
7. In outsourcing, a company hires (rents) regular services from external sources, usually from other countries, that were previously provided internally or within the country.
8. After the adoption of the new economic reforms in 1991, domestic manufacturers began to face competition from imports.
9. Partial removal of fertilizer subsidy in agriculture sector has increased the cost of production.

D. Very Short Answer Type Questions

1. What is meant by World Trade Organisation?
2. What is Liberalisation?
3. What is Privatisation?
4. What is Globalisation?
5. When were Economic Reforms adopted in India?
6. What is meant by World Trade Organisation?
7. What is meant by Outsourcing?

E. Match the following.

1. Match the facts given on both sides-

Facts	Year
World Trade Organisation	1907
New Economic Policy	1995
Goods and Services Tax implemented	1991
Tata Steel established	2017

2. Match the growth rates of the given sectors during the year 2014-15.

Sector	Growth Rate
Agriculture	– 0.2
Industry	9.8
Service	7.4
Gross Domestic Product	7.0

3. Compare the growth rates of Gross Domestic Product during the given different years-

Area	Growth Rate
2007-12	6.6
2012-13	5.6
2013-14	7.4
2014-15	8.2

F. Very Short Answer Type Questions

1. Name any two reforms adopted under the policy of Liberalisation.
2. Name any two reforms adopted under the policy of Privatisation.
3. Write any two features of Globalisation.
4. What is meant by disinvestment policy?
5. Why are tariffs imposed?
6. Write a note on the growth rate of agriculture sector after adoption of Economic Reforms 1991.
7. Write a note on the growth rate of service sector after adoption of Economic Reforms in 1991.

G. Short Answer Type Questions

1. Write about fiscal policies adopted under Economic Reforms 1991.
2. Write a note on evaluation of Economic Reforms 1991.
3. What are the views of various scholars towards adopting the policy of Globalisation?

H. Long Answer Type Questions

1. Why did India adopt economic reforms in 1991? Write in detail.
2. What was the impact on the growth of different sectors of the economy after the Economic Reforms 1991? Describe in detail.

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4

Human Capital Formation In India

After studying this chapter, the learners will understand

- The concepts of Human Resource, Human Capital Formation and Human Development
- The links between investment in human capital, economic growth and human development
- The need of government spending on education and health
- The state of India's educational attainment

CHAPTER - 4

Human Capital Formation In India

"..... the wisdom of expending public and private funds on education is not to be measured by its direct fruits alone. It will be profitable as a mere investment, to give the masses of people much greater opportunities than they can generally avail themselves of. For by this means many, who would have died unknown, are enabled to get the start needed for bringing out their latent abilities"

-Alfred Marshall

4.1 INTRODUCTION

Think of one factor that has made a great difference in the evolution of mankind. Perhaps it is man's capacity to store and transmit knowledge which he has been doing through conversation, through songs and through elaborate lectures. But man soon found out that we need a good deal of training and skill to do things efficiently. We know that labour skill of an educated person is more than that of an uneducated person and hence, the former is able to generate more income than the latter and his contribution to economic growth is, consequently, more.



Fig. 4.1 Adequate education and training to farmers can raise productivity in farms

Education is sought not only as it confers higher earning capacity on people but also for its other highly valued benefits: it gives one a better social standing and pride; it enables one to make better choices in life; it provides knowledge to understand the

changes taking place in society; it also stimulates innovations. Moreover, the availability of educated labour force facilitates adaptation of new technologies. Economists have stressed the need for expanding educational opportunities in a nation as it accelerates the development process.

4.2 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 into human capital like engineers and doctors etc. Societies need sufficient human capital in the first place in the form of competent people who have themselves been educated and trained as professors and other professionals. In other words, we need good human capital to produce other human capital (nurses, farmers, teachers, 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 :

- (i) What are the sources of human capital?
- (ii) Is there any relation between human capital and economic growth of a country?
- (iii) Is the formation of human capital linked to men's all-round development or, as it is now called, human development?
- (iv) What role can the government play in human capital formation in India?

4.3 SOURCES OF HUMAN CAPITAL

Investment in Education : 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.

Work These Out

Identify and collect the data from three families from different strata (i) very poor (ii) middle class (iii) affluent. Study the expenditure pattern of the families on education of male and female children.

Why do your parents spend money on education? Spending on education by individuals is similar to spending on capital goods by companies with the objective of increasing future returns over a period of time. Likewise, individuals invest in education with the objective of increasing their future income.

Expenditure on Health : 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.

Who can work better — a sick person or a person with good health? A sick labourer without access to medical facilities is compelled to abstain from work and there is loss of productivity. Hence, expenditure on health is an important source of human capital formation.

Preventive medicine (vaccination), curative medicine (medical intervention during illness), social medicine (spread of health literacy), provision of clean drinking water and good sanitation facilities are the various forms of health expenditures. Health expenditure directly increases the supply of healthy labour force and is, thus, a source of human capital formation.

On-the-job Training : Firms spend giving on-the job-training programmes to their workers. This may take different forms: one, the workers may be trained in the firm itself under the supervision of a skilled worker; two, the workers may be sent for off-campus training. In both these cases, firms incur some expenses. Firms will, thus, insist that the workers should work for a specific period of time, after their on-the-job training, during which it can recover the benefits of the enhanced productivity owing to the training. Expenditure regarding on-the-job training is a source of human capital formation as the return of such expenditure in the form of enhanced labour productivity of the worker.

Migration : People migrate in search of jobs that fetch them higher salaries than what they may get in their native places. Unemployment and lack of opportunities are the reason for the rural-urban migration in India. Technically qualified persons, like engineers and doctors, migrate to other countries because of higher salaries that they may get in their own countries. Migration in both these cases involves cost of transport, higher cost of living in the migrated places and social costs of living in a strange socio-cultural setup. The enhanced earnings in the new place outweigh the costs of migration; hence, expenditure on migration is also a source of human capital formation.

Expenditure on Receiving Information : People spend to acquire information relating to the labour market and other markets like education and health. For example, people want to know the level of salaries associated with various types of jobs, whether the educational institutions provide the right type of employable skills and at what cost. This information is necessary to make decisions regarding investments in human capital as well as for efficient utilisation of the acquired human capital stock. Expenditure incurred for acquiring information relating to the labour market and other markets is also a source of human capital formation.

Programme for Adult Education : Many programs for adult education are being run by various government and non-government organizations. Doing so increases their working efficiency and productivity. Thus, adult education serves as a good source of human capital formation.

Box 4.1: Physical and Human Capital

Both the forms of capital formation are outcomes of conscious investment decisions. Decision regarding investment in physical capital is taken on the basis of one's knowledge in this regard. The entrepreneur possesses knowledge to calculate the expected rates of return to a range of investments and then rationally decides which one of the investments should be made. The ownership of physical capital is the outcome of the conscious decision of the owner – The physical capital formation is mainly an economic and technical process. A substantial part of the human capital formation takes place in one's life when she/he is unable to decide whether it would maximise her/his earnings. Children are given different types of school education and health care facilities by their parents and the society. The peers, educators and society influence the decisions regarding human capital investments even at the tertiary level, that is, at the college level.

Moreover, the human capital formation at this stage is dependent upon the already formed human capital at the school level. Human capital formation is partly a social process and partly a conscious decision of the possessor of the human capital.

You know that the owner of a physical capital, say a bus, need not be present in the place where it is used; whereas, a bus-driver, who possesses the knowledge and ability to drive the bus, should be present when the bus is used for transportation of people and materials. Physical capital is tangible and can be easily sold in the market like any other commodity.

Human capital is intangible; it is endogenously built in the body and mind of its owner. Human capital is not sold in the market; only the services of the human capital are sold and, hence, there arises the necessity of the owner of the human capital to be present in the place of production. The physical capital is separable from its owner, whereas, human capital is inseparable from its owner.

The two forms of capital differ in terms of mobility across space. Physical capital is completely mobile between countries except for some artificial trade restrictions. Human capital is not perfectly mobile between countries as movement is restricted by nationality and culture. Therefore, physical capital formation can be built even through imports, whereas human capital formation is to be done through conscious policy formulations in consonance with the nature of the society and economy and expenditure by the state and the individuals. Both forms of capital depreciate with time but the nature of depreciation differs between the two. Continuous use of machine leads to depreciation and change of technology makes a machine obsolete.

In the case of human capital, depreciation takes place with ageing but can be reduced, to a large extent, through continuous investment in education, health, etc. This investment also facilitates the human capital to cope with change in technology which is not the case with physical capital.

Nature of benefits flowing from human capital are different from that of physical capital. Human capital benefits not only the owner but also the society in general. This is called external benefit. An educated person can effectively take part in a democratic process and contribute to the socio-economic progress of a nation. A healthy person, by maintaining personal hygiene and sanitation, stops the spread of contagious diseases and epidemics. Human capital creates both private and social benefits, whereas physical capital creates only private benefit. That is, benefits from a capital good flow to those who pay the price for the product and services produced by it.

The concept of physical capital is the base for conceptualising human capital. There are some similarities between the two forms of capital; there are some striking dissimilarities as well. See Box 4.1.

4.4 NEED AND ROLE OF HUMAN CAPITAL FORMATION

Human capital formation is much needed for the development of any society or nation. Because only good human capital can accelerate the speed of economic development of the country by making proper use of the material resources of the country. If the people of the country are uneducated, sick and unskilled, they will not be able to make the best use of the natural or material resources of the country. Therefore, the development of material resources also depends on human capital formation. That is why it is said that good human capital can turn even soil into gold. While poor human capital can turn even gold into soil. The contribution of human capital in the economic development of the country is as follows:

- **Increase in Productivity :** Human capital formation leads to increase in the efficiency and working capacity of the labour force. A skilled worker uses machines and other equipment better than an unskilled worker. By doing this, the speed of economic development of the country is accelerated, the production is higher than before and the loss of resources is also reduced.
- **Optimum Utilisation of Resources :** Human capital formation creates modern and progressive thinking. This leads to better utilization of human resources, natural resources and financial resources. Thus, each generation tries to provide sufficient resources for itself and future generations.
- **Innovation and Research:** Human capital formation not only increases labour productivity but innovations and researches are also encouraged. Investments are made for innovation and research to increase revenue and reduce cost at various levels. Scientific and modern thinking is propagated. And the available labour force tries to adapt itself to changing technology.

- **Non-Economic Benefits :** The formation of human capital increases peace and stability in the country. Rules and ethics are followed in a disciplined manner by the people. Participation in democracy increases. All these non-economic elements provide an important basis for the economic growth and development of the country. Thus, human capital formation provides the right direction for social change.
- **Increase in Equality and Participation :** The growth in the capacity, productivity and efficiency of the labour force increases the employment opportunities for the workers. This increases social and economic equality. The pace of improvement in the standard of living of the people starts to accelerate.
- **Formation of Constructive Environment towards Development :** When people become literate and healthy, they develop more positive and creative feelings and thoughts. A favourable environment for economic development begins to be created in the country. And a more efficient, competent and healthy labour force is available to implement various plans and strategies related to economic development.

Work This Out

If a construction worker, maid-servant, dhobi or a peon in school has absented herself/himself for long due to ill health, find out how it has affected her/his

- (i) job security
- (ii) wage/salary

What could be the possible reasons?

Box 4.2 Human Capital and Human Development

The two terms sound similar but there is a clear distinction between them. Human capital considers education and health as a means to increase labour productivity. Human development is based on the idea that education and health are integral to human well-being because only when people have the ability to read and write and the ability to lead a long and healthy life, they will be able to make other choices which they value. Human capital treats human beings as a means to an end; the end being the increase in productivity. In this view, any investment in education and health is unproductive if it does not enhance output of goods and services. In the human development perspective, human beings are ends in themselves.

Human welfare should be increased through investments in education and health even if such investments do not result in higher labour productivity. Therefore, basic education and basic health are important in themselves, irrespective of their contribution to labour productivity. In such a view, every individual has a right to get basic education and basic health care, that is, every individual has a right to be literate and lead a healthy life.

Table 4.1: Selected Indicators of Development in Education and Health Sectors

Particulars	1951	1981	1991	2001	2016-17
Real Per Capita Income (in Rs)	7,651	12,174	15,748	23,095	77,659
Crude Death Rate (Per 1,000 Population)	25.1	12.5	9.8	8.1	6.3
Infant Mortality Rate	146	110	80	63	33
Life Expectancy at Birth (in Years)					
Male	37.2	54.1	59.7	63.9	67
Female	36.2	54.7	60.9	66.9	70
Literacy Rate (%)	16.67	43.57	52.21	65.20	76

Source: Economic Survey for various years, Ministry of Finance, National Statistical Office & Ministry of Statistics and Programme Implementation; Government of India

We can see in Table 4.1 that these sectors have grown simultaneously. Growth in each sector probably has reinforced the growth of every other sector.

In short, it can be said that human capital is absolutely required for the economic growth and development of a nation. It is only with human capital that the material resources of the country can be used appropriately at the right time. At the same time, it can be said that where human capital stimulates economic growth, economic growth also increases human capital formation, so a cause and effect relationship is found between them. Both are influenced by each other.

Box 4.3: National Education Policy, 2020 and Human Capital Formation

The National Education Policy 2020 states that the world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences and social sciences, and humanities, will be increasingly in greater demand. With climate change, increasing pollution, and depleting natural resources, there will be a sizeable shift in how we meet the world energy, water, food, and sanitation needs, again resulting in

the need for new skilled labour, particularly in biology, chemistry, physics, agriculture, climate science, and social science. The growing emergence of epidemics and pandemics will also call for collaborative research in infectious disease management and development of vaccines and the resultant social issues heightens the need for multidisciplinary learning. There will be a growing demand for humanities and art, as India moves towards becoming a developed country as well as among the three largest economies in the world. This policy vision suggests how human capital formation in India will move its economy to a higher growth trajectory based on knowledge landscape.

Work This Out

Discuss and list the obstacles in the way of human capital formation in India and make suggestions to remove those obstacles.

4.5 STATE OF HUMAN CAPITAL FORMATION IN INDIA

In this section we are going to analyse human capital formation in India. We have already learnt that human capital formation is the outcome of investments in education, health, on-the-job training, migration and information. Of these, education and health are very important sources of human capital formation. We know that India is a federal country where union government, state governments and local governments (Municipal Corporations, Municipalities and Village Panchayats) work together. 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. Do you know who takes care of education and health in India? Before we take up the analysis of the education sector in India, we will look into the need for government intervention in education and health sectors. We do understand that education and health care services create both private and social benefits and this is the reason for the existence of both private and public institutions in the education and health service markets. Expenditures on education and health make substantial long-term impact and they cannot be easily reversed; hence, government intervention is essential.

Moreover, individual consumers of these services do not have complete information about the quality of services and their costs. In this situation, the providers of education and health services acquire monopoly power and are involved in exploitation. The role of government in this situation is to ensure that the private providers of these services adhere to the standards stipulated by the government and charge the correct price.

In India, the ministries of education at the union and state level, departments of education and various organisations 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 organisations like National Medical Commission and Indian Council for Medical Research (ICMR) facilitate institutions which come under the health sector.

In a developing country like India, with a large section of the population living below the poverty line, many people cannot afford to access basic education and health care facilities. Moreover, a substantial section of India's population cannot afford to reach super specialty health care and higher education. Furthermore, when basic education and health care is considered as a right of the citizens, then it is essential that the government should provide education and health services free of cost for the deserving citizens and those from the socially oppressed classes. Both, the union and state governments, have been stepping up expenditures in the education sector over the years in order to fulfil the objective of attaining cent per cent literacy and considerably increase the average educational attainment of Indians.

Work This Out

Identify the objectives and functions of NCERT, UGC, AICTE and ICMR.

4.6 EDUCATION SECTOR IN INDIA

4.6.1 Growth in Government Expenditure on Education

Do you know how much the government spends on education? This expenditure by the government is expressed in two ways (i) as a percentage of 'total government expenditure' (ii) as a percentage of Gross Domestic Product (GDP).

The percentage of education expenditure of total government expenditure indicates the importance of education in the scheme of things before the government. The percentage of education expenditure of GDP expresses how much of people's income is being committed to the development of education in the country. During 1952-2014, education expenditure as percentage of total government expenditure increased from 7.92 to 15.7 and as percentage of GDP increased from 0.64 to 4.13. Throughout this period, the increase in education expenditure has not been uniform and there has been irregular rise and fall. To this, if we include the private expenditure incurred by individuals and by philanthropic institutions, the total education expenditure should be much higher.

Elementary education takes a major share of total education expenditure and the share of the higher/tertiary education (institutions of higher learning like colleges,

polytechnics and universities) is the least. Though, on an average, the government spends less on tertiary education, expenditure per student' in tertiary education is higher than that of elementary. This does not mean that financial resources should be transferred from tertiary education to elementary education. As we expand school education, we need more teachers who are trained in the higher educational institutions; therefore, expenditure on all levels of education should be increased.

In 2014-15, the per capita public expenditure on elementary education differs considerably across states from as high as Rs 34,651 in Himachal Pradesh to as low as Rs 4,088 in Bihar. This leads to differences in educational opportunities and attainments across states.



Fig. 4.2 Investment in educational infrastructure is inevitable

One can understand the inadequacy of the expenditure on education if we compare it with the desired level of education expenditure as recommended by the various commissions. The Education Commission (1964-66) had recommended that at least 6 per cent of GDP be spent on education the current level of a little over 4 per cent has been quite inadequate. In principle, a goal of 6 per cent needs to be reached this has been accepted as a must for the coming years. In 2009, the Government of India enacted the Right of Children to Free and Compulsory Education Act to make free education a fundamental right of all children in the age group of 6-14 years. Government of India has also started levying a 2 per cent 'education cess' on all Union taxes.

In addition to this, the government sanctions a large outlay for the promotion of higher education and new loan schemes for students to pursue higher education.

Work These Out

- Prepare case studies of dropouts at different levels of schooling, say
 - (i) Primary dropouts
 - (ii) Class VIII dropouts
 - (iii) Class X dropoutsFind out the causes of the dropout of these students and discuss in the class.
- 'School dropouts are giving way to child labour'. Discuss how this is a loss to human capital.

Table 4.2: Education Attainment in India

Sr. No.	Particulars	1990	2000	2011	2017-18
1	Adult Literacy Rate (per cent of people aged 15 +)				
	1.1 Male	61.9	68.4	79	82
	1.2 Female	37.9	45.4	59	66
2	Primary Completion rate (per cent of relevant age group)				
	2.1 Male	78	85	92	93
	2.2 Female	61	69	94	96
3.	Youth Literacy rate (per cent of people aged 15 to 24)				
	3.1 Male	76.6	79.7	90	93
	3.2 Female	54.2	64.8	82	90

Source : Educational Statistics At a Glance, Ministry of Education, (for various years), Government of India, Annual Reports, Ministry of Education, Government of India

4.6.2 Educational Achievements in India

Generally, educational achievements in a country are indicated in terms of adult literacy level, primary education completion rate and youth literacy rate. These statistics for the last two decades are given above in Table 4.2.



Fig. 4.3 School Dropouts Give Way to Child Labour: a Loss to Human Capital

4.7 FUTURE PROSPECTS

4.7.1 Education for All – Still a Distant Dream

Though literacy rates for both — adults as well as youth — have been increased, still the absolute number of illiterates in India is as much as it was at the time of independence. In 1950, when the Constitution of India was passed by the Constituent Assembly, it was noted in the Directive Principles of the Constitution that the government should provide free and compulsory education for all children up to the age of 14 years within 10 years from the commencement of the Constitution. Had we achieved this, we would have cent per cent literacy by now.

4.7.2 Gender Equity – Better than Before

The differences in literacy rates between males and females are narrowing signifying a positive development in gender equity; still the need to promote education for women in India is imminent for various reasons such as improving economic independence and social status of women and also because women education makes a favourable impact on fertility rate and health care of women and children. Therefore, we cannot be complacent about the upward movement in the literacy rates and we have miles to go in achieving cent per cent adult literacy.



Fig. 4.4 Higher Education : Few Takers

4.7.3 Higher Education — A Few Takers

The Indian education pyramid is steep, indicating lesser and lesser number of people reaching the higher education level. Moreover, the level of unemployment among educated youth is the highest. As per NSSO data, in the year 2011-12, the rate of unemployment among youth males who studied graduation and above in rural areas was 19 per cent. Their urban counterparts had relatively less level of unemployment at 16 per cent. The most severely affected ones were young rural female graduates as nearly 30 per cent of them are unemployed. In contrast to this, only about 3-6 per cent of primary level educated youth in rural and urban areas were unemployed. The situation is yet to improve as indicated by the Periodic Labour Force Survey 2017-18. Therefore, the government should increase allocation for higher education and also improve the standard of higher education institutions, so that students are imparted employable skills in such institutions. When compared to less educated, a large proportion of educated persons are unemployed. Why?

4.8 HEALTH

Since 2020, due to Covid-19 Pandemic you are aware of the need for keeping our hands washed, wearing masks and following social distance. 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. Generally, 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.



Fig. 4.5: Health Infrastructure is still lacking in large parts of the country

Development of health infrastructure ensures a country of healthy manpower for the production of goods and services. In recent times, scholars argue that people are entitled to healthcare 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.

It is also true that mere presence of health infrastructure is not sufficient to have healthy people. The same should be accessible to all people. Since, 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. But are we able to achieve this vision? Before we discuss various health infrastructure, let us discuss the status of health in India.

4.8.1 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 the implementation of important health programmes in the country. Over the years, India has built a vast health infrastructure and manpower at different levels. At the village level, a variety of hospitals, technically known as Primary Health Centres (PHCs) (see also Box 4.4), have been set up by the government. India also has a large number of hospitals run by voluntary agencies and the private sector. These hospitals engage 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. During 1951–2018, the number of government hospitals and dispensaries together increased from 9,300 to 53,800 and hospital beds from 1.2 lakhs to 7.1 lakhs. Also, nursing personnel increased from 18,000 to 30 lakh and allopathic doctors from 62,000 to 11.5 lakhs. The expansion of health infrastructure has resulted in the eradication of smallpox, guinea worms and the near eradication of polio and leprosy.

Work These Out

What do you think about the efforts taken by government to protect people from Covid-19 Pandemic ? Discuss in the class.

4.8.2 Private Sector Health Infrastructure

In recent times, while the public health sector has not been so successful in delivering the goods about which we will study more in the next section, private sector has grown

by leaps and bounds. A study reports that more than 70 per cent of the hospitals in India are run by the private sector. They control nearly two-fifth of the beds available in the hospitals. Nearly 60 per cent of dispensaries are run by the same private sector. They 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.

Box 4.4: 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. They are 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, Bangaluru and All India Institute of Hygiene and Public Health, Kolkata.

Source : *Report of the National Commission on Macroeconomics and Health, 2005*

In 2001-02, there were more than 13 lakh medical enterprises employing 22 lakh people; more than 80 per cent of them were single person owned, and operated by one person occasionally employing a hired worker. 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 (see Box 4.5). 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 could access a decent quality healthcare?

Box 4.5: Medical Tourism — A great opportunity

You might have seen and heard on TV news or read in newspapers about foreigners flocking to India for surgeries, liver transplants, dental and even cosmetic care. Why? Because India's health services combine the latest medical technologies with qualified professionals and are cheaper for foreigners as compared to costs of similar healthcare services in their own countries. In 2016, as many as 2,01,000 foreigners visited India for medical treatment. And this figure is likely to increase by 15 per cent each year. Experts predicted that by 2020 India could earn more than 500 billion rupees a year through such 'medical tourism'.

Sources : Ministry of Tourism, Government of India and www.grantthorn.in

Box 4.6: 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 the Nilgiris could be the examples of some such NGOs working in India. Trade unions have built alternative healthcare services for their members and also to give low-cost healthcare 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.

Table 4.3: Indicators of Health in India in Comparison with Other Countries, 2016-2018

Indicators	India	China	USA	Sri Lanka
Infant Mortality Rate/1,000 live births (2018)	30	7.4	5.6	6.4
Under-5 mortality / 1,000 live-births (2016)	37	8.6	6.5	7.4
Birth by skilled attendants (% of total) (2016)	81	81	99	99
Infants immunised (DTP) (%) (2016)	89	89	94	99
Government health spending as a % of GDP (%) (2016)	3.7	5.7	17	3.9
Out of pocket expenditure as a % of current health expenditure (2016)	65	36	11.1	50

Sources : *World Development Indicators 2019, World Bank, Washington*

4.8.3 Indian Systems of Medicine (ISM)

It includes six systems Ayurveda, Yoga, Unani, Siddha, Naturopath and Homeopathy (AYUSH). At present, there are 4,095 AYUSH hospitals and 27,951 dispensaries and as many as 8 lakh registered practitioners in India. But little has been done to set up a framework to standardise education or to promote research. ISMs have huge potential and can solve a large part of our healthcare problems because they are effective, safe and inexpensive.

Indicators of Health and Health Infrastructure — A Critical Appraisal

As pointed out earlier, 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. Some of the health indicators, and India's position, are given in Table 4.3. Scholars argue that there is greater scope for the role of government in the health sector. For instance, the table shows expenditure on health sector as 3.7 per cent of the total GDP. This is abysmally low as compared to other countries, both developed and developing.

One study points out that India has about one-fifth of the world's population but it bears a frightening 20 per cent of the global burden of diseases (GBD).

Box 4.7: Global Burden of Diseases

GBD is an indicator used by experts to gauge the number of people dying prematurely due to a particular disease, as well as, the number of years spent by them in a state of 'disability' owing to the disease. A 2017 study shows nearly two-thirds of GBD, now known as Total Burden of Disease was caused by non-communicable diseases associated with heart, respiratory system — lungs, kidney, obesity and lifestyle. Diarrhoea, lower respiratory system and other common infectious diseases account for one-sixth of total deaths in India. Out of 4.1 million early deaths occurring globally due to air pollution, 1.1 million deaths occur in India alone. The proportion of deaths occurring due to cancer (8 per cent) and injuries (11 per cent) also has been increasing over the last two decades. 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.

Work These Out

- Find out one or two government hospitals of different kinds. Invite nurses and doctors to discuss the ways and means through which they managed Covid-19 situation.
- Visit a primary health centre located in your area or neighbourhood. Also, collect the details of the number of private hospitals, medical laboratories, scan centres, medical shops and other such facilities in your locality.
- Debate in the class on the topic — 'Should we build an army of midwives to take care of the poor, who cannot afford the services of the thousands of medical graduates who pass out of our medical colleges every year' ?
- A study estimates that medical costs alone push down 2.2 per cent of the population below the poverty line each year. How?
- Visit a few hospitals in your locality. Find out the number of children receiving immunisation from them. Ask the hospital staff about the number of children immunised 5 years ago. Discuss the details in class.
- Do you think Indian cities can be provided with world-class health infrastructure so that they become attractive for medical tourists? Or should the government concentrate on providing health infrastructure to people in rural areas? What should be the priority of the government? Debate.

4.8.4 Urban-Rural and Poor-Rich Divide

Though 70 per cent of India's population lives in rural areas, only one-fifth of its hospitals (including private hospitals) are located in rural areas. Rural India has only about half the number of dispensaries. Out of about 7.13 lakh beds in government hospitals, roughly 30 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 even offer 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 healthcare facilities. In rural areas, the percentage of people who have no access to proper healthcare facilities has increased over the last few years.

Villagers have no access to any specialised medical care, like paediatrics, gynaecology, anaesthesia and obstetrics. Even though 530 recognised medical colleges produce about 50,000 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. What could be the reason for this trend? Interact with one or two doctors working in your area and discuss in the class.



Fig. 4.6 Despite availing various healthcare measures, maternal health is a cause of concern.

One study points out that 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 make them indebted forever, else they opt to die. Recently, Indian governments have been taking various initiatives to improve healthcare. Collect the details and review in the class.

Work These Out

- The overall health status of the country has certainly improved through the years. Life expectancy has gone up, infant mortality rate has come down. Smallpox has been eradicated and the goal to eradicate leprosy and polio looks achievable. But these statistics seem good only when you look at them in isolation. Compare these with the rest of the world. You can get these details from the World Health Report brought out by the World Health Organization. What do you find?
- Observe your class for a month and find out why some students remain absent. If it is due to health problems, then find out what kind of medical problems they had. Collect the details of the problem, the nature of treatment they took and the amount of money their parents spent on their treatment. Discuss the information in class.

4.8.5 Women's Health

Women constitute about half of the total population in India. They suffer many disadvantages as compared to men in the areas of education, participation in economic activities and healthcare. The deterioration in the child sex ratio in the country from 927 in 2001 to 919 in 2011 points to the growing incidence of female foeticide. Five per cent of girls aged between 15-19 years are not only married but have already borne children at least once. More than 50 per cent of married women in the age group of 15-49 years have anaemia and nutritional anaemia caused by iron-deficiency, and this has not declined since 2005. The GBD Study 2017 reports that premature deaths due to neonatal disorders tops in both the years 2007 and 2017 and this has not declined since 2005.

It can be said that Health is a vital public good and a basic human right. 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 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.

4.9 INDICES FOR MEASUREMENT OF HUMAN CAPITAL

Economists have for long used, and continue to use, real gross domestic product (or its derivative national income) as an indicator of economic welfare. An increase in GDP implies availability of more goods and services of value, and to that extent the

material welfare of the economy increases. Social development is something more than the material or economic welfare. GDP estimates fail to capture these. Social development and social welfare are related to the broader area of human development. Hence, there is a need for alternative indicators of social development. This unit briefly describes measures related to human development like Physical Quality of Life Index (PQLI) and Human Development Index (HDI).

4.9.1 Physical Quality of Life Index (PQLI)

The Physical Quality of Life Index has been formulated by Morris D. Morris. It was published for the first time in 1979 as an alternative indicator of social development and has generated much interest since then.

4.9.1.1 Concept and Construction of PQLI

PQLI is a composite index of three indicators, viz., (i) life expectancy at age one; (ii) infant mortality; and (iii) literacy.

For each indicator, the performance of individual countries is rated on a scale of 1 to 100, where 1 represents the 'worst' performance by any country and 100 the 'best' performance.

Once a country performance in life expectancy, infant mortality, and literacy has been rated on the scale of 1 to 100, the composite index (PQLI) for the country is calculated by averaging the three ratings, giving equal weight to each. Morris's study brought to light the following facts:

- 1) More generally, but not always, countries with low per capita GNPs, tended to have low PQLIs, and countries with high per capita GNPs, tend to have high PQLIs.
- 2) The correlations between GNP and PQLI were not substantially close. Some countries with high per capita GNPs had very low PQLIs (even below the average of the poorest countries).

Conversely, some countries with very low per capita GNP, had PQLIs, that were higher than the average for the upper-middle-income countries.

Table 4.4: A Comparison of Per Capita GNP and the PQLI for Selected Developing Countries, 1981

Country	Per Capita GDP (\$)	PQLI
Gambia	348	20
Angola	790	21
Sudan	380	34
Pakistan	349	40

Country	Per Capita GDP (\$)	PQLI
Saudi Arabia	12,720	40
India	253	42
Iraq	3,000	48
Qatar	27,790	56
Tanzania	299	58
Zimbabwe	815	63
Brazil	2,214	72
China	304	75
Sri Lanka	302	82
Singapore	5,220	86
Taiwan	2,503	87
Costa Rica	1,476	89

Source: Todaro, M.P. (1994): *Economic Development, 5th Edition*

The data seem to indicate that significant improvements in the basic quality of life can be achieved before there is any great rise in per capita GNP, or conversely that a higher level of per capita GNP is not a guarantee of a better quality of life. Nevertheless, despite the limitations, the PQLI appears to be a useful indicator of development.

Box 4.8: Construction of PQLI Table 4.5: Maximum and Minimum Values of Component Indicators for Construction of PQLI Indicators			
Dimension	Maximum	Minimum	Range
Infant Mortality Rate	229	9	220
Life Expectancy at Age One	77	38	39
Basic Literacy Rate	100	0	100
On above basis. Morris presents the following correlation:			
(N=150)	Infant Mortality Rate	Life Expectancy	
Life Expectancy at Age One	-0.919	- -	
Literacy Rate	-0.919	0.897	

Construction of PQLI

On the basis of the values of the component indicators given in above Table, we can construct the PQLI on the basis of the three indices in the following manner:

$$\begin{aligned} \text{(i)} \quad \text{Infant Mortality Rate Index (IMRI)} &= \frac{229 - \text{Actual IMR}}{220} \\ \text{(ii)} \quad \text{Life Expectancy Index (LEI)} &= \frac{\text{Actual Life Expectancy} - 38}{39} \\ \text{(iii)} \quad \text{Basic Literacy Rate (BLI)} &= \frac{\text{Actual Literacy Level} - 0}{100} \end{aligned}$$

We calculate the PQLI for India on the basis of 2001 Census data for these variables: IMR = 67, LE = 65 years, and BL = 65%

$$\begin{aligned} \text{(i)} \quad \text{IMRI} &= \frac{229 - 67}{220} = 0.74 \\ \text{(ii)} \quad \text{LEI} &= \frac{65 - 38}{39} = 0.69 \\ \text{(iii)} \quad \text{BLI} &= \frac{65 - 0}{100} = 0.65 \\ \text{(iv)} \quad \text{PQLI} &= \frac{\text{IMRI} + \text{LEI} + \text{BLI}}{3} \\ &= \frac{0.74 + 0.69 + 0.65}{3} = \frac{2.08}{3} = 0.69 \end{aligned}$$

Thus, the Physical Quality of Life Index for India in 2001 was 0.69.

Work These Out

If in 2011, there were IMR=47 Per 1000, BL= 74.04%, LE=67.13 years then find out the PQLI of INDIA for 2011. Source: Census Report, 2011

4.9.2 Human Development Index

Lord Meghand Desai and Nobel Laureate Amartya Sen invented the Human Development Index and UNDP incorporated it into its first Human Development Report in 1990.

4.9.2.1 Concept of HDI

The HDI attempts to capture as many aspects of human development as possible in one simple, composite index and to produce a ranking at human development

achievements. The concept of human development is much deeper and richer than what can be captured in any composite index or even by a detailed set of statistical indicators. HDI attempts to simplify this complex reality. The HDI is a composite index of achievements in basic human capabilities in three fundamental dimensions (i) Living a Long and Healthy Life; (ii) Being Educated; (iii) Having Decent Standard of Living. Three variables have been chosen to represent these three dimensions: (i) Life Expectancy; (ii) Adult Literacy and Years of School Education (Educational Attainment); and (iii) Per Capita GDP.

4.9.2.2 Method of Construction of HDI

The HDI is based on three-indicators, (i) longevity as measured by life expectancy at birth; (ii) educational attainment, as measured by combination of adult literacy (two-third weight) and combined primary, secondary and tertiary enrolment ratios (one-third weight); and (iii) standard of living as measured by real GDP per capita PPP (\$). Before the HDI is calculated, an index is created for each of these dimensions: Life Expectancy Index, Education Index and GDP Index. To calculate these indices, minimum and maximum values or goal posts are chosen for each indicator as shown in Table 4.6.

Table 4.6: Goalposts for Calculating the HDI

Index	Maximum Value	Minimum Value
Life Expectancy at Birth (yrs)	85	25
Adult Literacy Rate (%)	100	0
Combined Gross Enrolment Ratio (%)	100	0
Adjusted Real GDP Per Capita (PPPUS \$)	40000	100

Performance in each dimension is expressed as a value between 0 and 1 by applying the following formula:

$$\text{Measurement of Index} = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

After obtaining the individual indicators, the Human Development Index (HDI) is determined by finding the geometric mean of the three indicators.

$$\text{HDI} = \sqrt[3]{\text{Life Expectancy Index} \times \text{Education Index} \times \text{GDP Index}}$$

Steps for Construction of Human Development Index with Example:

- 1. Life Expectancy Index:** If the life expectancy at birth of a country is 75 years, then the life expectancy index for that country would be:

$$\text{Life Expectancy Index} = \frac{75 - 25}{85 - 25} = \frac{50}{60} = 0.833$$

2. **Education Index** : The education index is the combination of adult literacy index and gross enrolment index. If the adult literacy rate of this country is 88 then its adult literacy index would be:

$$\text{Adult Literacy Index} = \frac{88}{100 - 0} = 0.88$$

If the combined gross enrolment rate in this country is 65, then its gross enrolment index would be:

$$\text{Gross Enrolment Index} = \frac{65 - 0}{100 - 0} = 0.65$$

$$\text{Education Index} = \frac{2}{3} (\text{Adult Literacy Index}) + \frac{1}{3} (\text{Gross Enrolment Index})$$

$$= \frac{2}{3} (0.88) + \frac{1}{3} (0.65) = \left(\frac{1.76}{3} \right) + \left(\frac{0.65}{3} \right) = \frac{2.41}{3} = 0.803$$

3. **GDP Index** : The GDP per capita (in \$ PPP) of this country is \$8,840, then the GDP index would be:

$$\text{GDP Index} = \frac{\text{Log } (8840) - \text{Log } (100)}{\text{Log } (40000) - \text{Log } (100)} = \frac{3.9465 - 2.0}{4.6021 - 2.0}$$

Obtained values after using the log table

$$= \frac{1.9465}{2.6021} = 0.748$$

4. **Human Development Index** : The HDI is a Geometric Mean of the Life Expectancy Index, Education Index and adjustment GDP per capita (PPP\$) Index. It is derived as follows :

$$\text{HDI} = \sqrt[3]{0.833 \times 0.803 \times 0.748}$$

$$\text{HDI} = \sqrt[3]{0.5003} = 0.794$$

Thus, Human Development Index is 0.794 so this country comes under the category of high human development.

Box 4.9: Ranking of Human Development Index

Sr. no.	Values of HDI	Ranking
(i)	0.80-1.00	Very High Rank
(ii)	0.70-0.79	High Rank
(iii)	0.55-0.69	Medium Rank
(iv)	Below 0.55	Lower Rank

Work This Out

If the life expectancy at birth of a country is 68 years, adult literacy rate is 82, combined gross enrolment is 71 and GDP per capita (in \$ PPP) is \$9330 then, what will be the HDI and comment it.

Box 4.10: HDI Ranking for Different Countries, 2019

Ranking	Top Ten	HDI	Ranking	Bottom Ten	HDI
1.	Norway	0.957	1.	Niger	0.394
2.	Ireland	0.955	2.	Central African Republic	0.397
3.	Switzerland	0.955	3.	Chad	0.398
4.	Hong Kong (China)	0.949	4.	Burundi	0.433
5.	Iceland	0.947	5.	South Sudan	0.433
6.	Germany	0.947	6.	Mali	0.434
7.	Sweden	0.945	7.	Burkina Faso	0.452
8.	Australia	0.944	8.	Sierra Leone	0.452
9.	Netherlands	0.944	9.	Mozambique	0.456
10.	Denmark	0.940	10.	Eritrea	0.459
India = 0.645 (Rank: 131)					

4.9.2.3 Significance of HDI

The HDI value for each country indicates how far the country has to go to attain certain defined goals: an average life span of 85 years, access to education for all and a decent standard of living. The HDI reduces all three basic indicators to a common measuring rod by measuring achievements in each as the relative distance from the desirable goal. The maximum and minimum values for each variable are reduced to a scale between 0 and 1, with each country at some point on this scale. The HDI shows the distance a country has to travel to reach the maximum possible of 1 and also allows inter-country comparisons. The difference between the maximum value of the HDI and

the HDI value achieved by a country shows the country's shortfall in HDI. A challenge for every country is to find ways to reduce this shortfall.

4.9.2.4 Usefulness and Limitations of HDI

Usefulness

- i) The HDI provides an alternative to GNP, for assessing a country's standing in basic human development or its progress in human development over time. It does not displace economic measures but can serve as a simple composite complement to other measures like GNP.
- ii) The HDI has been used in many countries to rank districts or region as a guide to identify those most severely disadvantaged in terms of human development. Several countries have used the HDI as a planning tool.
- iii) The HDI has been used especially when a researcher wants a composite measure of development. For such user, other indicators have sometimes been added to the HDI.

Limitations:

The HDI has also invited serious criticism which point out the limitations of HDI as an effective indicator of social development. Some of the questions raised can be briefly reviewed as follows:

- i) Why only three indicators? Are these too many or too few?
- ii) Are the variables (indicators) chosen to measure the development adequate? And for each dimension, are the associated variables too many or too few?
- iii) Are the measures subject to measurement errors, and, if so, do such errors invalidate the results? Subsidiary question is how up-to-date are the data used to construct the index?
- iv) Is the choice of the minimum and the maximum justifiable, or is it arbitrary? In any case, how robust is the measure to alternative maximum and minimum values?
- v) Why choose equal weights? How sensitive is the measure to other weighting schemes?

It would be seen that most of the questions raised relate to the methodology of HDI. The UNDP is continuously engaged in the task of refinement of this methodology.

4.10 CONCLUSION

The economic and social benefits of human capital formation and human development are well known. The union and state governments in India have been

earmarking substantial financial outlays for development of education and health sectors. The spread of education and health services across different sectors of society should be ensured so as to simultaneously attain economic growth and equity. India has a rich stock of scientific and technical manpower in the world. The need of the hour is to improve it qualitatively and provide such conditions so that they are utilised in India. Hence, a comparative study should be done from time to time using different indices related to human development. On the basis of this, continuous collective efforts should be made to achieve the objectives determined through the new strategy.

Recap

- Investments in education convert human beings into human capital. It represents enhanced labour productivity, which is an acquired ability and an outcome of deliberate investment decisions with an expectation that it will increase future income sources.
- Investments in education, on-the-job training, health, migration and information are the sources of human capital formation.
- The concept of physical capital is the base for conceptualising human capital. There are some similarities as well as dissimilarities between the two forms of capital formation.
- Investment in human capital formation is considered as efficient and growth enhancing.
- Human development is based on the idea that education and health are integral to human well-being because only when people have the ability to read and write and the ability to lead a long and healthy life, will they be able to make other choices which they value.
- The percentage of expenditure on education of the total government expenditure indicates the importance of education in the scheme of things for the government.
- Health is a yardstick of human well-being, physical as well as mental.
- There has been significant expansion in physical provision of health services and improvements in health indicators since independence.
- Public health system and facilities are not sufficient for the bulk of the population.
- There is a wide gap between rural-urban areas and between poor and rich in utilising health care facilities.
- Women's health across the country has become a matter of great concern with reports of increasing cases of female foeticide and mortality.

- Regulated private sector health services can improve the situation and, at the same time, NGOs and community participation are very important in providing health care facilities and spreading health awareness.
- Natural systems of medicine have to be explored and used to support public health. There is a great scope of advancement of medical tourism in India.
- Physical Quality of Life Index (PQLI) is a composite index of three indicators, viz., (i) life expectancy at age one; (ii) infant mortality; and (iii) literacy.
- Human Development is a process of widening people's choices and the level of well-being they achieve.
- Human Development Index measures the average achievements in a country in three basic dimensions of human development-longevity, knowledge and standard of living.

Exercises

A. Multiple Choice Questions:

- What does education provide to man?
 - good status
 - adaptability
 - ability to understand
 - all of the above
- Which of the following is a Physical capital?

(a) man	(b) land
(c) doctor	(d) teacher
- Human capital formation leads to
 - reduction in productivity
 - optimum utilization of resources
 - lack of participation
 - lack of innovation and research
- Which index is related to the measurement of human capital formation?

(a) CPI	(b) HDI
(c) PQLI	(d) Both b and c

5. Which is not an obstacle in the way of human capital formation in India?
- (a) low standard of living
 - (b) low population
 - (c) lack of resources
 - (d) brain drain

B. Fill in the blanks.

- 1. Investing in health and education helps formation of
- 2. Human capital formation and economic development have a relations.
- 3. The mortality rate of children under one year of age is called
- 4. An improvement in HDI rank indicates
- 5. The Free and Compulsory Education Act relates to children of the age of

C. True / False

- 1. Teachers, doctors and engineers are the human capital of a nation.
- 2. There is an inverse relationship between human capital formation and economic growth.
- 3. Government spending on education and health in India is less than required.
- 4. Human Development Index measures growth in population.
- 5. Brain drain is not a human capital formation problem.

D. Very Short Answer Type Questions

- 1. What is human capital?
- 2. What are the main sources of human capital formation?
- 3. Why is there a need for human capital formation?
- 4. What is meant by migration?
- 5. What is AYUSH'?

E. Short Answer Type Questions

- 1. Distinguish between human capital and human development.
- 2. Write a note on PHC.
- 3. Briefly explain the concept of PQLI.
- 4. Write a note on 'Education for All'.
- 5. State two limitations of HDI.

6. Describe the use of Human Development Index.
7. Discuss the shortcomings of the health care system in India.
8. What factors contribute to human capital formation?
9. What are the main problems of human capital formation in India?
10. Argue in favour of the government intervention in the education and health sectors.

F. Long Answer Questions

1. What do you understand by human capital formation? Describe in detail the sources of human capital.
2. Why does a country need human capital formation? Explain its role in economic development.
3. Discuss in detail on the status of education and health in India.
4. What are the main problems of human capital formation in India? Suggest to speed up human capital formation in India.
5. How is women's health an important issue in India? How can the effectiveness of health care programs be increased ?

SUGGESTED ADDITIONAL ACTIVITIES

- Identify how Human Development Index is calculated. What is the position of India in the World Human Development Index?
- Is India going to be a knowledge-based economy in the near future? Discuss in the classroom.
- Interpret the data given in Table 4.2.
- As an educated person, what will be your contribution to the cause of education? (Example 'Each one — teach one').
- Enlist the various sources that provide information regarding education, health and labour.
- Read the annual reports of Union Ministries of Human Resource Development and Health and make summaries. Read the chapter on social sector in the Economic Survey. These can be downloaded from websites of the respective Union government ministries.

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UNIT III

Rural Development (Through Rural Credit)

After reading this chapter, you will learn about:

- Conditions and Key Issues of rural development
- Necessity, past and present situation of rural credit
- Various Non-Institutional and Institutional Sources of rural credit & Other ancilliary sources of credit
- Role of NABARD as a refinancing agency
- Key comparison of disbursements made by NABARD
- Comparison of Institutional & Non- Institutional sources
- Road-map for rural development

CHAPTER - 5

Rural Development (via Rural Credit)

"The village is the cell of the national body and cell life must be healthy and developed for the national body to be healthy & developed" : Sri Aurobindo

5.1 Introduction

Rural Development is the subset of the broader term 'Development'. In India majority of development is needed in rural areas. As majority of population still resides in it. The quality of their life is not up to the mark. Rural people account for 3/4th of total population. More than two third of them depends on agriculture. Out of these, on an average 22% rural people are not getting proper facilities as needed & they are considered as below poverty line. For India to become a progressive nation, rural development needs serious focus.

Overall Scenario:

- Since many decades, share of rural economy in Gross Domestic Product (GDP) of country is going down from top to average.
- During New Economic Reforms (1991), Rural economy was almost ignored as main focus was on industry & service sector. Agriculture growth rate was almost 3% between 1991-2012.
- More recently, rural share in overall GDP is largely on decline.

As per our planners, decline in productive public investment, inadequate infrastructure, lack of alternative employment opportunities in other sectors, increasing casualisation of employment, improper credit delivery system further hampered the growth process of rural development. So, Rural Development is the key for development of our Economy

5.2 MEANING OF RURAL DEVELOPMENT

Rural Development is a comprehensive term. The term 'rural development' is a subset of the broader term 'development'. It, basically, focuses on action for the development of rural areas that are lagging behind in the overall development process. In simple words, it means overall improvement in the quality of rural people.

“Development can be achieved only through industrialization & urbanization along with technical transformation of rural-agricultural sector”.

: MODERNIZED THEORY

5.2.1 Contemporary Challenges for Rural Development [Key Issues]:

- **Development of human resources** including
 - literacy, more specifically female literacy, education and skill development
 - health (both sanitation & public health)
- **Land reforms**
- **Development of productive resources** of each prospective locality
- **Infrastructure development** like electricity, irrigation, credit marketing, transport facilities including construction of village roads & link roads to nearby highways, facilities for agricultural research and extension and required dissemination of information.
- Special measures for alleviation of poverty and bringing about major improvement in availability of productive employment to weaker sections of society.

Let's Work On Activities

- On a monthly basis, go through the newspapers of your region and identify the problems raised by these newspapers in relation to rural areas and the solutions offered. You could also visit a nearby village and identify the problems faced by people over there. Discuss all these in the classroom.
- What do you think about above problems ? How can these be solved?

In general “Rural Development means continuous and comprehensive process of socio-economic upliftment of rural life dealing with farm & non-farm activities which particularly needs Rural Credit as a fuel to inject.”

As per **Modernised Theory of Development**, Rural financing is the required fuel for rural 'development' not reached till now in required amount.

5.3 RURAL CREDIT / RURAL FINANCE

Till now we have read about meaning and process of rural development. Rural Financing or rural credit is the real key for all the process of rural development. It simply means, finance needed by rural people for their most demanding needs. Small and marginal farmers, landless labourers and rural households are in strong need for effective credit from various sources of finance as there is enough gap between crop-sowing and realisation of income (gestation period). Farmers borrow from approachable sources

of credit to meet initial investment on seeds, implements, fertilizers and other family expenses etc. So, effective and efficient rural credit delivery system is crucial for raising actual income towards the potential income.

"Rural Credit is the important instrument for Rural Development."

5.3.1 Types of Rural Credit

- **Short Term Credit:** This credit is mainly for seeds, fertilizers, pesticides etc. This credit is needed mainly for short-term capital needs. Its time duration is 15 months. Its nature is recurring. After harvesting, it is repaid.
- **Medium Term Credit:** This credit is mainly for agro-equipment & small machinery such as electric pump sets, tools, seed drillers etc. It is for a period of 5 years. Sometimes, it may range up to 10 years.
- **Long Term Credit:** It is required for long term capital investment such as purchase of additional land, repaying of unpaid old debts, purchase of tractor/combine etc. Normally it ranges between 10-20 years.

LET'S WORK THESE OUT

Prepare a list of recent schemes and their objectives from the government website [https:// www.rural.nic.in](https://www.rural.nic.in). Collect the details, how any one of these schemes implemented in your region/rural neighbourhood areas. Discuss your observations in class.

5.3.2 Sources of Rural Credit

With the modernization of rural agriculture specifically during post green revolution period and in recent times, the need for credit has increased many times more. Main classification of sources of rural credit is:

(i) Non-Institutional Sources

(ii) Institutional Sources

Non-Institutional Sources	Institutional Sources
<ul style="list-style-type: none"> • Money Lenders • Traders and Commission Agents • Rich Landlords • Relatives & Friends 	<ul style="list-style-type: none"> • Panchayats • Co-operative Societies • Commercial Banks • Regional Rural Banks • National Bank For Agricultural & Rural Development(NABARD) • Other Sources of Finance(Self Help Group Linkages Programme For Self-Finance)

(I) Non- Institutional Sources : These are the traditional sources exist even now with 44% share in rural credit. The major sources are as below:

(a) Money Lenders : The money lenders provide credit even without any collateral security but charge very high interest rates. They are of 2 types:

- (i) Agricultural Money Lenders (who provide loan to farmers and also do farming)
- (ii) Professional Money Lenders (who are actually traders and provide loan to farmers). In rural areas, their credit giving share is declining but still they are favourite among rural people.

Bad practices of money lenders are:

- Charge very high rate of interest
- Extortion of land
- Manipulation of loan accounts
- Forces for Distress Sale

(b) Traders & Commission Agents : These provide credit to the peasants on mortgage of crops at high rate of interest on a condition that these crops will only be sold to them at their own set prices.

(c) Rich Landlords : They are like Professional Money Lenders (earlier explained above). They charge very high rate of interest and extort small farmers. Still, marginal and small farmers take loans from them for meeting their financial requirements as almost no legal formality is involved in it.

(d) Relatives & Friends : Peasants even borrow from their relatives and near & dear ones. These informal loans normally carry no interest rates and are returned after harvesting. But sometimes these sources are used for unproductive purposes.

(II) Institutional Sources : These are formal ways of borrowing and charge reasonable rate of interest. These sources mainly emerged after 1969, due to nationalisation of commercial banks when India adopted the institutional credit approach through various agencies.

Objectives of Institutional Sources:

- To provide interest efficient loan to the needed farmers
- To assist small and marginal farmers by guiding them to raise their agricultural productivity

Table 5.1- Percentage share of institutional sources in Rural Credit

Sources	1980-81	2000-01	2021-22
Cooperative Banks	61.6	39.4	12.30
Commercial Banks	38.4	52.6	76.60
Regional Rural Banks	-	8	11.10
Total	100	100	100

Source : *Economic Survey Report (2013-14, 2015-16 & 2022-23), Report of RBI on Rural Credit(2021-2022)*

Role and Share of Major Institutional Sources have been explained as below:

(a) Panchayats: It is very essential to have local self-government for the real development of the country because local levels are the real areas where the policies and programs are to be executed and where the government will come to know the problems and issues in the existing policies etc. Father of nation, realised the importance of village panchayat as an important instrument of rural development and of promoting and nurturing democracy at the grassroots level. **Para (iv) in Article 40** of the Constitution of India was introduced at his insistence. **The Community Development Program** was started on second October 1952 so as to restore and revive the social, political and economic existence of the locals through the intelligent and active participation of the rural individuals. On the recommendation of government, Balwant Rai Mehta Committee submitted its very purposeful report for **democratic decentralization**. Their important recommendations were: Establishment of a three-tier Panchayati Raj system i.e., gram panchayat at the village level, Panchayat Samiti at the block level and Zila Parishad at district level. The Panchayati Raj institutions comprise of Gram Panchayats, Panchayat Samiti and Zila Parishads completely responsible and have a unique role in implementation of rural development programs. During the period of P.V. Narsimha Rao, India also brought local government through the 73rd and 74th Amendment Acts of the Constitution which includes both - the Panchayats and the Municipalities.

More common functions of 3 Tier System:

- It implements various govt. development schemes and programs.
- It identifies the beneficiaries of the various programs and schemes.
- It requests support from the people of the village in various welfare schemes and programs in the form of cash or kind or both.
- It supports the various mass education and family welfare programs & schemes.

- It considers matters relating to levy of taxes or charges, etc. or any other matter referred by the Gram Panchayat.
- Construction as well as maintenance of public property in the villages like roads, bridges, schools, hospitals etc.

(b) Co-operative Credit Societies : Primary Agricultural Credit Societies (PACs) & Agricultural and Rural Development Banks (**ARDBs**) provide short term and long-term rural loans. The main aim of these societies is to provide timely credit at low rate of interest. Though short-term credits are extended by Primary Agriculture Credit Societies (PACs). Nonetheless, PACs have not been able to minimize the influence of money lenders. In 1980-81, the share of these societies was 61.6% which came down to 12.30% in 2021-22. It was mainly due to better performance of commercial banks.

Limitations:

- More focus on rich farmers
- Comparatively less disbursement of credit
- Delay in recovery of loan
- Less cash reserve & poor management
- Less competitive than commercial banks

(c) Commercial Banks : The share of these banks in rural financing were meagre (1%) till 1969. However, after nationalization (1969) these banks started providing rural credit both in direct and indirect ways. Indirect funding is given for fertilizers, seeds and even for many other productive factors. These banks also provide loans for storage, marketing, transportation and processing. They also provide loans to Food Corporation of India (**FCI**) & **State Government** for purchase of farm crops. Their share in total rural credit was less than co-operative societies but after 1991 their share increased up to 52.6% (2000-01) and at present it reached up to 76.60%.

State Bank of India and some other banks have been adopting Village Adoption Schemes. SBI has revived that scheme as a new name “**SBI KA APNA GAON**” in 2010.

(d) Regional Rural Banks (RRBs) : These are set up almost in each village. These banks are opened in those areas where there are no banking facilities. The purpose was to bring financial inclusion at primary level. These banks were opened on 2nd October, 1975 to give direct loans for small farmers, agricultural labourers, rural artisans and other needy rural people. These banks give 90% of their loans to economically weaker sections of society. At present their count is 56. **But out of them 43 were actively participating in 2020.** Uttar Pradesh has the highest number of RRBs. In 2000-01, their credit share in total institutional credit was 8% and it improved up to 11% in 2021-22. By the time, their importance has increased.

(e) National Bank for Agricultural & Rural Development (NABARD) :

For all round development of rural economy, Integrated Rural Development Programme was started in 1978. Due to that, demand for money increased many times. Then finally, RBI set a Shivaraman Committee to know about the requirement of rural credit. So, on recommendation of this committee, NABARD was set up on July 12, 1982. For its formation, 50% share by Center Govt. & rest was given by RBI. RBI Governor is also the chairman of NABARD. It provides refinance facilities to various institutional sources like State Co-operative Agriculture and Rural Banks, RRBs, Commercial Banks etc. It provides concessional refinance to all the dependent institutions to give concessional credit in rural areas. It also helps in execution of rural development programmes funded by World Bank and other institutional agencies. It also promotes various agricultural and rural related development researches.



Functions :

- Provides short term & long-term loans.
- Provides loans to State & approved Institutions.
- Helps in co-ordination of various Institutions.
- Promotes research work.
- Acts as a refinancing agency.
- Acts as an Inspecting Agency.

Table 5.2 DISBURSEMENTS BY NABARD (AGENCY-WISE)

	Agency	2019-20		2020-21		2021-22 (provisional GLC data)	
S.No.		Disbursed [cr.]	Share%	Disbursed [cr.]	Share%	Disbursed	Share%
1	SCBs	52042	67	57095	61.53	76736	66.24
2	RRBs	10849	14	15157	16.34	14389	12.42
3	StCBs	8069	10	6200	6.68	11454	9.89
4	SCARDBS	2147	3	2976	3.21	2541	2.19
5	NABARD Subsidiaries	1163	1	1121	1.21	1400	1.21
6	NBFCs	3910	5	10237	11.03	9320	8.05
		78180	100	92786	100	115840	100
SOURCE: NABARD ANNUAL REPORT (2021-22)							

SCBs- Schedule Commercial Banks; RRBs - Regional Rural Banks;

StCBs- State Cooperative Banks; SCARDBs- State Cooperative Agricultural & Rural Development Banks;

NBFCs- Non-Banking Finance Companies.

Table no. 5.2 clearly shows working of NABARD as a refinancing agency.

- NABARD has financed SCBs at its maximum in comparison to other credit institutions.
- SCBs have been financed 67% in (2019-20) & 66.24% in (2021-22).
- Disbursements made to StCBs & RRBs are more or less same ranging between (9-13%)in 2021-22.
- SCARDBs, NABARD subsidiaries & NBFCs has got the least disbursements.

SOME OTHER SOURCES OF FINANCE

(a) Service Area Approach : This scheme was started in April 1, 1989. It was started by Lead Banks for rural financing. Under it, each semi and rural branches of commercial banks was given responsibility of promoting economic growth and catering the rural credit needs of area falling under that respective branch. It helped in avoiding duplication of financing process. The implementation process was done in 5 stages:

- I. Tap the service area.
- II. Tap the beneficiaries and assessment of finance needs.
- III. Preparing credit plans for their needs.
- IV. Co-ordination for effective & efficient implementation of above plans.
- V. Continuous monitoring for recurring disbursements & to avoid duplication.

(b) Local Area Banks : For channelizing the rural saving and promoting the rural economic activities, these banks were set up in 1996 by private sector. These banks can be set up in only three adjoining districts of a state. These banks come under the purview of RBI and work effectively in local area needs including agricultural and rural sector.

(c) Agricultural and Rural Debt Relief Schemes : Farmers and rural population have been suffering from continuous debt burden, so, to shed off their burden, this scheme was started on 15 May, 1990. Loans of up to Rs 10000 given by commercial banks, RRBs and Co-operative Societies were waived off. Again in 2008-09 Govt introduced a 'Farm Loan Waiver Scheme' in the budget known as 'Agricultural Debt Waiver & Debt Relief Scheme, 2008-09'. Under this scheme debt taken by small and marginal farmers was waived off. Even rich landlord got the reasonable debt relief. Under it, 4 crore farmers were beneficiaries.

(d) Kisan Credit Card Scheme (KCCs) : This scheme was specially started for those productive farmers who were eligible for loan of Rs.5000 or more. But now loan of Rs 3,00,000 can be taken at an interest rate of 4%. It was started in 1998. They were given kisan credit cards along with the pass book. Without any formality, credit is given under this scheme. For all KCC holders, the minimum interest rate is 2% & average interest rate is 4%. Moreover, these cards are adjoined with Kisan Samman Fund and now the farmers can take revenue help up to Rs 6000. Time for repayment is 12 months. There is a personal insurance cover for accidental death or permanent disability of KCC holders. Till now nearly 13 crore eligible beneficiaries were issued KCC.

(e) Agricultural and Rural Development Banks : Primary Agricultural Development Banks provide long term loan for a period of 15-20 years. These banks provide finance for tractors/ tube wells /landfilling etc. These are of 2 types: Primary Land Development Banks and Central Land Development Banks. In 1950-51, these were '286' & '5' But now, their number is '745' & '9' respectively.

(f) Micro Finance : Here credit is given in small amount mainly through Small Help Group (SHGs) / Non- Govt. Organizations (NGOs). Under Micro loans, amount of Rs 25,000 is given to poor people without any security. This scheme has given very good results in Bangladesh, so NABARD also adopted this system in India. Later on, other institutional sources also adopted this micro credit system.

The Poor Women's Bank

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

Source : www.kudumbashree.org. Visit this website and explore various other initiatives undertaken by this organisation. Identify some factors which contributed to their successes and discuss in the class.

After looking at each aspect of Rural Development, we must be well aware about practical implementation of all the plans/schemes. For this we need to go inside the working of various institutions. So, we have given below, the data-sheet showing actual position of what our economy is doing for the well-being of rural areas.

Table 5.3 - Non-Institutional & Institutional (%) Share In Rural Credit
[Each 20 Year Comparison]

(i) Sources				
Non-Institutional	Years			
	1951	1971	1991	2013
Landlord	1.5	8.6	4.0	-
Agricultural Money Lender	24.9	23.1	6.3	9.8
Professional Money Lender	44.8	13.8	9.4	23.4
Traders & Agents	5.5	8.7	7.1	0.1
Relatives & Friends	14.2	13.8	6.7	8.5
Others	1.9	2.8	2.5	2.1
Total	92.8	70.8	36	44
(ii) INSTITUTIONAL				
Government	3.3	6.7	5.7	1.2
Co-operative Credit Societies	3.1	20.1	18.6	24.8
Commercial Bank & Regional Rural Bank	0.8	2.2	29.0	25.1
LIC	-	0.1	0.5	0.1
Provident Fund	-	0.1	0.9	0.2
Others	-	-	9.3	4.6
Total	7.2	29.2	64	56
Grand Total (i + ii)	100	100	100	100

Sources : All India Rural Credit Survey (1954), All India Debt & Investment Survey [1951-52, 1971-72, 1991-92 and 2003], All India Debt & Investment Survey, NSSO, 70th round of data collection [Jan-Dec 2013]

Above table (5.3) very clearly shows statistical performance of each source of rural finance.

- It is very clear from above table that share of Non-Institutional Rural Credit has decreased from 92.8% to 44%. This share reduced largely in 1991 (36%) but still, it is almost near 50% approximately. Landlord's share became negligible (almost zero). However, professional money lenders is still sharing 23.4% in rural financing. Due to spread of institutional credit, even non-

institutional sources started giving interest free credit. This interest free credit was once 18% in 2002 but now, it is 12% in 2019.

- If we look at the performance of institutional sources, earlier their share was negligible (7.2%). But then their share increased up to 64% in 1991. Finally, their share was 56% (2013) showing total growth of 8 times through all these years. Among institutional sources, maximum growth was shown by Cooperative Societies/Banks, Commercial Banks & RRBs.
- From the data sheet, it is very clear that govt. has tried its best to enhance the institutional sources of rural finance but non-institutional sources are still revolving around 45% which is not a good sign for rural growth.
- Direct participation of Government in rural credit is Just 1.2%.

WORK THESE OUT

In your locality/neighbourhood, you might notice self-help groups are providing credit. Attend few meetings of such self-help groups. Write a report on the profile of a self-help group. The profile may include - when it was started, the number of members, amount of savings and type of credit they provide and how borrowers use the loan.

You might also find that those who take a loan for starting self-employment activities but use it for other purposes. Interact with few such borrowers. Identify the reasons for not starting self-employment activities and discuss in the classroom.

5.4 ROAD-MAP FOR RURAL DEVELOPMENT [OBJECTIVES AND ACTIONS FOR RURAL DEVELOPMENT]

Rural development needs comprehensive change in all aspects of rural life in the following ways:

- 1. Development of Human Capital :** This will be done by following measures:
 - Special importance to female education and focus on universalisation of education
 - Providing productive employment skill
 - Better and more affordable Public Health facilities for physical growth
 - Sanitation facilities at workplaces and homes.
 - Increasing income by providing more employment opportunities.
- 2. Infrastructure Development :** Here focus should be on:
 - Improvement in economic and social infrastructure (electricity, irrigation, agriculture marketing, credit facilities and main village & link roads, proper transport facilities)
 - Agricultural research and extension of latest information
 - Dissemination of market & employment related information.

3. **Institutional/Land Reforms:**

- Efforts to achieve potential of land (per hectare competitive productivity) and providing benefit to real cultivators
- Improvement in land base for better socio-economic condition

4. **Economic Rural Soundness** : As maximum BPL 'Below Poverty Line' counts are rural people so there is serious need to bring significant improvement in living condition of weaker rural sections.

5. **Enhance Local Potentiality** : Development of local employment avenues specific to particular locality (other than farming).

6. **Rural Credit / Economic Assistance** : There must be a financial support (Non-Institutional or Institutional) for Rural development.

Gandhian Approach of Rural Development

Gandhian approach to rural development may be labelled as 'Idealist'. The village is the basic unit of the Gandhian ideal social order. "If the village perishes, India will perish too..... So, we have to make a choice between India of the villages that is as ancient as herself and India of the cities that is creation of foreign Influence.

As per Gandhian thought, village republic can be built through decentralisation of social and political power. Self reliance of the villages and rural industrialisation with the help of government is key for rural development.

RECAP

- Objectives of Rural Development: Development of Human Capital, Infrastructure Development, Institutional/Land Reforms, Economic Rural Soundness, Enhance Local Potentiality and financial assistance.
- Rural Credit means credit given to rural areas for their most demanding needs.
- Sources of rural credit are:
 - (i) Non-Institutional
 - (ii) Institutional
- Objectives of Institutional Sources:
 - To provide interest efficient loan to needy farmers.
 - To assist small & marginal farmers by guiding them to raise their agricultural productivity
- NABARD is the top most refinancing agency which directly deals with the formal institution for rural credit needs.

- Refinance means financing again. Refinancing is a process of taking loans to pay off existing debt.
- NABARD has financed SCBs at its maximum in comparison to other credit institutions
- No doubt, share of institutional sources in rural credit improved but it is still around 56%. Even share of Non-Institutional sources lies at 44%.
- Direct govt. participation in rural credit is only 1.2%.

●●● *Exercises* ●●●

(A) Multiple Choice Questions :

- Farmers should get credit from:
 - Non-Institutional Sources
 - Institutional Sources
 - money lenders
 - none of these
- Choose Institutional Sources from the below given options:
 - RRBs
 - SCARDBs
 - NBFCs
 - all of these
- Money lenders, commission agents and friends are..... sources of credit.
 - Institutional
 - NBFCs
 - Non-Institutional
 - none of these
- Which refinance agency was set-up to provide credit to agricultural and rural sectors.
 - NBFCs
 - SCARDBs
 - SBLs
 - NABARD
- To smoothen the process of agricultural and rural creditscheme was launched in 1998.
 - Local Area Approach
 - SCARDBs
 - KCCs
 - Micro Financing
- What do we call the technique of advancing small amounts of credit through SHGs?
 - Agricultural & Rural Debt Relief Scheme
 - KCCs
 - Micro Financing
 - none of these
- What is the time duration of medium-term credit?
 - 7 years
 - 2 years
 - 5 years
 - none of these

8. RRBs were set up in _____.
 (i) 1975 (ii) 1974
 (iii) 1990 (iv) 1988.
9. Which of the following is a defect of agricultural marketing in India?
 (i) ineffective storage facility
 (ii) lack of regulated markets
 (iii) absence of grading
 (iv) all of these
10. A farmer named Victor Singh, living in Ludhiana. He is in immediate need for capital loan. He should go for _____ source.
 (i) Institutional (ii) Micro Financing
 (iii) Non-Institutional (iv) none of these

(B) Fill in the blanks :

1. NBFCs stands for
2. Full form of NABARD is
3. NABARD has given maximum share of rural refinance to institutional agency.
4. To give small amount of rural credit through SHGs is known as
5. Banking with poor people is also known as

(C) True/False:

1. Poor Recovery is a serious problem in rural credit.
2. Local Area Bank was started in 1996.
3. PACs & SCARDBs are part of Co-operative Banks.
4. Even Non-Institutional Sources provide interest free credit.
5. In rural areas, presently, Commercial Banks have maximum share in disbursing the rural credit.
6. Service Area Approach was launched by Lead Banks on April 01, 1989.

(D) Very Short Answer Type Questions (one word/one sentence):

1. Give the meaning of Rural Development.
2. Give one specific definition of Rural Development.
3. When was RRBs set up?
4. Give the full form of PACS.
5. What was the percentage of disbursements made by NABARD to SCBs?
6. What is the name of 'Village Adoption Scheme' adopted by SBI?
7. Why is interest free credit being given by Non-Institutional sources?
8. What was the Govt. direct share in rural credit (2013)?

(E) Match the columns:

1. When was following credit institution set up?

1. KCCs	(a) 1996
2. RRBs	(b) 1998
3. Local Area Banks	(c) 1975
4. NABARD	(d) 1982

2. Give alternative name/full form of the following:

1. PACs	(a) Banking With Poor People
2. Micro Financing	(b) Primary Agricultural Credit Societies
3. ARDRs	(c) Agricultural & Rural Debt Relief Schemes
4. ARDB	(d) Agricultural & Rural Development Banks

(F) Very Short Answer Type Questions.

1. What is the meaning of Rural Financing?
2. Give one specific definition of Rural Development.
3. Name any two institutional sources & also tell about their inception year.
4. Give 2 objectives of NABARD?
5. What was the need for Institutional Sources?
6. What do you know about village adoption scheme?
7. What role do Cooperative Banks play in rural financing?

(G) Short Answer Type Questions.

1. Explain any 4 Institutional Sources of rural credit.
2. Write a brief note on NABARD & its objectives.
3. What do you know about Service Area Approach.
4. Explain the Kisan Credit Card Scheme.
5. Give four objectives of rural development.
6. Explain Micro Financing Scheme.

(H) Long Answer Type Ques.

1. How will you make the road map for rural development? Give at least four points regarding it.
2. Explain the role of NABARD as a refinancing agency with the help of few data interpretations.
3. Explain any four sources of institutional credit.

(I) Read the following source passage to give answers of questions:

At the time of independence, moneylenders and traders exploited small & marginal farmers and landless labourers by lending to them on high interest of 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 multiagency approach to adequately meet the needs of rural credit. The institutional structure of rural banking today consists of a set of multi-agency institutions, namely, commercial banks, regional rural banks (RRBs), cooperatives and land development banks. They are expected to dispense adequate credit at cheaper rates. Also, NABARD was set up in 1982 after Integrated Development Programme to refinance all the appointed agencies for further financing the rural credit. Recently, Self-Help Groups (SHGs) have emerged to fill the gap in the formal credit system. The SHGs promote thrift in small proportions by a minimum contribution from each member. From the pooled money, credit is given to the needy members to be repayable in small installments at reasonable interest rates. By May 2019, nearly 6 crore women in India have become member in 54 lakh women SHGs. About Rs 10,000 – 15,000 per SHG and another 2.5 lakh per SHG as a Community Investment Support Fund (CISF) are provided as part of renovating fund to take up self-employment for income generation.

1. When was NABARD set up?
2. What is the full form of CISF?
3. Give two examples of multiagency institution?
4. What is the aim of renovating the fund of SHGs?

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6

Employment : Growth, Informalisation and Other Issues

After studying this chapter, the learners will :

- Understand a few basic concepts related to employment such as economic activity, worker, workforce and unemployment
- Understand the nature of participation of men and women in various economic activities in various sectors
- Know the nature and extent of unemployment
- Assess the initiatives taken by the government in generating employment opportunities in various sectors and regions.

CHAPTER - 6

Employment : Growth, Informalisation and others Issues

What I object to, is the 'craze' for machinery, not machinery as such. The craze is for what they call labour-saving machinery. Men go on 'saving labour' till thousands are without work and thrown on the open streets to die of starvation..

Mahatma Gandhi

6.1 INTRODUCTION

People do a variety of work. Some work on farms, in factories, banks, shops and many other workplaces; yet a few others work at home. Work at home includes not only traditional work like weaving, lace making or variety of handicrafts but also modern jobs like programming work in the IT industry. Earlier factory work meant working in factories located in cities whereas now technology has enabled people to produce those factory-based

goods at home in villages. During Covid-19 pandemic in 2020-2021, millions of workers delivered their products and services through work from home.

Why do people work? Work plays an important role in our lives as individuals and as members of society. People work for 'earning' a living. Some people get, or have, money by inheriting it, not working for it. This does not completely satisfy anybody. Being employed in work gives us a sense of self-worth and enables us to relate ourselves meaningfully with others. Every working person is actively contributing to national income and hence, the development of the country by engaging in various economic activities—that is the real meaning of 'earning' a living. We do not work only for ourselves; we also have a sense of accomplishment when we work to meet the requirements of those who are dependent on us. Having recognised the importance of work, Mahatma Gandhi insisted upon education and training through a variety of works including craft.



Fig. 6.1 Multinational companies sell footballs made in the houses of Jalandhar, Punjab

Studying about working people gives us insights into the quality and nature of employment in a country and helps in understanding and planning our human resources. It helps us to analyse the contribution made by different industries and sectors towards national income. It also helps us to address many social issues such as exploitation of marginalized sections of the society, child labour, etc.

6.2 WORKERS AND EMPLOYMENT

What is employment? Who is a worker? When a farmer works on fields, he or she produces food grains and raw materials for industries. Cotton becomes cloth in textile mills and in powerlooms. Lorries transport goods from one place to another. We know that the total monetary value of all such final 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 earning 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**. All those who are engaged in economic activities, in whatever capacity high or low, are workers. Even if some of them temporarily abstain from work due to illness, injury or other physical disability, bad weather, festivals, social or religious functions, they are also workers. Workers also include all those who help the main workers in these activities. We generally think of only those who are paid by an employer for their work as workers. This is not so. Those who are self-employed are also workers.

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. You might be interested in knowing the number of people actively engaged in various economic activities. During 2017-18, India had about a 471 million active workforce. Since majority of our people reside in rural areas, the proportion

Work This Out

In your house or neighbourhood, you might come across many women who, even though they have technical degrees and diplomas and also free time to go to work, do not go to work. Ask them the reasons for not going to work. List all of them and discuss in the classroom whether they should go for work and why and also ways by which they could be sent for work. Some social scientists argue that housewives working at home without getting paid for that work must also be regarded as contributing to the gross national product and therefore, as engaged in an economic activity. Would you agree?

of workforce residing there is higher. The rural workers constitute about two third of this 471 million. Men form the majority of workforce in India. About 77 per cent of the workers are men and the rest are women (men and women include child labourers in respective gender). Women workers account for one-fourth of the rural workforce whereas in urban areas, they are just one-fifth of the workforce. Women carry out works like cooking, fetching water and fuelwood and participate in farm labour. They are not paid wages in cash or in the form of grains; at times they are not paid at all. For this reason, these women are not categorised as workers. Economists argue that these women should also be called workers. What do you think?

6.3 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.

You might have already studied in lower classes the meaning of the term 'population'. **Population** is defined as the total number of people who reside in a particular locality at a particular point of time. If you want to know the worker-population ratio for India, divide the total number of workers in India by the population in India and multiply it by 100, you will get the worker-population ratio for India.

TABLE 6.1 Worker-Population Ratio in India, 2017-2018

Sex	Worker-Population Ratio		
	Total	Rural	Urban
Men	52.35	51.7	53.0
Women	15.85	17.5	14.2
Total	34.1	34.6	33.6

Source : Gol (2019)

If you look at Table 6.1, it shows the different levels of participation of people in economic activities. For every 100 persons, about 34 (by rounding off 34.1) are workers in India. In urban areas, the proportion is about 34, whereas in rural India, the ratio is about 35. Why is there such a difference? People in rural areas have limited resources to earn a higher income and participate more in the employment market. Many do not go to schools, colleges and other training institutions. Even if some go, they discontinue in the middle to join the workforce; whereas, in urban areas, a considerable section is able to study in various educational institutions. Urban people have a variety of employment opportunities. They look for the appropriate job to suit their qualifications and skills. In rural areas, people cannot stay at home as their economic condition may not allow them to do so.

Compared to females, more males are found to be working. The difference in participation rates is very large in urban areas: for every 100 urban females, only about 14 are engaged in some economic activities. In rural areas, for every 100 rural women about 18 participate in the employment market. Why are women, in general, and urban women, in particular, not working? It is common to find that where men are able to earn high incomes, families discourage female members from taking up jobs.

Going back to what has already been mentioned above, many household activities done by women are not recognised as productive work. This narrow definition of work leads to non-recognition of women's work and, therefore, to the underestimation of the number of women workers in the country. Think of the women actively engaged in many activities within the house and at family farms who are not paid for such work. As they certainly contribute to the maintenance of the household and farms, do you think that their number should be added to the number of women workers?

Work These Out

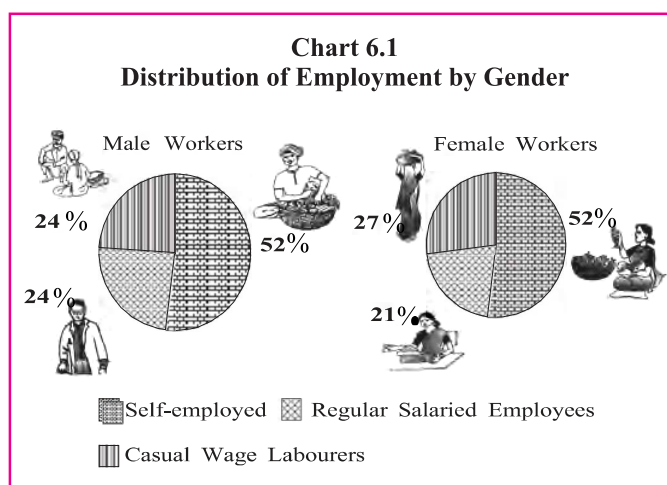
- Any study of employment must start with a review of the worker-population ratio. Why?
- In some communities, you might have noticed that even if the males do not earn a high income, they do not send women to work. Why?

6.4 SELF-EMPLOYED AND HIRED WORKERS

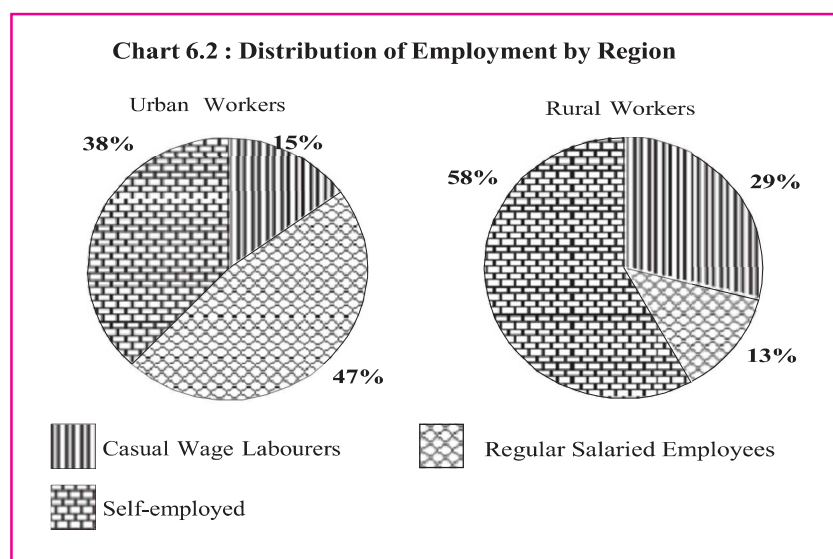
Does the worker-population ratio say anything about workers' status in society or about the working conditions? By knowing the status with which a worker is placed in an enterprise, it may be possible to know one dimension - quality of employment in a country. It also enables us to know the attachment a worker has with his or her job and the authority she or he has over the enterprise and over other co-workers.

Let us take three workers from the construction industry- a cement shop owner, a construction worker and a civil engineer of a construction company. Since the status of each one of them is different from the other, they are also called differently. Workers who own and operate an enterprise to earn their livelihood are known as **self-employed**. Thus, the cement shop owner is self-employed.

About 52 per cent workforce in India belongs to this category. The construction workers are known as **casual wage labourers**; they account for about 25 per cent of India's workforce. Such labourers are casually engaged in others' farms and, in return, get a remuneration for the work done.



Source : Government of India (2019)



Source : Government of India (2019)

Workers like the civil engineer working in the construction company account for 23 per cent of India's workforce. When a worker is engaged by someone or an enterprise and paid his or her wages on a regular basis, they are known as **regular salaried employees** (see table 6.2).

**TABLE 6.2 Trends in Employment Pattern (Sector-wise and Status-wise),
1972-2018 (in %)**

Item	1972-73	1983	1993-94	2011-2012	2017-2018
Sector					
Primary	74.3	68.6	64	48.9	44.6
Secondary	10.9	11.5	16	24.3	24.4
Services	14.8	16.9	20	26.8	31.0
Total	100.0	100.0	100.0	100.0	100.0
Status					
Self-employed	61.4	57.3	54.6	52.0	52.2
Regular Salaried Employees	15.4	13.8	13.6	18.0	22.8
Casual Wage Labourers	23.2	28.9	31.8	30.0	25.0
Total	100.0	100.0	100.0	100.0	100.0

Look at Chart 6.1, you will notice that self employment is a major source of livelihood for both men and women as this category accounts for more than 50 percent of the workforce. Casual wage work is the second major source for both men and women, a

little more so for the latter (24-27 per cent). When it comes to regular salaried employment, both women and men are found to be so engaged in greater proportion. Men form 24 per cent whereas women form 21 per cent. The gap between men and women is very less.



Fig. 6.2 Brick-making: a form of casual work

When we compare the distribution of workforce in rural and urban areas in Chart 6.2 you will notice that the self employed and casual wage labourers are found more in rural areas than in urban areas. In the latter, regular wage salaried jobs are greater. In the former, since majority of those depending on farming own plots of land and cultivate independently, the share of self-employed is greater.

The nature of work in urban areas is different. Obviously, everyone cannot run factories, shops and offices of various types. Moreover, enterprises in urban areas require workers on a regular basis.

Work These Out

- We generally think that only those who are doing paid work regularly or casually such as agricultural labourers, factory workers, those who work in banks and other offices as assistants and clerks are workers. From the above discussion, you must have understood that those who are self-employed such as pavement vegetable vendors, professionals such as lawyers, doctors and engineers are also workers. Mark (a), (b) and (c) against self-employed, regular salaried employees and casual wage labourers, respectively:
 1. Owner of a salon
 2. Worker in a rice mill who is paid on daily basis but employed regularly
 3. Cashier in State Bank of India
 4. Typist working in a state government office on a daily wage basis but paid monthly
 5. A handloom weaver
 6. Loading worker in a wholesale vegetable shop
 7. Owner of a cold drink shop which sells Pepsi, Coca-Cola and Limca
 8. Nurse in a private hospital who gets monthly salary and has been working regularly for the past 5 years
- Economists point out that casual wage labourers are the most vulnerable among the three categories. Could you locate who these workers are and where they are found and why?

- Can we say that the self-employed earn more than the casual wage labourers or regular salaried employees? Identify a few other indicators of quality of employment.

6.5 EMPLOYMENT IN FIRMS, FACTORIES AND OFFICES

In the course of economic development of a country, labour flows from agriculture and other related activities to industry and services. In this process, workers migrate from rural to urban areas. 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. Generally, we divide all economic activities into eight different industrial divisions. 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).



Fig 6.3 : Garment workers ; upcoming factory employment for women

TABLE 6.3 : Distribution of Workforce by Industry, 2017-2018

Industrial Category	Place of Residence		Sex		Total
	Rural	Urban	Men	Female	
Primary Sector	59.8	6.6	40.7	57.1	44.6
Secondary Sector	20.4	34.3	26.5	17.7	24.4
Tertiary/ Service Sector	19.8	59.1	32.8	25.2	31.0
Total	100.0	100.0	100.0	100.0	100.0

Table 6.3 shows the distribution of working persons in different industries during the year 2017- 2018. Primary sector is the main source of employment for majority of workers in India. Secondary sector provides employment to only about 24 per cent of workforce. About 31 per cent of workers are engaged in the service sector.

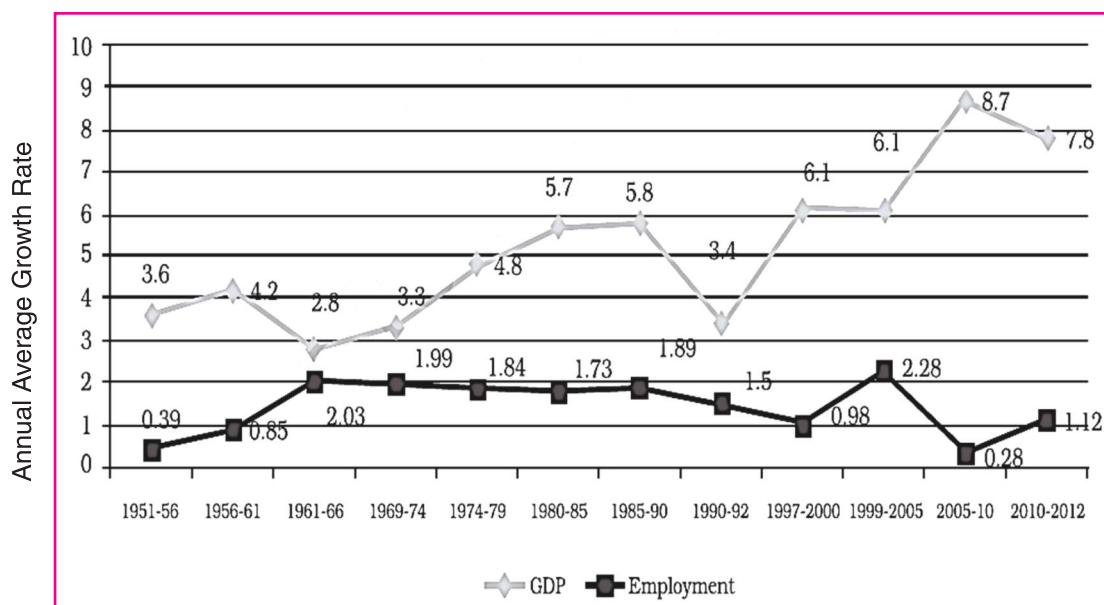
Table 6.3 also shows that about 60 per cent of the workforce in rural India depends on agriculture, forestry and fishing. About 20 per cent of rural workers are working in manufacturing industries, construction and other industrial activities. Service sector provides employment to about 20 per cent of rural workers. Agriculture is not a major source of employment in urban areas where people are mainly engaged in the service sector. About 60 per cent of urban workers are engaged in the service sector. The secondary sector gives employment to about one-third of the urban workforce.

Though both men and women workers are concentrated in the primary sector, women workers' concentration is very high. About 57 per cent of the female workforce is employed in the primary sector whereas less than half of males work in that sector. Men get opportunities in both secondary and service sectors.

Work These Out

All newspapers have one section meant for job opportunities. Some also devote an entire supplement in a day or every week like **Opportunities** in The Hindu or **Ascent** in The Times of India. Many companies advertise vacancies for various positions. Cut those sections. Develop a table which contains four columns ; whether the company is private or public, name of the post, number of posts, sector primary, secondary or tertiary and qualification required. Analyse the table in the classroom about jobs advertised in the newspapers.

Chart 6.3 : Growth of Employment and Gross Domestic Product, 1951-2012(%)



Note: *This is the period for which comparable and authentic data are available.

(**Source:** The Indicators of Employment and Unemployment in India, 2011-12, NSS 68 round National Statistical Organisation, National Sample Survey Office, Ministry of Statistics & Programme Implementation, Government of India, January 2014.)

6.6 GROWTH AND CHANGING STRUCTURE OF EMPLOYMENT

In chapters 2 and 3, you might have studied about the planning strategies in detail. Here we will look at two developmental indicators—Growth of employment and GDP. Nearly seventy years of planned development have been aimed at expansion of the economy through increase in national output and employment.

During the period 1950 - 2010, 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 the rate of not more than 2 percent.

Chart 6.3 also points at another disheartening development in the late 1990s: employment growth started declining and reached the level of growth that India had in the early stages of planning. During these years, we also find a widening gap between the growth of GDP and employment. This means that in the Indian economy, without generating employment, we have been able to produce more goods and services. Scholars refer to this phenomenon as **jobless growth**.

So far we have seen how employment has grown in comparison to GDP. Now it is necessary to know how the growth pattern of employment and GDP affected different sections of workforce. From this we will also be able to understand what types of employment are generated in our country.

Let us look at two indicators that we have seen in the preceding sections—employment of people in various industries and their status. We know that India is an agrarian economy ; a major section of population lives in rural areas and is dependent on agriculture as their main livelihood. Developmental strategies in many countries including India, have aimed at reducing the proportion of people depending on agriculture.

Distribution of workforce by industrial sectors shows substantial shift from farm work to non-farm work (see Table 6.2). In 1972-73, about 74 per cent of workforce was engaged in primary sector and in 2011-12, this proportion has declined to about 50 per cent. Secondary and service sectors are showing promising future for the Indian workforce. You may notice that the shares of these sectors have increased from 11 to 24 per cent and 15 to 27 per cent, respectively.

The distribution of workforce in different status indicates that over the last four decades (1972-2018), people have moved from self employment and regular salaried employment to casual wage work. Yet self-employment continues to be the major employment provider. Look at the last column of table 6.2. How do you understand the

stagnation of secondary sector and moderate rise in self-employment during 2011-18? Discuss in the classroom. Scholars call the process of moving from self employment and regular salaried employment to casual wage work noticed during 1972 -1994 as **casualisation of workforce**. This makes the workers highly vulnerable. How? Look at the case study of Ahmedabad in the preceding section (Box 6.2).

In the mean time you also notice in 2017-18 a moderate rise in the share of regular salaried employees. How do you explain this phenomenon?

Work These Out

- Do you know that maintaining employment growth at 2 per cent for a country like India is not an easy thing? Why?
- What will happen if there is no additional employment generated in the economy even though we are able to produce goods and services in the economy? How could jobless growth happen?
- Economists say that if casualisation increases the earning of the people, such phenomenon should be welcomed. Suppose a marginal farmer becomes a full-time agricultural labourer, do you think he will be happy even if he earns more in his daily wage work? Or will a permanent and regular worker of the pharmaceutical industry be happy if he becomes a daily wage labourer, even if his or her overall earnings increase? Discuss in the classroom.

6.7 INFORMALISATION OF INDIAN WORKFORCE

In the previous section we have found that the proportion of casual labourers hired for jobs has been increasing. One of the objectives of development planning in India, since India's independence, has been to provide decent livelihood to its people. It has been envisaged that the industrialisation strategy would bring surplus workers from agriculture to industry with better standard of living as in developed countries. We have seen in the preceding section, that even after 70 years of planned development, more than half of the Indian workforce depends on farming as the major source of livelihood.

Economists argue that, over the years, the quality of employment has been deteriorating. Even after working for more than 10-20 years, why do some workers not get maternity benefit, provident fund, gratuity and pension? Why does a person working in the private sector get a lower salary as compared to another person doing the same work in the public sector?

You may find that a small section of Indian workforce is getting regular income. The government, through its **labour laws**, enable them to protect their rights in various ways. This section of the workforce forms **trade unions**, bargains with employers for better wages and other **social security measures**. Who are they? To know this we

classify workforce into two categories: workers in formal and informal sectors, which are also referred to as organised and unorganised sectors. All the **public sector establishments** and those **private sector establishments** which employ 10 hired workers or more are called formal sector establishments and those who work in such establishments are formal sector workers. All other enterprises and workers working in those enterprises form the informal sector. Thus, informal sector includes millions of farmers, agricultural labourers, owners of small enterprises and people working in those enterprises as also the self-employed who do not have any hired workers. It also includes all non-farm casual wage labourers who work for more than one employer such as construction workers and headload workers. You may note that this is one of the ways of classifying workers. There could be other ways of classification as well. Discuss other possible ways in the class.

Box 6.1: Formal Sector Employment

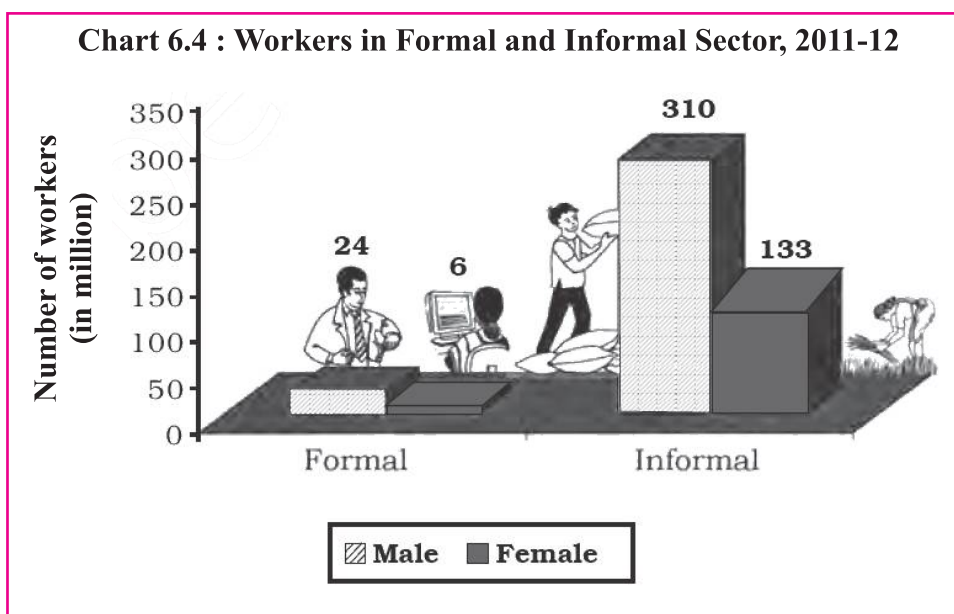
The information relating to employment in the formal sector is collected by the **Union Ministry of Labour** through **employment exchanges** located in different parts of the country. Do you know who is the major employer in the formal sector in India? In 2012, out of about 30 million formal sector workers, about 18 million workers were employed by the public sector. Here also men form the majority, as women constitute only about one-sixth of the formal sector workforce. Economists point out that the reform process initiated in the early 1990s resulted in a decline in the number of workers employed in the formal sector. What do you think?



Fig. 6.4 Road side vending: an increasing variety of informal sector employment

Those who are working in the formal sector enjoy social security benefits. They earn more than those in the informal sector. Developmental planning envisaged that as the economy grows, more and more workers would become formal sector workers and the proportion of workers engaged in the informal sector would dwindle. But what has happened in India? Look at the following chart which gives the distribution of workforce in formal and informal sectors.

In Section 6.2, we learnt that in 2017-18 there were about 471 million workers in India. There were about 30 million workers in the formal sector. Can you estimate the percentage of people employed in the formal sectors in the country? About only six per cent $[(30 / 473) \times 100]$! Thus, the rest 94 per cent are in the informal sector. In 2011-12, the year for which gender wise data on formal-informal sector employment is available (Chart 6.4), about 20 percent of formal sector and 30 percent of informal sector workers are women.



Box 6.2: Informalisation in Ahmedabad

Ahmedabad is a prosperous city with its wealth based on the produce of more than 60 textile mills with a labour force of 1,50,000 workers employed in them. These workers had, over the course of the century, acquired a certain degree of income security. They had secure jobs with a living wage; they were covered by social security schemes protecting their health and old age. They had a strong trade union which not only represented them in disputes but also ran activities for the welfare of workers and their families. In the early 1980s, textile mills all over the country began to close down. In some places, such as Mumbai, the mills closed rapidly. In Ahmedabad, the process of closure was long drawn out and spread over 10 years. Over this period, approximately over 80,000 permanent workers and over 50,000 non-permanent workers lost their jobs and were driven to the informal sector. The city experienced an

economic recession and public disturbances, especially communal riots. A whole class of workers was thrown back from the middle class into the informal sector, into poverty. There was widespread alcoholism and suicides, children were withdrawn from school and sent to work.

Source: Renana Jhabvala, Ratna M. Sudarshan and Jeemol Unni (Ed.) Informal Economy at Centre Stage : New Structures of Employment, Sage Publications, New Delhi, 2003, pp.265.



Change in the balance of power in a house: an unemployed mill worker peeling garlic whereas his wife has a new job of beedi rolling.

Since the late 1970s, many developing countries including India started paying attention to enterprises and workers in the informal sector as employment in the formal sector is not growing. Workers and enterprises in the informal sector do not get regular income. They do not have any protection or regulation from the government. Workers are dismissed without any compensation. Technology used in the informal sector enterprises is outdated. They also do not maintain any accounts. Workers of this sector live in slums and are squatters. Of late, owing to the efforts of the **International Labour Organisation (ILO)**, the Indian government has initiated the modernisation of informal sector enterprises and provision of social security measures to informal sector workers.

Work These Out

Tick (✓) mark those which are in the informal sector

- Worker in a hotel which has seven hired workers and three family workers
- A private school teacher in a school which has 25 teachers
- A police constable
- Nurse in a government hospital
- Cycle-rickshaw puller
- The owner of a textile shop employing nine workers
- Driver of a bus company which has more than 10 buses with 20 drivers, conductors and other workers
- Civil engineer working in a construction company which has 10 workers
- Computer operator in the state government office working on a temporary basis
- A clerk in the electricity office

6.8 UNEMPLOYMENT

You might have seen people looking for jobs in newspapers. Some look for a job through friends and relatives. In many cities, you might find people standing in some selected areas looking for people to employ them for that day's work. Some go to factories and offices and give their bio-data and ask whether there is any vacancy in their factory or office. Many in the rural areas do not go out and ask for a job but stay home when there is no work. Some go to employment exchanges and register

themselves for vacancies notified through employment exchanges. The National Statistical Office (NSO) which was previously known as National Sample Survey Organization defines unemployment as a situation in which all those who, owing to lack of work, are not working but either seek work through employment exchanges, intermediaries, friends or relatives or by making applications to prospective employers or express their willingness or availability for work under the prevailing condition of work and remunerations. There are a variety of ways by which an unemployed person is identified. Economists define unemployed person as one who is not able to get employment of even one hour in half a day.

There are three sources of data on unemployment : Reports of Census of India, National Statistical Office's Reports of Employment and Unemployment Situation, Annual Reports of Periodic Labour Force Survey and Directorate General of Employment and Training Data of Registration with Employment Exchanges. Though they provide different estimates of unemployment, they do also provide us with the attributes of the unemployed and the variety of unemployment prevailing in our country.



Fig. 6.6 Sugar cane cutters: disguised unemployment is common in farm works



Fig. 6.5 Unemployed mill workers waiting for casual jobs

Do we have different types of unemployment in our economy? The situation described in the first paragraph of this section is called **open unemployment**. 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**. One study conducted in the late 1950s showed about one-third of agriculture workers in India as disguisedly unemployed.



Fig. 6.7 Dam construction work is a direct way of employment generation by the government

You may have noticed that many people migrate to an urban area, pick up a job and stay there for some time, but come back to their home villages as soon as the rainy season begins. Why do they do so? This is because work in agriculture is seasonal; there are no employment opportunities in the village for all months in the year. When there is no work to do on farms, people go to urban areas and look for jobs. This kind of unemployment is known as seasonal unemployment. This is also a common form of unemployment prevailing in India.

Although we have witnessed slow growth of employment, have you seen people being unemployed over a very long time? Scholars say that in India, people cannot remain completely unemployed for very long because their desperate economic condition would not allow them to be so. You will rather find them being forced to accept jobs that nobody else would do, unpleasant or even dangerous jobs in unclean or unhealthy surroundings. The Central and State governments take many initiatives and generate employment to facilitate a decent living for low income families through various measures. These will be discussed in the following section.

6.9 GOVERNMENT AND EMPLOYMENT GENERATION

You may recall about the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005 earlier known as NREGA. 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 the government has implemented to generate employment for those who are in need of jobs in rural areas.

Since independence, the Union and State governments have played an important role in generating employment or creating opportunities for employment generation. Their efforts can be broadly categorised into two-direct employment and indirect employment. In the first category, as you have seen in the preceding section, the government employs people in various departments for administrative purposes. It also runs industries, hotels and transport companies, and hence, provides employment directly to workers. When the output of goods and services from government enterprises increases, then private enterprises which receive raw materials from government enterprises will also raise their output and hence increase the number of employment opportunities in the economy. For example, when a government owned steel company increases its output, it will result in direct increase in employment in that government company. Simultaneously, private companies which purchase steel from it, will also increase their output and thus employment. This is the indirect generation of employment opportunities by the government initiatives in the economy.

The governments implement many programmes aimed at alleviating poverty are through employment generation. These are also known as **employment generation programmes**. All these programmes aim at providing not only employment but also services in areas such as primary health, primary education, rural drinking water, nutrition, assistance for people to buy income and employment generating assets, development of community assets by generating wage employment, construction of houses and sanitation, assistance for constructing houses, laying of rural roads and development of wastelands/ degraded lands.

6.10 CONCLUSION

There has been a change in the structure of workforce in India. Newly emerging jobs are found mostly in the service sector. The expansion of the service sector and the advent of high technology now frequently permit a highly competitive existence for efficient small scale and often individual enterprises or specialist workers side by side with the multinationals. Outsourcing of work is becoming a common practice. It means that a big firm finds it profitable to close down some of its specialist departments (for example, legal or computer programming or customer service sections) and hand over a large number of small piecemeal jobs to very small enterprises or specialist individuals, sometimes situated even in other countries. The traditional notion of the modern factory or office, as a result, has been altering in such a manner that for many the home is becoming the workplace. All of this change has not gone in favour of the individual worker. The nature of employment has become more informal with only limited availability of social security measures to the workers.

In the last few decades, there has been rapid growth in the gross domestic product, but without simultaneous increase in employment opportunities. This has forced the government to take up initiatives in generating employment opportunities particularly in the rural areas.

RECAP

- All those persons who are engaged in various economic activities and hence contribute to Gross National Product are **workers**.
- About two-fifth of the total population in the country is engaged in various economic activities.
- Men, particularly rural men, form the major section of workforce in India.
- Majority of workers in India are self-employed. Casual wage labourers and regular salaried employees together account for less than half the proportion of India's workforce.
- About three-fifth of India's workforce depends on agriculture and other allied activities as the major source of livelihood.
- In recent years, the growth of employment has decelerated.
- During post-reform period, India has been a witness to employment opportunities in the service sector. These new jobs are found mostly in the informal sector and the nature of jobs is also mostly casual.
- Government is the major formal sector employer in the country.
- Disguised unemployment is a common form of unemployment in rural India.
- There has been a change in the structure of the workforce in India.
- Through various schemes and policies, the government takes initiatives to generate employment directly and indirectly.

●●● Exercises ●●●

A. Multiple Choice Questions

1. Find the odd man out
 - a. owner of a salon
 - b. a cobbler
 - c. a manager in Verka Milk Cooperative Society of your area
 - d. a tuition master
2. Find the odd man out
 - a. a beggar
 - b. a thief
 - c. a smuggler
 - d. a government employee
3. Which one will not be included in unorganised sector?
 - a. a police man
 - b. a rickshaw-puller
 - c. a hotel worker
 - d. a hawker
4. Which activity is not included in service sector?
 - a. trade
 - b. transport
 - c. banking
 - d. manufacturing

5. Which activities are included in secondary sector ?
 - a. manufacturing
 - b. construction
 - c. electricity supply
 - d. all of the above
6. Which one is a non-economic activity?
 - a. production
 - b. consumption
 - c. investment
 - d. none of the above
7. Which are the sources of data on employment and unemployment in India?
 - a. Census of India's Report
 - b. NSO's Reports
 - c. Data of Employment Exchange Office
 - d. all of the above
8. Match the columns.

	Employment Generation Program		Features
1.	MGNREGA	i	Central Government Programme for Skill Development
2.	Skill India	ii	Programme for Urban Employment Generation
3.	Make in India	iii	Programme for Rural Employment Generation
4.	Fixing of National Floor Level Minimum Wage	iv	Step taken out to help unorganised sector labourers

B. True or False

1. Men, particularly rural men, form the major section of workforce in India.
2. After economic reforms of 1991, service sector is producing most of the job.
3. Disguised unemployment is a common form of unemployment in rural India.
4. There has been no change in the structure of the workforce in India.
5. There has been deterioration in the quality of employment in India.

C. Fill in the blanks :

1. The activities which contribute in Gross Domestic Product are known as (Economic Activities / Non Economic Activities)

2. form the major part of work force. (Males / Females)
3. Due to definition of economic activities, the household chores of women are not considered as employment in India. (wider / narrow)
4. The nature of employment in India is (multifaceted / simple)
5.sector is the major source of employment in India.
(Primary / Secondary)
6. With economic growth in India, the employment insector has increased. (organised / unorganised)
7. The process of shifting of labour force from organised sector to unorganised sector is known as of Labour Force.
(formalisation / informalisation)
8. In India sector is generating new avenues of employment.
(Industrial / Service)

D. Very Short Answer Type Questions

1. Who is a worker?
2. Define worker-population ratio.
3. Raj is going to school. When he is not in school, you will find him working in his farm. Can you consider him as a worker?
4. Wilson is able to get work only for four hours in a day. Rest of the day, he is looking for work. Is he unemployed? Why?
5. What kind of jobs could persons like Wilson be doing?
6. Who is a casual wage labourer?
7. Meena is a housewife. Besides taking care of household chores, she works in the cloth shop which is owned and operated by her husband. Can she be considered as a worker?

E. Short Answer Type Questions

1. Compared to urban women, more rural women are found working. Why?
2. Why are regular salaried employees more in urban areas than in rural areas?
3. Do you think that in the last 70 years, employment generated in the country is commensurate with the growth of GDP in India? How?
4. Write a short note on MGNREGA ?
5. What do you mean by jobless growth?

F. Long Answer Type Questions

1. You are residing in a village. If you are asked to advise the village panchayat, what kinds of activities would you suggest for the improvement of your village which would also generate employment ?

- How will you know whether a worker is working in the Informal sector? Give features of informal sector.
- Discuss the present sectoral work employment pattern in India.
- Is it necessary to generate employment in the formal sector rather than in the informal sector? Why?
- Mention in detail different categories of employment generation programmes undertaken by Indian Government.

G. Analyse the Data & Answer the Questions.

- The following table shows the population and worker population ratio for India in 1999-2000. Can you estimate the workforce (urban and total) for India?

Region	Estimates of Population (in crores)	Worker Population Ratio	Estimated No. of Workers (in crores)
Rural	71.88	41.9%	$\frac{71.88}{100} \times 41.9 = 30.12$
Urban	28.52	33.7%	?
Total	100.40	37.8	?

- The following table shows distribution of workforce in India for the year 1972-73. Analyse it and give reasons for the nature of workforce distribution. You will notice that the data is pertaining to the situation in India about 70 years ago!

Place of Residence	Workforce (in millions)		
	Male	Female	Total
Rural	125	69	195
Urban	32	7	39

SUGGESTED ADDITIONAL ACTIVITIES FOR PROJECT WORK

- Select a region, say a street or a colony, and divide it into 3-4 sub-regions. Conduct a survey by which you can collect the details of activity each person living there is engaged in. Derive the worker-population ratio for all the regions. Interpret the results for differences in worker-population ratio for the different sub-regions.
- Suppose 3-4 groups of students are given different regions of a state. One region is mainly engaged in cultivation of paddy. In another region, horticulture is the main activity. The third region is a cottonbelt region. The fourth region has a river nearby with a lot of livestock rearing activities. Ask all the four

groups to develop a report on what kind of employment could be generated in the four regions.

3. You might notice, in your locality, a variety of works being done by the government, for example laying of roads, de-silting of tanks, construction of school buildings, hospital and other government offices, construction of check dams and houses for the poor etc. Prepare a critical assessment report on one such activity. The issues covered could be the following (i) how the work was identified (ii) amount sanctioned (iii) contribution of local people, if any (iv) number of persons involved both men and women (v) wages paid (vi) is it really required in that area and other critical comments on the implementation of the scheme under which the work is being carried out.
4. In recent years, you may have noticed that many voluntary organisations also take initiatives to generate employment in Kandi region and dry land regions. If you find such initiatives in your locality, visit and prepare a report.

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7

Environment And Sustainable Development

After studying this chapter, the learners will :

- Understand the concept of environment
- analyse the causes and effects of 'environmental degradation' and 'resource depletion'
- understand the nature of environmental challenges facing India
- relate environmental issues to the larger context of sustainable development.

CHAPTER - 7

Environment And Sustainable Development

The environment, left to itself, can continue to support life for millions of years. The single most unstable and potentially disruptive element in the schemes in the human species. Human beings, with modern technology, have the capacity to bring about, intentionally or unintentionally, for reaching and irreversible changes in the environment.

Anonymous

7.1 INTRODUCTION

In the earlier chapters we have discussed the main economic issues faced by the Indian economy. The economic development that we have achieved so far has come at a very heavy price— at the cost of environmental quality. As we step into an era of globalisation that promises higher economic growth, we have to bear in mind the adverse consequences of the past developmental path on our environment and consciously choose a path of sustainable development. To understand the unsustainable path of development that we have taken and the challenges of sustainable development, we have to first understand the significance and contribution of environment to economic development. With this in mind, this chapter is divided into three sections. The first part deals with the functions and role of environment. The second section discusses the state of India's environment and the third section deals with steps and strategies to achieve sustainable development.

7.2 ENVIRONMENT — DEFINITION AND FUNCTIONS

Environment is defined as the total planetary inheritance and the totality of all resources. It includes all the biotic and 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 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.

DEFINITION

According to Douglas and Holland, "Environment is a word which describes all the external forces, influences and conditions which affect the life, behaviour, nature, growth, development and maturation of living organism."

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 (ii) it assimilates waste (iii) it sustains life by providing genetic and bio diversity and (iv) it also provides aesthetic services like scenery etc.



Fig. 7.1 Water bodies: small, snow-fed Himalayan streams are the few fresh-water sources that remain unpolluted.

The environment is able to perform these functions without any interruption as long as the demand on these functions is within its **carrying capacity**. This implies that the resource extraction is not above the rate of regeneration of the resource and the wastes generated are within the assimilating capacity of the environment. When this is not so, the environment fails to perform its third and vital function of life sustenance and this results in an environmental crisis. 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**

Work These Out

- Why has water become an economic commodity? Discuss.
- Fill in the following table with some common types of diseases and illnesses that are caused due to air, water and noise pollution.

Air Pollution	Water Pollution	Noise Pollution
Asthma	Cholera	?

Box 7.1: 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. Some of the long-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.

Source: www.wikipedia.org

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.

Box 7.2 : Ozone Depletion

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 airconditioners 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**.

Source: www.ceu.hu

The biggest question that arises : are environmental problems new to this century? If so, why? The answer to this question requires some elaboration. In the early days when civilisation just began, or before this phenomenal increase in population and before countries took to industrialisation, the demand for environmental resources and services was much less than their supply. 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. But with population explosion and with the advent of industrial revolution to meet the growing



Fig. 7.2 Damodar Valley is one of India's most industrialised regions. Pollutants from the heavy industries along the banks of the Damodar river are converting it into an ecological disaster

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.

7.3 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 accounts for nearly 8 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,



Fig. 7.3 Deforestation leads to land degradation, biodiversity loss and air pollution

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 type of degradation stemming mainly from unstable use and inappropriate management practices.

Box. 7.3 : Chipko or Appiko — What's in a Name?

You may be aware of 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.

Indiscriminate felling of trees for fuelwood and for industrial use has led to many environmental problems. Twelve years after setting up of a paper mill in **Uttar Kanara** area, bamboo has been wiped out from that area. "Broad-leaved trees which protected the soil from the direct onslaught of rain have been removed, the soil washed away, and bare laterite soil left behind. Now nothing grows but a weed", says a farmer. Farmers also complain that rivers and rivulets dry up quicker, and that rainfall is becoming erratic. Diseases and insects earlier unknown are now attacking the crops.

Appiko volunteers want the contractors and forest officials to follow certain rules and restrictions. For instance, local people should be consulted when trees are marked for felling and trees within 100 metres of a water source and on a slope of 30 degrees or above should not be felled.

Do you know that the government allocates forestlands to industries to use forest materials as industrial raw material? Even if a paper mill employs 10,000 workers and a plywood factory employs 800 people but if they deprive the daily needs of a million people, is it acceptable? What do you think?

Source: Excerpts from 'State of India's Environment 2: The Second Citizens' Report 1984-85', Centre for Science and Environment, 1996, New Delhi

Some of the factors responsible for land degradation are (i) loss of vegetation occurring 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 (x) extraction of ground water in 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 the competing uses of land for forestry, agriculture, pastures, human settlements and industries exert an enormous pressure on the country's finite land resources.

The per capita forest land in the country is only 0.06 hectare against the requirement of 0.47 hectare to meet basic needs, resulting in an excess felling of about 15 million cubic metre forests over the permissible limit.

Work These Out

- In order to enable the students to appreciate the contribution of environment to economic development, the following game can be introduced. One student may name a product used by any enterprise and the other student may trace out its roots to nature and earth.

trucks	←	steel and rubber				
steel	←	iron	←	mineral	←	earth
rubber	←	trees	←	forests	←	earth
books	←	paper	←	trees	←	forest ← earth
cloth	←	cotton	←	plant	←	nature
petrol	←	earth				
machinery	←	iron	←	mineral	←	earth

- A truck driver had to pay Rs 10,000 as challan as his truck was emitting black soot. Why do you think he was penalised? Was it justified? Discuss.

Estimates of soil erosion show that soil is being eroded at a rate of 5.3 billion tonnes a year for the entire 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.

Box 7.4 : 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 board to address all the environmental concerns. They investigate, collect and disseminate information relating to water, air and land pollution, lay down standards for sewage/trade effluent and emissions. These boards 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.

These boards also carry out and sponsor investigation and research relating to problems of water and air pollution and for their prevention, control or abatement. They organise, through mass media, a comprehensive mass awareness programme for the same. The PCBs prepare manuals, codes and guidelines relating to treatment and disposal of sewage and trade effluents.

They 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. It also provides background air quality data needed for industrial siting and town planning.

The pollution control boards collect, collate and disseminate technical and statistical data relating to water pollution. They monitor the quality of water in 125 rivers (including the tributaries), wells, lakes, 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.
- You might be seeing advertisements in newspapers, radio and television or billboards in your locality on awareness programmes relating to water and air pollution. Collect a few news-clippings, pamphlets and other information and discuss them in the classroom.

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. The number of motor vehicles has increased from about 3 lakh in 1951 to 30 crores in 2019. In 2016, personal transport vehicles (two-wheeled vehicles and cars only) constituted about 85 per cent of the total number of registered vehicles thus contributing significantly to total air pollution load.

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 (See Box 7.4).

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.

Work These Out

- You can see a column on the measure of air pollution in any national daily. Cut out the news item a week before Diwali, on the day of Diwali and two days after Diwali. Do you observe a significant difference in the value? Discuss in your class.

7.4 SUSTAINABLE DEVELOPMENT

According to World Development Report - 2005, "Sustainable development is that process of development which meets the needs of the present generation without compromising the ability of future generation to meet their own needs".

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'.

Read the definition again. You will notice that the term 'need' and the phrase 'future generations' in the definition are the catch phrases. 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, environmental degradation, 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 and (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. In 2015, the UN formulated 17 Sustainable Development Goals (SDGs) intended to be achieved by the year 2030. Collect the details of those goals and discuss them in the context of India.

7.5 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 sources. In recent years, some efforts are being taken to tap these energy resources. Collect the details of one such unit set up in your area if any, and discuss in the class.

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 many other Indian cities also began to use CNG.

Conventional source of energy can be described as non-renewable source of energy which has been used since a long time. For example- coal, petroleum, natural gas etc. Non-conventional source of energy can be described as renewable source of energy. For example- solar energy, bio energy, tidal energy and wind energy.

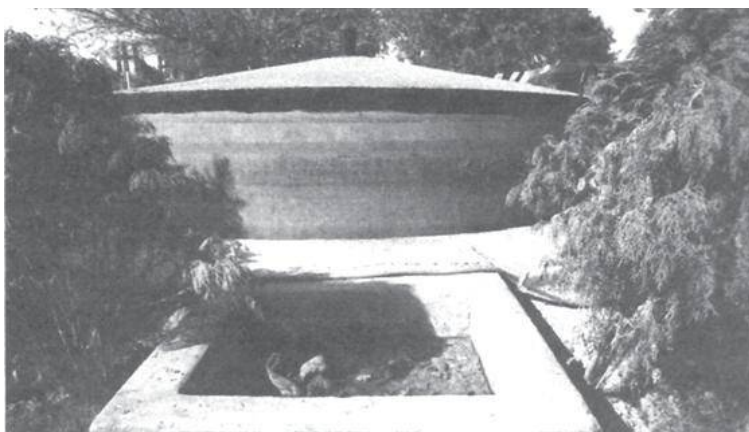


Fig.7.4 Gobar Gas Plant uses cattle dung to produce energy

Work These Out

In Delhi, buses and other public transport vehicles use CNG as fuel instead of petrol or diesel; some vehicles use convertible engines; solar energy is being used to light up the streets. What do you think about these changes? Delhi also adopted odd/even scheme to restrict the use of vehicles with registration ending with odd/even numbers on alternative days, for specific period in a year. Organise a debate in class on the need for sustainable development practices in India.

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. In recent years India is taking efforts to increase the power generation through solar. India is also leading an International body called International Solar Alliance (ISA).

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 onslaught of the western system of treatment, we ignored 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 benefitted 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. Even 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.

7.6 ORGANIC FARMING

Most of us pay least attention to the quality of the food we consume. Despite numerous and regular reports in the media about the presence of pesticides and other chemical contaminants in food and water, we have not yet started searching for and demanding food that is grown in a non-toxic way. The fact is that many of us are completely isolated from the food production process- either in the farm or in the industry where it is carried out. Some of us do not even have the faintest idea about how the

food that comes in front of us in packets and bottles is prepared. Agriculture is becoming more and more commercial oriented now. As a result, food produced by anybody in whatever way is now available in the market as an industrial product. These producers may be concerned only about the profitability, but not about the food's safety and quality.

Organic farming is more nature-friendly and its produce is more nutritious. The processing of produce is also done locally. The principle followed in this type of farming is to allow nature to provide us the food the way nature nurtured it. Where soil is of central importance, farmers nourish the soil and its biotic environment. They never force-feed the plants with chemicals to grow unnaturally fast. With regard to animal husbandry, animals are treated with care and respect. There are no cages, animals move freely, graze on grass and natural pastures. In past, such kind of farming which is similar to organic farming was a way of life. Organic farming is being practised in about 120 countries in the world. The ill-effects of chemicals used in agriculture have changed the mindset of consumers of western countries that they are now buying organic products at a premium price. Policy makers are also promoting organic farming for restoration of soil health and re-generation of rural economy apart from making efforts for creating better environment.

Organic farming can be defined as a system of management and agricultural production that combines a high level of biodiversity with environmental practices that preserve natural resources and has rigorous standards for animal welfare. Furthermore, organic farming responds to consumer growing demand for natural products and simultaneously allows to preserve the environment in the context of sustainable rural development.

Box 7.5: Case study- Sikkim Organic Mission

"Sikkim Organic Mission" an indigenous flagship project of Government of Sikkim was introduced to millions of Indian viewers through 'Satyamev Jayate', a popular talk show in 2012.

Sikkim Organic Mission was to use organic inputs in place of chemical inputs (pesticides and fertilizers) in agricultural products.

The adoption of organic farming will offer multiple benefits to the state like (i) It will fetch more value of the farm products to farmers. (ii) Good health of the people of the state. (iii) Help to increase tourism as people will visit the state to study/learn organic farming and gain health benefits by consuming organic products. (iv) Increase in income of the state.

Cuba is known as the first country in the world to adopt organic farming at large scale. However Cuba resorted to such farming practice as a compulsion, but Sikkim has adopted it by choice.

Facilitating Factors for Organic Farming

Organic farming provides economic opportunities for different stakeholders. Some of the drivers that facilitate growth of organic agriculture in India are:

- Growing export market for organically produced crops
- Price premium for organically produced agricultural products from 10 to 100%
- Diverse agro-climatic regions across the country that provides environment for wide range of crops which can cater to market demands
- Increasing awareness and health consciousness among domestic consumers
- Availability of comparatively cheap labour for labour-intensive organic agriculture
- Large numbers of small farmers who do traditional farming have very limited capacity to bear expensive chemical inputs , so they are opting for organic farming
- Presence of Non-Government Organizations (NGOs) as active promoters of organic farming in different agro-climatic regions
- Increasing involvement of private companies in the field of agricultural extension, trade, consultation and allied services
- Enhanced government attention and support for organic agriculture through various policy initiations and action programs

Constraints for Organic Farming

Organic farming provides a unique set of market opportunities in India. However, it is not growing at a pace to capitalise on its market attractiveness. The small and medium organic farmers face many constraints such as the lack of access to extension services, inputs and financing.

The constraints for organic development are:

- 1) Organic production is currently undergoing a learning process that requires considerable time to achieve its full potential.
- 2) Institutions (i.e. research centers, input subsidies, trained personnel, etc.) that are providing support to organic farming are not sufficient .
- 3) Transaction costs for certifying products can be a distinct barrier for small producers. Standards for different markets are diverse and are not harmonized. This increases the certification costs and makes it more difficult to handle.
- 4) Local market demand is modest with low consumer awareness.

India is strong in high-quality production of certain crops like tea, spices, rice varieties, ayurvedic herbs etc. In several regions of India, agriculture is not based on agro-chemicals. Especially in mountain and tribal areas, use of agro-chemicals is rather

low, which facilitates conversion to organic farming more smooth. The scope of organic farming in India is bright as abundant labour is available at cheaper rates. Now many NGOs are engaged in promotion of organic farming and provide training, extension services, information and marketing services to farming communities. The Indian Government has realized the potential significance of organic agriculture for the country and has recently started to support organic agriculture on large scales and on various levels.

Government schemes for organic farming in India : Different government schemes for organic farming in India are :

1. The Paramparagat Krishi Vikas Yojana (PKVY) 2015
2. Rashtriya Krishi Vikas Yojana 2007
3. Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) 2015
4. National Programme for Organic Production 2000
5. National Mission on Oil Seeds and Oil Palm (NMOOP) Scheme for organic farming 2014

7.7 CONCLUSION

Economic development, which aimed at increasing the production of goods and services to meet the needs of a rising population, puts greater pressure on the environment. In the initial stages of development, the demand for environmental resources was less than that of supply. Now the world is faced with increased demand for environmental resources but their supply is limited due to overuse and misuse. Sustainable development aims at promoting the kind of development that minimises environmental problems and meets the needs of the present generation without compromising the ability of the future generation to meet their own needs.

RECAP

- Environment performs four functions: supplies resources, assimilate wastes, sustains life by providing genetic and bio diversity and provides aesthetic services.
- Population explosion, affluent consumption and production have placed a huge stress on the environment.
- Developmental activities in India have put immense pressure on its finite natural resources, besides creating impact on human health and well-being.
- The threat to India's environment is of two dimensions — threat of poverty induced environmental degradation and the threat of pollution from affluence and a rapidly growing industrial sector.

- Though the government, through various measures, attempts to safeguard the environment, it is also necessary to adopt a path of sustainable development.
- Sustainable development is development that meets the need of the present generation without compromising the ability of the future generation to meet their own needs.
- Promotion of natural resources, conservation, preserving regenerative capacity of ecological system and avoiding the imposition of environmental risks on future generations would lead to sustainable development.

Exercises

A. Multiple Choice Questions

- Which of the following factors have placed huge stress on environment?
 (a) population explosion (b) affluent consumption
 (c) production (d) all of the above
- Deforestation causes:
 (a) land degradation (b) biodiversity loss
 (c) air pollution (d) all of the above
- Which generation does the Brundtland Commission emphasise on protecting?
 (a) present (b) future
 (c) both (d) neither

B. Fill in the Blanks

- percent of water in India is polluted. (71,70)
- Black soil is particularly suitable for cultivation of
 (sugarcane, cotton)
- India accounts for nearly percent of the World's total iron-ore reserves. (8,10)
- India supports approximately percent of the world's humans on a mere percent of the world's geographical area. (17, 20, 2.5)
- India is hugely dependent on and power plants to meet its power needs. (Thermal, Solar, Hydro, Nuclear)
- Slurry, the left over of gober gas plant is very good fertiliser and conditioner. (organic, air, soil)

7. Several types of pest controlling chemicals have been isolated from tree. (mango, neem)
8. Organic farming is intensive. (capital, labour)

C. True/False

1. Environment includes all the biotic and abiotic factors which influence each other.
2. Central Pollution Control Board has identified twenty categories of industries (large and medium scale) as significantly polluting.
3. In Delhi, the use of CNG as fuel in public transport system has increased the air pollution.
4. Non-renewable resources are those which get exhausted with use.
5. Chipko Movement aimed at protecting forests in the Himalayas.
6. The technology of converting solar energy through photovoltaic cells into electricity is cheap for remote areas.
7. The per capita forest land required in our country to meet basic needs is 0.47 hectares.

D. Match the following :

1. Concept/Term	Description/Meaning
Global Warming	removal of upper layer of soil .
Industrial Revolution	thinning outer layer of earth's atmosphere due to human interference.
Deforestation	economy dominated by industry
Soil Erosion	increase in average temperature
Ozone Depletion	cutting of forest trees

2. Concept/Term	Description/Meaning
Biotic	rocks and sunlight
Abiotic	fossil fuel
Renewable resources	all living elements
Non-renewable resources	trees, fishes etc.

E. Very Short Answer Type Questions (one word or one sentence)

1. Who coined the term Sustainable Development ?
2. According to Herman Daly, what should be done to achieve Sustainable Development?
3. How can we generate electricity in areas where speed of wind is high?
4. Name the energy resources which are free from pollution.
5. With the help of which cells can solar energy be converted into electricity?
6. In which areas do mini-hydel plants use the energy of streams to move small turbines?
7. Name the traditional system of health care to cure chronic health problems.
8. Give the full form of : CPCB, UNCED, LPG, CNG
9. Classify the following into renewable and non-renewable resources
 - (i) trees
 - (ii) fish
 - (iii) petroleum
 - (iv) coal
 - (v) iron-ore
 - (vi) water

F. Short Answer Type Questions

1. What do you mean by global warming?
2. What do you mean by organic farming?
3. Name two boards set-up by the government to address two major environmental concerns in India.
4. Write two major causes of air pollution.
5. Give any two unwanted consequences of industrialisation.
6. Give two examples of conventional sources of power.
7. Name two types of organic compost.
8. Name the birds & animals used which help in controlling pests.
9. What is meant by environment?
10. How do the following factors contribute to the environmental crisis in India? What problem do they pose for the government?
 - I. Rising population
 - II. Air pollution
 - III. Water contamination
 - IV. Affluent consumption standards

- V. Illiteracy
 - VI. Industrialisation
 - VII. Urbanisation
 - VIII. Reduction of forest coverage
 - IX. Poaching
 - X. Global warming
11. What is Sustainable Development?
 12. Write the constraints of organic farming.
 13. Write about facilitating factors for organic farming.

G. Short Answer Type Questions

1. What happens when the rate of resource extraction exceeds that of their regeneration?
2. What are the functions of the environment?
3. Identify six factors contributing to land degradation in India.
4. Explain, how the opportunity cost of negative environmental impact is high ?
5. Outline the steps involved in attaining sustainable development in India.
6. Is environmental crisis a recent phenomenon? If so, why?
7. State any four pressing environmental concerns of India. 'Correction for environmental damages involves opportunity cost'. Explain.
8. Explain the supply-demand reversal of environmental resources.
9. Keeping in view your locality, describe any four strategies of Sustainable Development.

H. Long Answer Type Questions

1. 'India has abundant natural resources', substantiate the statement.
2. Give two instances of
 - (a) overuse of environmental resources
 - (b) misuse of environmental resources
3. Account for the current environmental crisis.
4. Highlight any two serious adverse environmental consequences of development in India. India's environmental problems pose a dichotomy - they are poverty induced and, at the same time, due to affluence in living standards - is this true?

5. Explain the relevance of intergenerational equity in the definition of sustainable development.

SUGGESTED ADDITIONAL ACTIVITIES

1. Suppose 70 lakh cars are added every year to the roads of metropolitans. Which type of resources do you think are undergoing depletion? Discuss.
2. Make a list of items that can be recycled.
3. Prepare a chart on the causes and remedies of soil erosion in India.
4. How does population explosion contribute to the environmental crisis? Debate in the classroom.
5. "The nation has to pay heavily for correcting environmental damages." Discuss.
6. A paper factory is to be set up in your village. Arrange a role play consisting of an activist, an industrialist and a group of villagers.

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8

Punjab Economy

It is very necessary for all the students living and studying in Punjab to know about the Punjab Economy. With this they can get information about the economy of their state and can have understanding of its functioning. Apart from this, they can also get information about the resources available in Punjab and the efforts made by the government for their proper use, occupations of the people of Punjab etc.

8

Physical and Human Resources of Punjab

After studying this chapter the students will be able to know-

- The physical resources of Punjab like physical features of Punjab, Geographical division of Punjab, Climate, Different types of soils found in Punjab, Water resources, Mineral resources, Forest resources and Energy resources of Punjab
- The structure and size of Population of Punjab, Growth rate of population, Sex-ratio, Literacy ratio, Density of Population, Trends in urbanization, Occupational Structure of Population

CHAPTER - 8

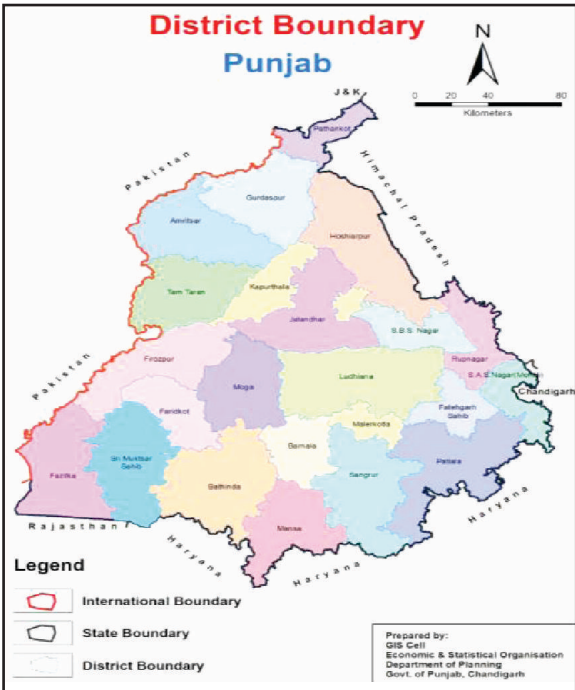
Physical And Human Resources Of Punjab

8.1 INTRODUCTION

The word Punjab is a combination of two Persian words 'Panj' and 'Aab', in which 'Panj' means five and 'Aab' means 'Water'. Punjab got its name from its five rivers namely Sutlej, Beas, Ravi, Chenab and Jhelum. During the Rigvedic period, Indus and Saraswati rivers also flowed in Punjab, so Punjab was called Sapta Sindhu.

8.2 PHYSICAL FEATURES OF PUNJAB

In 1947, Punjab was divided into two parts; Eastern Punjab and Western Punjab. Presently, three rivers flow through Punjab namely Sutlej, Beas and Ravi. After this, on November 1, 1966, Punjab was divided into three parts on the basis of language. Haryana was made a separate state from Punjab. Apart from this, some hilly areas of Punjab were given to Himachal Pradesh. Due to this reason, the area of Punjab decreased considerably. Presently, Punjab has a geographical area of 50,362 sq km which makes it the 20th largest state in India. It has a total of 23 districts and Malerkotla is its newest district which came into existence in May 2021.



Do this activity with the help of your teacher.

- Prepare a chart relating to the various districts of Punjab, their area and their population.
- Explore why was Punjab divided on the basis of language on November 1, 1966?
- Mention area wise the smallest and largest district of Punjab.

Important facts about Punjab

1. Total Area: 50362 sq km
2. Total Urban area: 2097 sq km
3. Total Rural area: 48265 sq km
4. Percentage of total area of India: 1.53 percent
5. Geographical position: Between 29.30°N to 32.32°N latitude and 73.55° E to 76.50° E longitude.
6. Neighbouring States/UTs: Haryana, Himachal Pradesh, Rajasthan, Union Territory of Jammu and Kashmir, Chandigarh (Capital of Punjab).
7. State language: Punjabi (Gurmukhi script)
8. Tehsils: 97
9. Blocks: 146
10. Districts: 23

8.3 PHYSICAL RESOURCES OF PUNJAB

Physical resources mean all the resources that are tangible in nature. Generally, the physical resources of an area are also known as the natural resources. These are the resources, which we receive as a gift from the nature. As far as the physical resources of Punjab are concerned, fertile land is the major physical resource of Punjab. While studying the physical resources of Punjab, it becomes necessary to keep in view the following points:

8.3.1 Geographical Division of Punjab

There are different types of regions in Punjab on the basis of geographical features. Broadly, these are as follows:

Hilly Region : The hilly region of Punjab includes the north-eastern region of Punjab. This area is located under the Shivalik mountain range. But the hills of this region are not very high. Rainfall is relatively high in this region. Winters are very cold and summers are very hot. The soil of this region is rocky and due to this the agricultural productivity is low. Some part of districts of Punjab like Gurdaspur, Roopnagar, Pathankot, Hoshiarpur, Shaheed Bhagat Singh Nagar falls in this region.

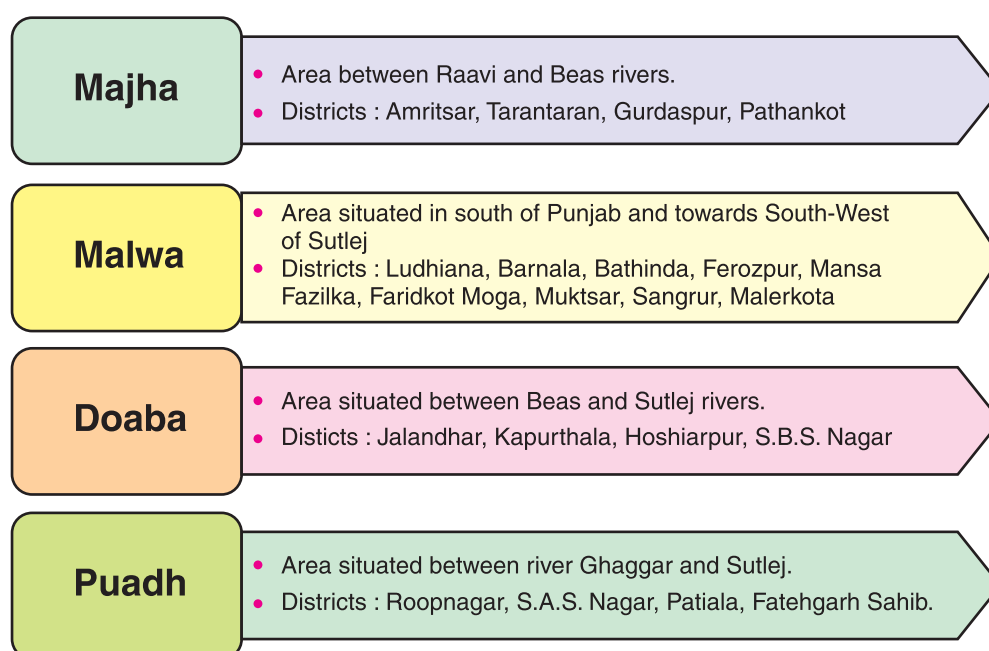
Plain Region : Majority of Punjab is part of this region. Since the area is made up of soil brought by rivers, the soil in the area is very fertile and productive. Agriculture in this region is highly developed and many crops are cultivated in a year. This region is situated towards the south-west of the hilly area. It includes the districts of Jalandhar, Amritsar, Patiala, Ludhiana, Barnala, Faridkot, Fatehgarh Sahib, Firozpur, Kapurthala, Malerkotla, Moga, Sahibzada Ajit Singh Nagar, Sangrur and Tarantaran. The main crops of this region are wheat, paddy, maize, sugarcane and cotton. The region receives moderate rainfall. Winters are colder and summers are hotter.

Semi-Desert Region : The region of Punjab which shares borders with Rajasthan is known as Semi-Desert region. Some parts of Fazilka, Muktsar, Bathinda and Mansa districts are included in this region. As this area is away from the hilly region, the rainfall in this area is very low. Summers are relatively hot and winters are cold. The agricultural productivity in this region is low due to the sandy soil. The main crops of this region are cotton, wheat, paddy and oil seeds.

8.3.2 Socio-Cultural Division of Punjab

On the basis of its socio-cultural diversity, Punjab can be divided into four regions which are shown in the chart given below:

Chart 8.1 Socio-Cultural Division of Punjab



Climate of Punjab

The climate of Punjab is mainly divided into three seasons, which are as the following:

- **Summer Season :** Summer season in Punjab is mainly during the months of April to June. In these months, the temperature rises above 40° celsius and hot air called 'Loo' blows.
- **Monsoon Season :** This season occurs in the months of July to September. Punjab receives heavy rainfall during these months, which is good for kharif crops. Rainfall also reduces the temperature significantly.
- **Winter Season :** Winter season in Punjab runs from the months of October to March. But severe winter falls in the months of December and January. Even at some places in Punjab the temperature reaches nearly 0° Celsius. Rainfall during this season is good for rabi crops.

8.3.3 Types of Soil of Punjab

Due to various geographical regions, different types of soil are found in Punjab. These are as follow:

- **Bet soil :** This soil is very fertile and its colour is yellowish brown. It is found on the western side of the river Sutlej from Ropar to Fazilka. This soil is very useful for the cultivation of wheat, paddy, sugarcane and vegetables.
- **Loamy Soil :** This soil is the most fertile soil of Punjab. This soil is found in Patiala, Nabha, Sangrur, Malerkotla, Bathinda, Sri Muktsar Sahib, Moga and some parts of Jalandhar district. This soil is good for wheat and paddy cultivation.
- **Hilly Soil :** This soil is found in the hilly region of Punjab. Hence it is rocky, which is not useful for agricultural purposes. But it is good for horticulture.
- **Alluvial Soil :** This soil is found in the plain parts of Punjab, which is brought by rivers. This soil is very fertile and considered good for agricultural purposes.
- **Semi-Desert Soil :** This soil is found in Abohar, Jira, and some parts of Mansa. It is found to be severely deficient in nitrogen, phosphorus and potassium. This soil is used for cotton, millet, wheat and other kharif crops.
- **Sandy Soil :** This soil is found in South West and Central South Punjab. It is a type of dry soil. This soil is predominantly yellow in colour and deficient in nitrogen, phosphorus and potassium. This soil is less fertile. But by developing irrigation facilities, it can be used for the cultivation of crops like cotton, oilseeds, wheat etc.

Let's Do It

- Prepare a chart of Rabi and Kharif crops.
- Collect a sample of the soil found in your area and identify its characteristics.
- Discuss different types of soils found in Punjab and the crops for which they are suitable.

8.3.4 Water Resources of Punjab

Punjab is a rich state in terms of its water resources. The main water resources of Punjab are the following:

- **Main rivers of Punjab :** The water resources of Punjab include rivers Sutlej, Beas and Ravi. The Sutlej originates from Lake Man Sarovar in Tibet. The Beas originates from the Beas Kund near Manali and joins the Sutlej near Harike Pattan. The Ravi originates from the Rohtang Pass near Chamba in Himachal Pradesh. They hold water throughout the year and is mostly used for irrigation.

- **Small Rivers, Canals and Chaos :** Apart from the above major rivers, Punjab has many small rivers like Kali Bein, Chitti Bein, Ghaggar and a good network of canals (See Table 8.1). During the rainy season, they get most of their water which is used for irrigation.

Table 8.1: Major Canals of Punjab

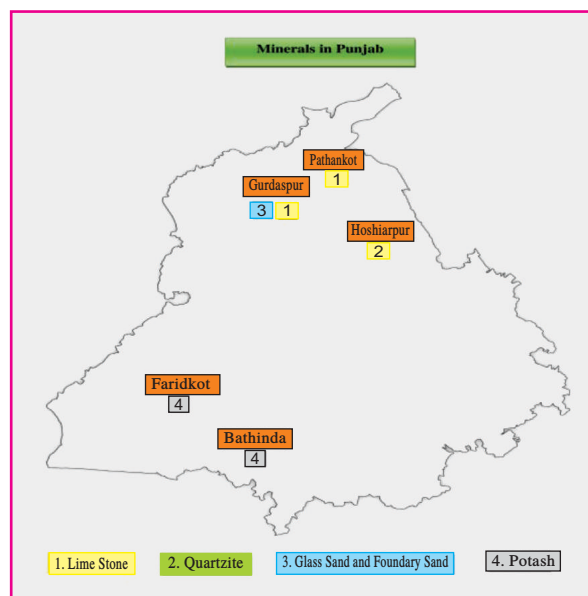
Name of River	Length (in Km)	Starting Point
Sirhind	59.44	Ropar Headworks
Bist Doab	43.00	Ropar Headworks
Apar Bari Doab	42.35	Madhopur Headworks
Sirhind Feeder II	136.53	Harike Headworks
Eastern Canal	8.02	Hussainiwala Headworks
Bhakra Main Line	161.36	Nangal Barrage
Shah Canal	2.23	Mukerian Hydal Channel
Rajasthan Feeder	149.53	Harike Headworks (Tarantaran)

Source: www.Pbrrigation.gov.in

8.3.5 Mineral Resources of Punjab

Mineral resources in Punjab are very limited. There are no reserves of coal, petroleum etc. in Punjab. It is totally dependent on other states and countries for these. In Punjab, only stones are obtained from hilly areas, which are used for building houses or roads. Apart from this, sand/gravel is also found in some parts of Punjab, which is used for the construction work. These include districts like Gurdaspur, Pathankot, Hoshiarpur, Bathinda, Faridkot etc.

Chart 8.2



Source:

www.minesandgeology.punjab.gov.in

8.3.6 Forest Resources of Punjab

There are mainly two types of forests in Punjab, which are government and private forests. As their name suggests, government forests are owned by the government and private forests are owned by private individuals. There are three types of government forests in Punjab, which are the following:

Chart 8.3 Distribution of Government Forests in Punjab

Reserved Forests	Protected Forests	Unclassified Forests
<ul style="list-style-type: none"> Those forests which are necessary for controlling floods, maintaining climate level, controlling the expansion of deserts etc. One cannot use these without the permission of government. 	<ul style="list-style-type: none"> These forests mainly consist of industrial wood. Government provides permission of their use under some conditions. 	<ul style="list-style-type: none"> Government gives these forests on contract for cutting their wood, so that it can be used for commercial purposes.

Apart from this, the private sector is also involved in afforestation in Punjab. Table 8.2 provides information about the area covered by different types of forests in Punjab.

Table 8.2 Area under Forests in Punjab (in Sq. Km)

Year	Government Forests				Private Forests			Total Area under Forest Govt./ Private	Area under Forest
	Reserved	Protected	Unsatisfed	Total	Forest under section 4 5 of Land Protection Act, 1990	Forest under Section 38 of India	Total		
1980-81	44	994	262	1300	1264	39	1303	2603	517
1990-91	44	1094	211	1349	1482	14	1496	2845	565
2000-01	44	1111	197	1352	1702	4	1706	3058	607
2010-11	44	1154	187	1385	1668	5	1673	3058	601
2017-18	44	1127	157	1328	1110	4	1114	2442	485
2018-19	44	1127	157	1328	1110	4	1114	2442	485
2019-20	44	1127	157	1328	1110	4	1114	2442	485
2020-21	44	1127	157	1328	1110	4	1114	2442	485

Source: Statistical Abstract of Punjab, 2021

Noteworthy Facts about Forests in Punjab

- There has been no increase in the area under forests in Punjab from the year 2017-18 to the year 2020-21.
- Out of the total area of Punjab i.e. 50362 sq km only 2442 sq km have forest resources which is only 4.85 percent of the total area of Punjab. While 24.62 percent of India's area composes of forests.
- The per capita forest area in Punjab is only 0.02 hectares, while in India, it is 0.18 hectares.
- The distribution of forests is not uniform throughout Punjab. The maximum number of forests in Punjab are found in Gurdaspur district where 32.95 percent of the total area comes under forests, while the lowest area (0.45 percent) under forest cover is in Fatehgarh Sahib district.

Let's Do it

- Make an assignment on the topic "The effect of deficiency of minerals on the economy of Punjab."
- What are the reasons responsible for less area under forests in Punjab?
- What is the contribution of forests in the economy of Punjab?

8.3.7 Power Resources of Punjab

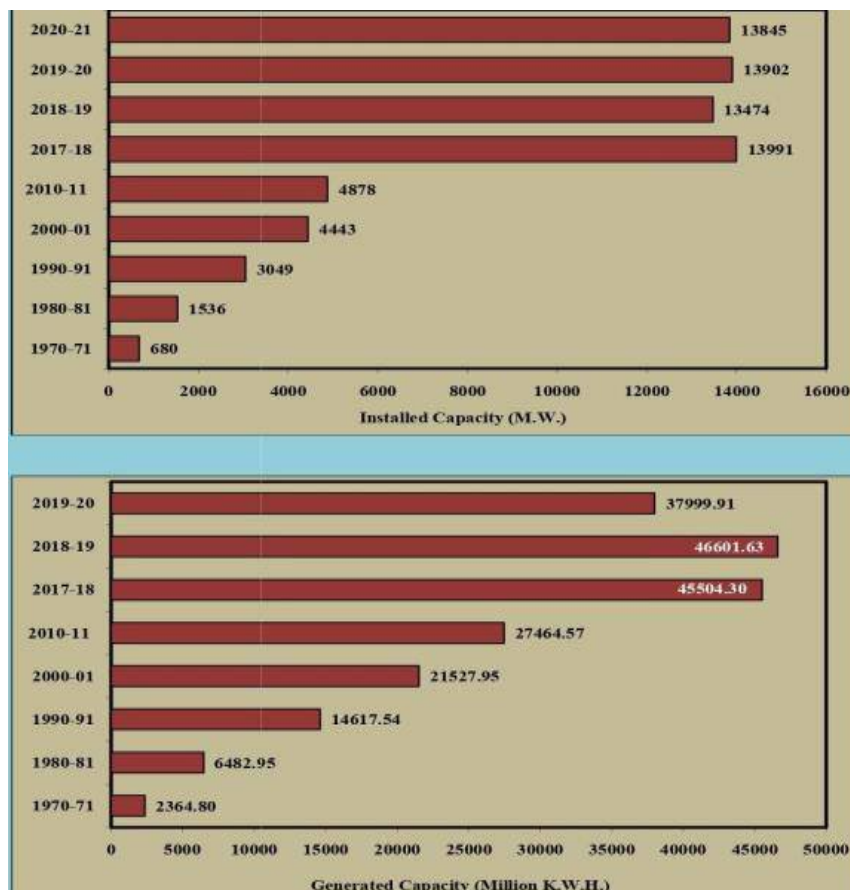
Power resources means all the resources from which we get energy. These resources contribute in the development of any country. These resources mainly include human power, animal power, coal, petroleum, hydro energy, wind energy, solar energy, bio gas energy, nuclear energy, etc. Electricity is accepted as the main source of energy.

Various Power Resources in Punjab

- **Hydropower projects in Punjab** : Bhakra Nangal Project, Pong Power House, Upper Bari Doab Power House, Beas Project, Shanan Project, Sri Anandpur Sahib Hydel Project, Mukerian Hydel Project, Ranjit Sagar Dam (Thien Dam), Shahpur Kandi Project
- **Thermal Power Projects** : Guru Gobind Singh Thermal Power Station, Roopnagar, Guru Hargobind Singh Thermal Power Station, Lehra Mohabbat, Talwandi Sabo Power Limited, Goindwal Sahib Power Project, Rajpura Thermal Power Station.
- **Solar Power Projects** : Mirpur Kalan (Mansa), Beas, Sardargarh & Chughe Kalan (Bathinda)

The level of power generation and consumption in Punjab have increased tremendously in the last few years and Punjab is a developed state of India in this regard. During the year 2020-21, the total generating capacity of installed power plants in Punjab was 13,845 MW and the per capita electricity consumption was 1669 KWh (Statistical Abstract of Punjab, 2021), which is equal to the electricity consumption by people in the developed states of India.

Chart 8.4 Installed Capacity and Generation Capacity of Power Projects in Punjab



Source : Statistical Abstract of Punjab, 2021

There is a shortage of natural resources in Punjab, which is having a negative impact on its economic development. But due to fertile land of the region, the farmers of Punjab make considerable efforts to meet this deficiency by developing agriculture in the state.

8.4 HUMAN RESOURCES OF PUNJAB

Generally, we think of human and human resources as the same thing. But in reality, there is a huge difference between them. All the human beings living in an area are not human resources. Only those people who have the ability, skill and expertise to do a work and who contribute to the development of that region can be called human

resources. It mainly includes farmers, technically skilled workers such as plumbers, carpenters, teachers, doctors, nurses, engineers, lawyers etc. living in an area.

In simple words, *“Human capital means the total stock of capable and expert people of a country. These are the people who can with their abilities, determine the future of their country.”*

Punjab has always been a very rich region in terms of human resources. The people here are recognized as brave, hardworking and efficient. In order to study these human resources of Punjab, it becomes necessary to have a knowledge of the following:

8.4.1 Size and Growth of Population

According to the 2001 census, the total population of Punjab was 2.43 crore, which has increased to 2.77 crore in 2011. In this decade, the population of Punjab increased at the rate of 1.39 percent annually. While the percentage increase in India's population during this period was 1.77 annually. This shows that the rate of population growth of Punjab during this decade was lower than the rate of population growth of India. In terms of population, Punjab is the 16th largest state in India and it accounts for 2.3 percent of India's total population.

8.4.1.1 Factors Determining Growth Rate of Population

The population growth rate of any region depends on two factors viz. the birth rate and the death rate. The higher the birth rate of a region means the more children are born and the lower the death rate means the fewer people die, which results in higher population growth rate of that area. Therefore, to find out the increase in the population of Punjab, it is necessary to get information about its birth rate and death rate.

Birth Rate and Death Rate

Birth rate refers to the number of children born per 1000 of population and death rate refers to the number of people who die per 1000 of population.

- **Birth rate :** According to the Census 2011, Punjab's birth rate was 16.2 per thousand, which was lower than India's birth rate of 21.8 per thousand.
- **Death rate :** According to the Census 2011, Punjab's death rate was 6.8 per thousand, which was lower than India's death rate of 7.1 per thousand.

From the above discussion, it can be concluded that since the birth rate of Punjab was higher than its death rate, the population of Punjab had been increasing. But if this increase in population is analyzed separately in terms of rural and urban areas, the following information is obtained:

**Table 8.3 Analysis of Birth Rate and Death Rate of Punjab w.r.t. Urban and Rural Area
(As per Census 2011)**

Area	Birth Rate	Death Rate
Urban	15.2	5.6
Rural	16.8	7.5
Combined	16.2	6.8

Source: Statistical Abstract of Punjab, 2021

8.4.2 Sex Ratio in Punjab

Sex ratio is defined as the number of females per thousand males. This ratio indicates the status and empowerment of women in the society. According to the Census 2011, the sex ratio in Punjab was 895. While this sex ratio in India was 940 during this period. Therefore, the sex ratio in Punjab is adverse for women as compared to India as a whole. District wise analysis indicates that Hoshiarpur district has the highest sex ratio i.e. 961 per thousand (which is higher than the all India average) and Bathinda district has the lowest sex ratio which is 868 per thousand. These differences highlighted the regional disparities as far as sex ratio in Punjab is concerned.

Note

The main reason responsible for low sex ratio in Punjab is female feticide, patriarchy, son preference, illiteracy and stereotype, lack of understanding about right to life and superstitious believes found among the people. But it is also true that the sex ratio has been steadily improving in Punjab.

Let's Do It

- Prepare a chart of data on population size, birth rate and death rate of Punjab from 1971 to 2021 and find out the population growth trends based on it.
- Prepare a chart showing the comparison of sex ratio of India and Punjab during different years.

8.4.3 Literacy Rate in Punjab

Literacy rate means the number of literate people per hundred in a region. The literacy rate includes all people who know how to read, write and speak at least one language. The higher the literacy rate of a region, the more developed that region will be because educated people will be able to use the resources of that region effectively.

According to the Census 2011, the literacy rate of Punjab was 75.84 percent, while the average literacy rate of all India was 74.04 percent. Thus, the literacy rate of Punjab was higher than the average literacy rate of India but only to a small extent. In comparison, Kerala had the highest literacy rate of 93.91 percent and Bihar had the lowest literacy rate of 63.82 percent in 2011.

A glimpse at the literacy rate of Punjab

- According to the Census 2011, the male literacy rate in Punjab was 80.4 percent and the female literacy rate was 70.7 percent. It means that even now there is more emphasis on educating boys instead of girls which shows gender disparities in literacy rate. It is also true that the literacy gap is due to not only the current bias but also bias against female's education in the past as well.
- According to the Census 2011, Punjab had an urban literacy rate of 83.2 percent and a rural literacy rate of 71.4 percent which points to the greater educational facilities found in cities.
- According to the Census 2011, Pathankot and Hoshiarpur districts in Punjab had the highest literacy rate of 84.6 percent and Mansa district had the lowest literacy rate of 61.8 percent.

Let's Do It.

- What efforts do you think, Punjab needs to take to reach literacy levels that of Kerala? Discuss.
- What could be the probable reasons responsible for regional disparities found in literacy rate in Punjab?

8.4.4 Density of Population in Punjab

Density of population refers to the number of people living per square kilometer. For example, if the area of a region is 5 square kilometers and 1000 people live in that area, then the density of population of that area will be $1000/5$ i.e. 200. This can be ascertained by the following formula:

$$\text{Density of Population} = \frac{\text{Total Population}}{\text{Area (Per Sq. Km)}}$$

According to the Census 2011, the density of population of Punjab was 551, while the density of population of India during this period was 382. It shows that the density of population in Punjab is higher than that of India. It indicates the higher population pressure in Punjab. In Punjab, Ludhiana district had the highest population density i.e. 978 and Sri Muktsar Sahib district had the lowest population density i.e. 348.

8.4.5 Trend of Urbanization in Punjab

Urbanization refers to the percentage of the total population that lives in cities. The trends of urbanization indicate about the standard of living of the people of a region. As urban area provides more facilities, so the urban areas have a better standard of living.

Earlier, Punjab was known as the state of villages because majority of its population used to live in the villages. Even now, comparatively majority of Punjab's population lives in villages, but over the period of time the percentage of the population living in villages has been decreasing and people are migrating to the cities to settle down there.

Table 8.4 : Trends of Urbanization in India and Punjab

Area	Year	Year
	1971	2011
Punjab	23.73	37.50
India	19.91	31.16

Source: Statistical Abstract of Punjab, 2021

The above table indicates that the tendency of urbanization in Punjab is more than the tendency of urbanization of India as a whole.

Reasons for increasing trend of urbanization in Punjab

- Cities have more health, education and other infrastructural facilities than villages.
- Availability of a higher standard of living in cities than in villages.
- Due to the agricultural development, the income of farmers increased rapidly and they migrated to cities for a higher standard of living.
- Due to the development of means of transportation, the access of the people of villages to the cities becomes easy.
- Due to industrial development and availability of more employment opportunities, people migrated from villages to cities.

Emigration from Punjab

From the last few years, there has been a phenomenal increase in the tendency of the youth of Punjab to emigrate to foreign countries. The youth of Punjab is going to other countries in search of a job, permanent settlement and for an aspiring future. This is the reason why we get to see emigration centers in each street, which work to send the youth abroad due to lack of good quality and better paid employment opportunities in the state. The state needs to relook the emigration policy for the better future of the state and the people.

8.4.6 Occupational Distribution of Population in Punjab

Occupational distribution of population means in which sector the working population of a region earns their livelihood i.e. in primary, secondary or tertiary sector. The

occupational distribution of the population of a region gives information about the level of development of a region. If more people of a region are working in primary sector, then that region is considered as farming region and if more people of a region are getting employment in secondary and tertiary sector, then that region is considered as non-farming region.

Different sectors of the economy

Based on the distribution of working population, there are three sectors in any economy. These sectors are:

- Primary Sector: This includes agriculture and allied activities like poultry, fishery, animal husbandry and mining etc.
- Secondary Sector: It includes all types of industries i.e. large, medium, small and cottage industries and construction activities.
- Tertiary (Service) Sector: It includes various services like banking, insurance, transport and communication, trade, education, health etc.

Table 8.5 : Occupational Distribution of Population in Punjab

Sector	Percentage of Working Population
Primary	25.8
Secondary	31.8
Tertiary	42.4
Total	100

Source: Statistical Abstract of Punjab, 2021

From the data given in table 8.5, we find that $(31.8 + 42.4) = 74.2$ percent of working people in Punjab are engaged in non-farming sectors. This is one reason why Punjab is considered as one of the developed states of India. But, at present, its youth is emigrating to foreign countries and some scholars observe that it may have an adverse effect on its rate of development. So, it is hoped that the government will frame such policies, so that Punjab takes efforts to develop employment opportunities so that the youth of this state stays and works for the development of Punjab.

8.5 CONCLUSION

Punjab is a very diverse state of India in terms of its physical resources i.e. geographical features, soils, climate etc. Though it is deficient in terms of mineral resources and forest area, but this deficiency is covered up by its perennial rivers and

fertile soil. These resources have made Punjab one of the developed states of India. As far as the human resources are concerned, though its sex ratio is below the national average, but it is improving with respect to time. Its literacy rate, density of population, trends in urbanization are above the national average. Its population growth rate is less than that of India. All these facts show its social development. In a nut shell, it can be said that Punjab is a prosperous state and it is continuously growing as far as its economic and social development is concerned.

RECAP

- The word 'Punjab' is composed of two words, 'Panj' and 'Aab', in which 'Panj' means five and 'Aab' means water. Hence, Punjab means the land of five rivers. Punjab got its name from the five rivers that flowed through Punjab namely Sutlej, Beas, Ravi, Chenab and Jhelum. But at present only three rivers flow through Punjab, namely Sutlej, Beas and Ravi.
- Presently Punjab has an area of 50,362 sq km and is the 20th largest state in India in terms of area. It has a total of 23 districts.
- Punjab is geographically divided into three parts, which are the hilly region, the plain region and the semi-desert region.
- Two types of forests are found in Punjab, which are government forests and private forests. Government forests are of reserved, protected and unclassified types.
- During the year 2020-21, the total generating capacity of power plants installed in Punjab was 13845 MW and the per capita power consumption was 1669 KW.
- According to the Census 2011, Punjab had a birth rate of 16.2 per thousand and a death rate of 6.8 per thousand.
- According to the Census 2011, the sex ratio in Punjab was 895 per thousand.
- According to the Census 2011, the literacy rate of Punjab was 75.84 percent.
- According to the Census 2011, the density of population of Punjab was 551 per sq km.
- According to the Census 2011, 37.50 percent of Punjab's population lives in cities.
- According to the Census 2011, 25.8 percent of Punjab's population worked in the primary sector, 31.8 percent in the secondary sector and 42.4 percent in the service sector.

A. Multiple Choice Questions

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11. According to the Census 2011, what was the population of Punjab?
 (a) 2.34 crore (b) 2.43 crore
 (c) 2.52 crore (d) 2.77 crore
12. According to the Census 2011, what was the sex ratio in Punjab?
 (a) 832 (b) 857
 (c) 895 (d) 940
13. According to the Census 2011, what was the literacy rate of Punjab?
 (a) 75.84% (b) 74.04%
 (c) 63.82% (d) 93.91%
14. According to the Census 2011, what was the density of population of Punjab?
 (a) 550 (b) 551
 (c) 555 (d) 560
15. According to the Census 2011, what percentage of the population of Punjab lived in cities?
 (a) 31.50% (b) 32.50%
 (c) 35.50% (d) 37.50%

B. Fill in the blanks

1. Presently rivers flow in Punjab. (three/five)
2. The geographical area of Punjab can be divided into parts.
 (three/five)
3. Sutlej River originates from (Beas Kund/Mansarovar Lake)
4. Another name of Ranjit Sagar Dam is
 (Shahpur Kandi Dam/Thein Dam)
5. Punjab is a state in terms of human resources.
 (rich/poor)
6. The rate of population growth of Punjab has been than the rate of population growth of India.
 (more/less)
7. The sex ratio in Punjab is women. (in favour of/against)
8. Density of population is measured in terms of per square
 (cm/km)
9. The density of population of Punjab is than the density of population of India.
 (more/less)
10. The trend of urbanization in Punjab is continuously
 (increasing/decreasing)

11. Majority of the population of Punjab works in the sector.
(agriculture/service)

C. True or False

1. Seven rivers flowed in Punjab during the Rigvedic period.
2. There are total 22 districts in present Punjab.
3. The hilly region of Punjab is very cold in winter.
4. The plains of Punjab are highly fertile.
5. Winter season in Punjab runs from September to December.
6. Punjab is found to be deficient in mineral resources.
7. There has been a huge increase in the area under forests in Punjab in recent times.
8. There is no difference between human and human resources.
9. Punjab is the 7th largest state in India in terms of population.
10. The sex ratio in Punjab is higher than the sex ratio of India.
11. Literacy rate is measured as per thousand.
12. Ludhiana district has the highest density of population in Punjab.
13. Increase in urbanization is an indicator of economic development of a region.

D. Very Short Answer Type Questions

1. What is the meaning of the word Punjab? and What is the area of present-day Punjab?
2. What is meant by physical resources?
3. Which rivers originate in the hilly region of Punjab?
4. What is Majha region of Punjab?
5. What is meant by Doab area?
6. What is meant by the region of Malwa?
7. Write a note on mineral resources of Punjab.
8. What is meant by resources of Power?
9. Which are the types of resources of Power?
10. What are the reserves, protected and unclassified forests?
11. What is meant by birth rate and death rate?
12. Explain two reasons responsible for the increase in population of Punjab.
13. What is meant by sex ratio? Which district of Punjab has the highest sex ratio?

14. What is meant by literacy rate? How it is measured?
15. What is meant by density of population? Provide formula for its measurement?
16. What is meant by occupational distribution of population?
17. What is meant by primary sector? What does it include?
18. What is meant by secondary sector? What does it include?
19. What is meant by service sector? What does it include?

E. Match the Following

1. Concept	Year
Present-day Punjab	1947
Malerkotla	1966
Partition of India	2021
2. Plains of Punjab	Area
Majha	Situated towards south of Punjab and South-West of Sutlej
Malwa	Area between beas and Sutlej rivers
Doaba	Area between Ravi and Beas rivers
3. Climate of Punjab	Month
Summer	October to March
Winter	April to June
Monsoon	July to September
4. Forests of Punjab	Characteristic
Reserved	Provides industrial wood
Protected	Provided on contract
Unclassified	Stop floods
5. Fact	Data
Birth Rate	895
Death Rate	2.77 Crore
Size of Population	16.2 Per Thousand
Sex Ratio	6.8 Per Thousand

F. Short Answer Type Questions

1. Write a note on the geographical features of Punjab.
2. Write a note on the climate of Punjab.
3. Write a note on the soils found in Punjab.
4. Write a note on the water resources of Punjab.
5. Explain the different types of government forests found in Punjab.
6. Write a note on the power resources of Punjab.
7. Explain the reasons responsible for the sex ratio being biased against women in Punjab.
8. Write a note on the literacy rate of Punjab.
9. Write a note on the occupational distribution of population in Punjab.

G. Long Answer Type Questions

1. Explain in detail the geographical division of Punjab.
2. Write a note on the importance of forests in the economy of Punjab.
3. Describe the main characteristics of the population of Punjab.
4. What is meant by urbanization? What are the reasons responsible for the increasing trends of urbanization in Punjab?

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9

Agricultural and Industrial Development in Punjab

After reading this chapter, you will be able to understand:

- Understand the main features of agriculture in Punjab, main crops cultivated, agricultural marketing, opportunities and various aspects of the implementation of green revolution policies and its impact.
- Recognize need for industrialization, different industries in Punjab, problems in the way of industrial development and apprise efforts taken by the government for the development of industries.

CHAPTER - 9

Agricultural and Industrial Development in Punjab

9.1 INTRODUCTION

As we have already read in the previous chapter that there are mainly three sectors in an economy viz. primary sector, secondary sector and tertiary/service sector. Therefore, in this chapter, we will study about the contribution of primary sector and secondary sector in the economy of Punjab. In the primary sector, we will examine the contribution of agriculture and allied activities. Similarly, in the secondary sector, contribution of different industries will be studied.

9.2 AGRICULTURAL DEVELOPMENT OF PUNJAB

English word **AGRICULTURE** is a combination of two Latin words **AGRI** and **CULTURE**, where **AGRI** means land and **CULTURE** means cultivation. Therefore, agriculture means cultivating on the land for growing crops and engaging in other allied activities.

According to Abellanosa, A.L., and Pava H.M. (1987), "Agriculture is the growth of both plants and animals for human needs."

In simple words, Agriculture means cultivation of crops on the land as well as adoption of all allied activities such as animal husbandry, fishing, poultry farming etc.

The importance of agriculture in the economy of Punjab is evident from the fact that Punjab is known as the "**Food Bowl of India**" because contribution of Punjab in agricultural production has been relatively high as compared to the other states of India.

Punjab contributed 37.8 percent and 32.6 percent of wheat in 2019-20 and 2020-21 respectively and it contributed 20.9 percent and 22.6 percent of paddy in 2019-20 and 2020-21 respectively in India's total grain reserves.

The importance of agriculture in Punjab's economy is evident from the following table:

In Punjab, total area under cultivation is 82 percent. The total sown area under different crops and their production in Punjab is shown in Table 9.1:

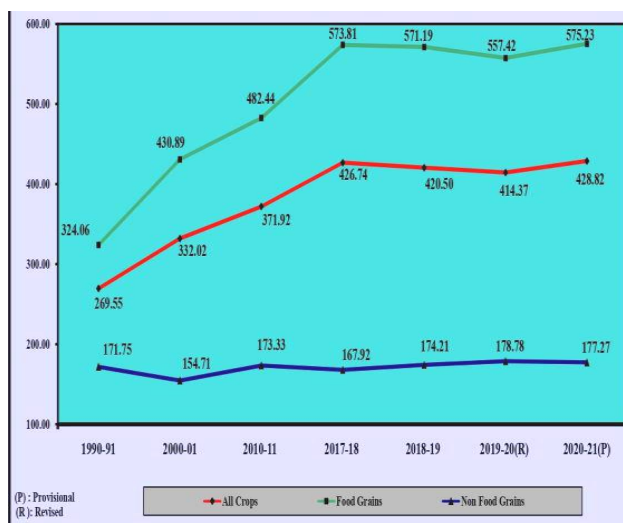
Table 9.1 Total Sown area and Production under different crops in Punjab
(Area in 000' Hectares, Production in 000' metric tonnes)

Sr. No.	Crop	2010-11		2019-20	
		Sown	Production	Sown	Production
1	Wheat	3510	16472	3521	17616 2
2.	Paddy	2826	10819	3142	12675
3	Cotton	701	1822	248	1207
4	Maize	133	491	115	410
5	Sugarcane	70	4904	91	7302

Source: Statistical Abstract of Punjab, 2021

Table 9.1 shows that total sown area as well as production of cotton and maize has been decreasing. On the other hand, wheat, paddy and sugarcane has been showing upward trend over the period of time. This indicates that wheat-paddy cropping pattern is still dominant in Punjab popularly known as monoculture cropping pattern.

Chart 9.1 Index of Agricultural Production in Punjab



Source : Statistical Abstract of Punjab, 2021

Do this activity

- Collect information regarding cropping pattern in your area.
- Find out the proportion of people engaged in agricultural sector in your locality. (A sample of 20 household can be taken).
- Read the chart 9.1 and highlight the years when food grains and non-food grains were the highest.

9.3 SALIENT FEATURES OF PUNJAB AGRICULTURE

Punjab's agriculture is relatively more developed and advanced than other regions of India. The salient features of Punjab agriculture are described as follows:

High Production and Productivity : After the Green Revolution in 1966-67, agricultural production in Punjab increased rapidly. In the year 2019-20, total production of crops was 308 lakh tonnes in Punjab. As a result, Punjab's contribution to India's total agricultural production increased from 4.5% in 1966 to 12% in 2019-20. Apart from this, there has been a huge increase in agricultural productivity in Punjab over the time. In the year 2019-20, the productivity of wheat in Punjab was 5004 kg per hectare and the productivity of paddy was 4034 kg per hectare, which was higher than the national average.

Source of Employment : In Punjab, 25.8 percent of the total working population is

Difference between Production and Productivity

Production and productivity are important concepts in economics. Production refers to the total amount of output produced. While productivity in agriculture means production per hectare i.e. the amount of output per hectare. Suppose Amrik Singh has 4 hectares and Joginder Singh has 5 hectares of land. Each farmer produced 200 quintals of wheat. Amrik Singh produced $200/4 = 50$ quintals of wheat in one hectare. Joginder Singh produced $200/5 = 40$ quintals of wheat in per hectare. Accordingly, the agricultural productivity of Amrik Singh is more than that of Joginder Singh.***1 Hectare = 2.471 Acres**

employed in agriculture and allied activities. Apart from this, many people who manufacture agricultural tools, produce fertilizers, pesticides etc. are also included in agriculture and allied activities. In Punjab, the share of agriculture in employment is declining over the period of time. But during sowing and harvesting, there has been huge demand for labour in farming sector. Due to this, labourers from other states for example Bihar, Uttar Pradesh and Rajasthan migrate to Punjab for getting employment in farming sector.

Modern in Nature : Farmers of Punjab practise modern methods of farming. They use tractors, threshers, harvesters, combines, pump sets, motors, tube wells, high yielding variety (HYV) seeds, chemical fertilizers etc.

Monoculture Cropping Pattern : In Punjab, farmers mainly cultivate two crops i.e. wheat in Rabi season and rice in Kharif season. In the year 2019-20, 45% of the total cropped area of Punjab under wheat and 40% under paddy. However, a variety of crops such as wheat, paddy, pulses, sugarcane, oilseeds, cotton, etc. are also produced.

Contribution to Economic Development : Agriculture sector is the backbone of

economic development of a region. Agricultural activities also contribute to the development of non-farming activities. Agriculture sector provides raw material to industrial sector and in turn receives machinery and input required from service sector.

Monoculture Cropping Pattern

This means that farmers limit themselves to growing one or two crops. In which farmers are not ready to grow different types of crops.

Commercialized Activities : Agriculture in Punjab is highly commercialized in nature because farmers produce for the market to get maximum profit. The agricultural produce is sold to various agencies, cooperative societies and private market.

Do this activity						
Collect the information from any five farmers and complete the table.						
Farmer	Wheat in Rabi Season			Paddy in Kharif Season		
	Total Production	Sold in market	Self-Consumption	Total Production	Sold in market	Self-Consumption
1						
2						
3						
4						
5						
Total						

Size of land holdings : The size of farm or land holdings means the area of land available to farmers for cultivation. The government classifies farmers on the basis of land they possess for cultivation as marginal, small, semi-medium, medium, large etc. Information in this regard can be obtained from the following table:

Table 9.2 Farm Size in Punjab

Type of Farm	2010-11	2015-16
Marginal (Less than 1 Hectare)	1,64,431 (15.62%)	1,54,412 (14.13%)
Small (1-2 Hectare)	1,95,439 (18.57%)	2,07,436 (18.98%)
Semi-Medium (2-4 Hectare)	324515 (30.83%)	367938 (33.67%)
Medium (4-10 Hectare)	298451 (28.36%)	305220 (27.93%)
Large (More than 10 Hectare)	69718 (6.62%)	57707 (5.29%)
Total	1052554 (100%)	1092713 (100%)

Source: Directorate of Agriculture/Agriculture Census, Punjab (Statistical Abstract of Punjab, 2021)

Table 9.2 shows that the number of marginal farms in Punjab has been decreasing. The reason behind the declining marginal farms is high cultivation cost, increasing non-farm activities and indebtedness etc. According to the Agricultural Census 2015-16, the average size of farms in Punjab was 3.62 hectares as compared to national average of 1.08 hectares.

Regional Disparities : There is no uniformity in agricultural production and productivity across the districts in Punjab. Agricultural production in some districts is more than the other districts of Punjab. For example, in the year 2020-21, per hectare productivity of paddy was highest in Sangrur district (5264 kg per hectare) and lowest in Fazilka district (3276 kg per hectare) and the per hectare productivity of wheat was highest in Sangrur district (5265 kg per hectare) and lowest in Hoshiarpur district (4145 kg per hectare).

Hence, the nature of agriculture in Punjab is highly commercial, advanced, monoculture cropping pattern and declining marginal farmers.

9.4 MAJOR CROPS OF PUNJAB

All the crops produced in Punjab can be classified in various ways. These can be described as follows:

9.4.1 Classification based on season

Based on the season of sowing and harvesting of the crops, the crops of Punjab are divided into two categories: Rabi and Kharif crops. These are described as follows:

Rabi crops : These are generally sown during the months of October and November and harvested during the months of March to May. For example, wheat, oilseeds, chickpeas, barley etc.

Kharif Crops : These are generally sown during the months of May to August and harvested during the months of September to December. For example, paddy, jowar, bajra, cotton, maize, sugarcane, groundnut etc.

9.4.2 Classification on the basis of type of crops

The type of crops means that whether crop is being produced for direct consumption or for use as raw material in industries and hence sold in the market. On this basis, crops in Punjab are divided into two categories which are as follows:

Food crops : These are the crops, which are produced for direct consumption. They mainly include wheat, paddy, maize, barley, gram, millet, pulses etc.

Commercial crops : These are crops which are not directly consumed. Therefore, the farmers take them to the market and sell them, so that the industries can use them

as raw materials and manufacture goods. These mainly include sugarcane, cotton, oilseeds etc.

9.5 AGRICULTURAL MARKETING IN PUNJAB

Every farmer keeps a certain portion of its total production for its own consumption and sells the rest in the market. The process followed for selling crops in the market is known as agricultural marketing.

Reason for Increasing Importance of Agricultural Marketing

Before green revolution, the production of crops in Punjab was very low and these crops could barely meet the self-consumption needs of the farmers and the farmers had very little to sell in the market. But after the Green Revolution, the amount of agricultural production in Punjab has increased tremendously and after meeting their own needs, the farmers are left with a large amount of crop. The farmers started selling these crops in the market to earn maximum profits. Thus, agricultural marketing is one of the key processes to improve the economic status of farmers.

Table 9.3 Agricultural Markets in Punjab (Up to March 31, 2021)

Type of Market	Number
Regulated Market	154
Sub-Markets	284
Average Number of Villages per Regulated Market	80
Area covered by Regulated Market (in sq. Km)	331

Source: Statistical Abstract of Punjab, 2021

Many organisations such as Pungrain, Food Corporation of India, Markfed, Punjab State Warehouse Corporation, Punjab Agro House Corporation contributes in agricultural marketing.

9.5.1 Difficulties in Agricultural Marketing in Punjab

Whenever a farmer tries to sell his crop in the market, he has to face various difficulties. These difficulties are as follows:

- Regulated markets in Punjab are less than the required, due to which farmers are not able to get full benefit from these.
- Most of the markets in Punjab are available in urban areas and the farmers lack the means of transportation, so they cannot transport their crops to these urban markets.
- Middlemen are present in large numbers in these markets.

- Minimum support price is announced for very few crops by the government which sometimes does not even cover the cost of production.
- The minimum support price is not increased by the government in proportion to the increase in the cost of production of crop.
- Farmers are not able to grade their crops properly in the markets, due to which even their best quality crops are sold at low prices.
- Many types of malpractices are also noticed in these markets. Due to which farmers are not able to get true value of their produce.
- Essential facilities like water facility, toilet facility, shed facility, tarpaulin facility etc. are also not provided to the farmers in these markets.

Minimum Support Price

It means the price at which the government is committed to purchase certain crops from the farmers. If a farmer gets less than this price in the market, the farmer can sell his crop to the government at this minimum support price.

Do this activity

- Prepare a chart on the crops sown and harvested during different months in Punjab.
- Why monoculture is found in Punjab's cropping pattern? Discuss with your teacher.
- What should be done to improve agricultural marketing? Conduct a speech competition in the class on this topic.

9.6 GREEN REVOLUTION IN PUNJAB

Green revolution in Punjab is a milestone in the agricultural development of the state. Due to this, agricultural production and productivity increased to a greater extent. The agricultural production which was 34 lakh tonnes in the year 1965-66, is estimated to be 305.44 million tonnes during the year 2020-21 which clearly shows the impact of green revolution policies on the agriculture of Punjab.

Green Revolution

In general, the increase in agricultural production every year is about 3% to 4%. But in 1966-67, the use of new technologies and modern equipment in the agricultural sector led to a 25% increase in agricultural production in just one year, which was not less than a revolution. This accompanying growth was named as Green Revolution.

9.6.1 CAUSES OF GREEN REVOLUTION IN PUNJAB

Many factors are responsible for the successful implementation of Green Revolution and substantial change in the nature of farming practices. They are described as follows:

- **Use of new methods :** New and scientific methods, modern instruments etc. were adopted for farming in Punjab. It included the use of tractors, combines, tube wells, chemical fertilizers etc. Their usage resulted in increase in both agricultural production and productivity in Punjab.
- **Expansion of Irrigation System :** In 1965-66, a total of 22 lakh hectares of land in Punjab had irrigation facilities. After this, irrigation facilities were developed in Punjab to take advantage of the Green Revolution. In 2019-20, Punjab had a total of 40.74 lakh hectares of net sown area under irrigation facilities which was 98.9 percent of the net sown area (Director of the office of the Land Records, Punjab).
- **Adoption of Multiple Cropping System :** Before the Green Revolution, single cropping system was prevalent in Punjab. But after the Green Revolution, Punjab adopted multiple cropping system which resulted in more production of crops in the state.
- **Expansion of credit facilities :** The techniques used for modern farming were expensive. So, in order to bring them within the reach of every farmer, credit facilities were provided to the farmers, in which farmers were given short, medium and long-term credit by banks and other government institutions.
- **Regulated Markets and Minimum Support Price :** Before the Green Revolution, Punjab had very few regulated markets and farmers were forced to sell their produce to money lenders and rural traders who did not provide them with the true value of their produce. In order to motivate the farmers for implementing green revolution policies, regulated markets were established by the government and minimum support price was guaranteed on selling the harvested crop. Food Corporation of India, Markfed, etc. procure food and other crops by ensuring minimum support price.
- **Other Reforms :** Apart from the above, various other institutional reforms were carried out by the government to increase production and productivity in the agricultural sector such as fixing the upper limit of land holdings, adopting the consolidation of land holding policy, encouraging cooperative farming, computerization of all land related records, etc. This also helped in making Green Revolution a huge success in Punjab.

Table 9.4 Achievements and Limitations of Green Revolution

Achievements	Limitations
<ul style="list-style-type: none"> • Increase in agricultural production at a very fast pace. • Increase in the amount of rural employment. • Increase in the income and improvement in the standard of living of the farmers. • Increase in the share of Punjab in Central Food Stock. • Due to increase in agricultural production, the industries are able to get sufficient raw material. • People are able to get different varieties of agricultural commodities. • An inducement is given to commercial farming. 	<ul style="list-style-type: none"> • It introduces monocultural cropping patterns i.e. wheat and paddy. • It is necessary to use high-cost machines in agriculture which is pro-rich in nature. • This results in widening income inequalities. • It results in degradation of land which has a harmful impact on human health and environment. • Use of labour displacing technology results in increased rural unemployment.

From the above explanation, it is clear that while Punjab got many benefits from the Green Revolution, it also failed to achieve its objectives in many aspects. Therefore, at present, the growth rate of production in the agricultural sector in Punjab is steady in nature.

Do this activity

- Conduct a class debate on the achievements and shortcomings of the Green Revolution in Punjab.
- Did our agronomists ignore the environmental impacts of Green Revolution? What do you think on this?
- “Does Punjab currently need another green revolution?” Prepare an assignment on this topic.

9.7 INDUSTRIAL DEVELOPMENT OF PUNJAB

Partition of the country and subsequent reorganization of the state had a very negative impact on the industrial development of Punjab. But after that many efforts were made by the governments to develop industries in Punjab. As a result, many industries are quite developed now-a-days. But still they need to be developed further.

The index of industrial production during the year 2020-21 (Base year 2011-12) was 112, which means that industrial production has increased by 12 percent in 2020-21 as compared to 2011-12. In the year 2019, the number of registered companies operating in Punjab was 19,814 and they employed approximately 7,46,731 workers.

Table 9.5

Basic Information about Small, Medium and Large Industries of Punjab (2019-20)

Type of Industry	Total Units	Capital Formation (in crore Rs.)	Employment	Production Capacity (in crore Rs.)
Small Scale Industries	955	36821.29	2146649	150458.97
Medium and Large-Scale Industries	590	83085.93	291816	165684.79

Source : Statistical Abstract of Punjab, 2021

9.8 INDUSTRIES OF PUNJAB

Industries in Punjab may be described by dividing into two categories: (a) small scale industries and (b) medium and large-scale industries. These are described as follows:

Table 9.6 Major Small-Scale Industries of Punjab and their location

Industry	Location
Hosiery	Ludhiana
Spare parts of Motor Cars	Ludhiana, Patiala, Jalandhar, Kapurthala
Cycle and its parts	Ludhiana
Sewing Machine and its parts	Ludhiana, Amritsar, Batala
Sports Goods	Jalandhar, Batala,
Leather	Jalandhar
Furniture	Kartarpur
Dairy Product Industry	Amritsar, S.A.S. Nagar, Patiala

Source: Punjab State Industrial Development Corporation

Table 9.7 Major Medium and Large-Scale Industries of Punjab and their Location Place

Industry	Location Place
Sugar	Kapurthala, Jalandhar, Sangrur, Gurdaspur, Roopnagar, Hoshiarpur
Cloth	Amritsar , Dhariwal, Phagwara
Tractor	Amritsar Hoshiarpur
Paper	Amritsar , Hoshiarpur Fertilizer Bathinda, Nangal
Iron	Mandi Gobindgarh

Source: Punjab State Industrial Development Corporation

It is evident from tables 9.6 and 9.7 that there is regional disparity in terms of industrial development in Punjab. Its industries have not developed equally in all the state of Punjab. Mostly, industrial units are mostly located in the cities of Ludhiana, Jalandhar, Amritsar. While industrial development in other districts has taken place at a very low rate.

9.9 NEED FOR INDUSTRIALIZATION IN PUNJAB

Punjab is yet to become a developed state in terms of industrial development. The main reason can be attributed to imbalanced approach adopted by state over the period of time. Moreover, lack of mineral and natural resources also contributed in the slow growth of industrial development in the region. There is a lot of potential for the development of Micro, small and medium scale enterprises (MSMEs) in Punjab. The need for industrialization in Punjab is evident from the following facts:

Balanced development of the economy: During development process, structural changes take place in an economy which increased the role of industrial sector in the development of agriculture. In this process, industries provide machinery, fertilizers and other inputs necessary for the development of agricultural sector and thus balanced development of the economy can be achieved.

Employment Generation : Punjab is currently facing severe shortage of employment opportunities and due to which a large section of youth is emigrating in search of better future. By developing industries in Punjab, employment opportunities can be provided and problem of brain drain can be tackled. Apart from this, the problem of disguised unemployment in the agricultural sector can also be solved with the development of industrial sector.

Let's Do It

- Are there no prospects for the development of large-scale industries in Punjab? Discuss this topic with your teacher.
- Visit any industrial unit in your locality and prepare a report.

Increase in Government Revenue : Industrial development in the state can help in the generation of revenue for the government. It is because with the establishment of industries, government can get various types of taxes, fees etc. from the industrial sector. This increased revenue of the government can be used for the developmental activities.

Improved Standard of Living : Due to industrial development in Punjab living standard of the people will improve because of availability of variety of affordable goods.

Increase in trade : Punjab is a border state. The development of small and medium scale industries in Punjab will increase the volume of industrial production. It will enhance regional and international trade of manufactured commodities.

9.10 DIFFICULTIES IN THE WAY OF INDUSTRIALIZATION IN PUNJAB

The rate of industrial development in Punjab is not satisfactory. Therefore, it is very important to know the reasons behind this. These are described as follows:

Shortage of power resources : Power resources like electricity, petroleum and coal etc. are lacking in Punjab. Long-term power cuts are imposed. So, industrial development is not an easy task.

Deficiency of Minerals : Punjab is completely deficient in minerals. Here only gravels are found in the name of minerals. In the absence of minerals, industrial development cannot be ensured.

Lack of Finance with the Government : Setting up industries requires a huge capital investment. But the Punjab government has a shortage of financial resources. Due to this, the government is not able to set up more industries in the state.

Punjab being a border state : Punjab is a border state. Therefore, there is always a fear of war and the entrepreneurs do not show special interest to set up industries in Punjab.

High Taxation : The tax rate in Punjab is high as compared to other states. Due to which the entrepreneurs are reluctant to come forward to set up industries. On the one hand new entrepreneurs are not ready to set up their industries in the state and on the other hand existing entrepreneurs are moving their production units out of Punjab.

Regional Disparity : Most of the industries in Punjab are located in a few districts like Ludhiana, Amritsar, Jalandhar etc. But there is lack of manufacturing units in rest of its districts. As a result, Punjab has to face the problem of regional disparity in industrial development.

Lack of Skilled Labour : Most of the workers employed in industries in Punjab come from the agricultural sector. They lack the necessary skills and abilities to work in industries. Thus, they are not able to contribute in the industrial development of the state.

9.11 STEPS TAKEN BY GOVERNMENT TO DEVELOP INDUSTRIES IN PUNJAB

In recent years, various small, semi-medium, medium and large-scale industries have developed in Punjab. State industrial policies have been formulated by the government from time to time. The steps taken by the Punjab Government are described as follows:

State Financial Corporation : It was established in 1953 by the Government of Punjab. It aims to work both for establishment of new industries and development of old industries. Its main objective is to develop manufacturing sector in Punjab, modernize them, promote various activities in them and therefore it provides medium- and long-term loans to these industrial units.

Punjab State Small Industries and Exports Corporation : It was established by the Government of Punjab in 1962 and its main objective is to establish small scale industries in Punjab, solve their problems and help them to export their products. This corporation provides raw material facility, marketing facility, technical advice and training etc. to the small-scale industries and helps in exporting their production.

Punjab State Industrial Development Corporation : It was established by the Government of Punjab in 1966. Its main objective is to develop all types of industries i.e. small, medium and large in all three sectors, government, private and joint ventures. For setting up these industries, this corporation provides loans and also helps in getting loans from other institutions.

Punjab Information and Technology Development Corporation : It was established by the Government of Punjab in 1976 and was earlier named as Punjab State Electronics Development and Production Corporation Limited. In the year 2002, it was renamed as Punjab Information and Technology Development Corporation. As the name itself suggests, its aim is to make Punjab a pioneer in the field of information technology. It is because the present era is known as information and technology era and no state can develop its manufacturing sector without the development of information technology.

Do This Activity

- Are institutions established by the Government of Punjab government for the development of industries doing their work properly? Conduct a speech competition on this topic.
- Are the problems of industries in Punjab being solved due to the efforts made by the Punjab government? Conduct a debate competition on this topic.
- What other measures can be adopted for the development of industries in Punjab? Prepare an assignment on this topic.

Establishment of Focal Points : These were established by the Government of Punjab in 1977. They aim to remove the regional disparity found in Punjab in terms of industrial development, develop industries in backward areas, help in the establishment and development of small and medium scale industries.

Punjab Agro-Industrial Corporation : It was established by the Government of Punjab in 1996. Its main objective is to establish agro-based industries in Punjab which can use agricultural products as raw material in them. This corporation helps in setting up various industries like mega food parks, agro-based industries, processing units, dairy industry, poultry industry etc.

Industrial Assistant-Single Window Arrangement : This was introduced in the year 2017 to create conducive environment for industrial development in Punjab. It helps the entrepreneurs to solve all their problems at one place. In this, the entrepreneurs are provided with all the facilities at one place i.e. providing license, arranging electricity, providing technical support etc.

Other measures : Apart from this, many other industrial development organizations such as Punjab State Handloom and Textile Corporation, Punjab State Hosiery and Knitwear Development Corporation, Punjab State Leather Development Corporation, etc. can be included. Along with this, efforts are being made towards developing electricity and transportation facilities, reforming taxation system, holding investment summits, etc.

So, it can be said that due to the efforts made by the Government of Punjab from the past several years, the amount of investment in the industrial sector has been growing. So, it is hoped that industries in Punjab will develop at a faster pace in the near future.

RECAP

- The word AGRICULTURE is a combination of two Latin words AGRI and CULTURE, where AGRI means land and CULTURE means cultivation. Therefore, agriculture means cultivating on the land for growing crops and engagement in other allied activities.
- In the year 2019-20, Punjab contributed 37.8 percent of wheat and 20.9 percent of paddy to India's total grain reserves.
- In the year 2019-20, Punjab produced a total of 308 lakh tonnes of crops and the contribution of Punjab to the total agricultural production of India was 12 percent.
- The contribution of agriculture to the total domestic production of Punjab (at constant prices) has been 14.66 percent in the year 2020-21.

- Pungrain, Food Corporation of India, Markfed, Punjab State Warehouse Corporation, Punjab Agro House Corporation etc. are involved in agricultural marketing in Punjab.
- In the year 2019-20, Punjab had a total of 40.74 lakh hectares of net sown area under irrigation facilities which was 98.9 percent of the net sown area.
- The index of industrial production during the year 2020-21 (base year 2011-12) was 112.
- In the year 2019, the number of registered companies operating in Punjab was 19814 and they employed an average of 746731 workers.
- Regional disparity is found in terms of industrial development in Punjab.

Exercises

A. Multiple Choice Questions

- Which of the following is a sector found in an economy?
 - Primary sector
 - Secondary sector
 - Service sector
 - All of the above
- The contribution of agriculture sector in state gross domestic product in the year 2019-20 was:
 - 82.00%
 - 36.86%
 - 15.68%
 - 28.68%
- Which of the following is a characteristic of agriculture in Punjab?
 - Commercial in Nature
 - Modern in Nature
 - Monoculture in Nature
 - All of the above
- According to the agricultural census of 2015-16, what was the average size of farms in Punjab?
 - 1.08 hectare
 - 2.85 hectare
 - 3.06 hectare
 - 3.62 hectare
- How many hectares of land is included in medium size land?
 - Less than 1 hectare
 - 2-4 hectares
 - 4-10 hectares
 - More than 10 hectares
- Which one of the following is not a Kharif crop?
 - Chickpea
 - Rice
 - Jawar
 - Millet

7. In which year did the Green Revolution take place in Punjab?
(a) 1964-65 (b) 1965-66
(c) 1966-67 (d) 1970-71
8. During the year 2020-21, what was the value of index of industrial production in Punjab?
(a) 102 (b) 112
(c) 122 (d) 132
9. Which of the following industries are least found in Punjab?
(a) Small-scale industries
(b) Medium-scale industries
(c) Large-scale industries
(d) All of the above
10. Which city in Punjab is famous for manufacturing sports goods?
(a) Jalandhar (b) Ludhiana
(c) Sri Amritsar Sahib (d) Kartarpur
11. Which of the following shows the need for industrialization in Punjab?
(a) Balanced development of the economy
(b) Development of agriculture
(c) Social development
(d) All of the above
12. Which of the following is not a hindrance in the development of industries in Punjab?
(a) Lack of power resources
(b) Lack of finance
(c) Lack of mineral resources
(d) Less amount of taxes
13. Which of the following is an organization working for the development of industrial sector in Punjab?
(a) Punjab Industrial Development Corporation
(b) Punjab Financial Corporation
(c) Punjab Agro-Industry Corporation
(d) All of the above

B. Fill in the Blanks

1. Secondary sector includes (agriculture/industries)
2. The area under cotton and sugarcane in Punjab has been
(decreasing/increasing)
3. In the year 2019-20, the wheat was sown on percentage of
the total sown area of Punjab. (45/40)
4. The size of marginal farms in Punjab is consistently
(increasing/decreasing)
5. Wheat is a crop. (Rabi/Kharif)
6. Ludhiana is most popular for making goods. (Textile/Hosiery)
7. Textile Industry is most popular in district.
(Sri Amritsar Sahib/Batala)
8. There is a of skilled labourers in Punjab. (shortage/abundance)
9. The Punjab State Industrial Development Corporation was established in
..... (1953/1966)

C. True/False

1. Punjab is called the sugar bowl of India.
2. The share of the total working population in the agricultural sector in Punjab is decreasing.
3. A major portion of the gross domestic production of Punjab is derived from the agricultural sector.
4. Less cost is incurred by working on marginal farms.
5. Rice is a kharif crop.
6. Fertilizer units are found in Nangal in Punjab.
7. Dairy products are produced in large scale industries.
8. Development of industries helps in the development of agricultural sector.
9. There is a shortage of skilled labour in Punjab.
10. Focal points in Punjab were established in 1975.

D. Very Short Answer Questions

1. What is the difference between agricultural production and agricultural productivity?
2. What are food crops and commercial crops?
3. Give examples of rabi and kharif crops?

4. Why Punjab agriculture is called modern agriculture?
5. What is meant by agricultural marketing?
6. What is meant by green revolution?
7. What is meant by monoculture cropping pattern?
8. What is meant by disguised unemployment? In which sector it is found?
9. What is meant by regional inequality?
10. Give examples of small, medium and large scale industries of Punjab.
11. Which industries are named as hosiery industries?
12. What is meant by power resources?
13. What is meant by One Window Arrangement?
14. What is meant by focal points?
15. How can the living standard of the people can be raised through industrial development in Punjab?
16. Why is there shortage of skilled labourers to work in industries in Punjab?

E. Match the Following

1. Type of Farm	Area
Marginal	More than 10 Hectare
Semi-Medium	Less than 1 Hectare
Medium	2-4 Hectare
Large	4-10 Hectare
2. Industry	Place of Location
Cycle	Kartarpur
Leather	Ludhiana
Furniture	Jalandhar
3. Corporation/Institution	Year of Establishment
Punjab Financial Corporation	1996
Punjab Agro-Industrial Corporation	1953
Punjab State Small Industries and Exports Corporation	1962

F. Short Answer Type Questions

1. Describe the major crops of Punjab based on season.
2. Describe the major crops of Punjab based on the type of crops.
3. What are the reasons responsible for the increase in importance of agricultural marketing in Punjab?
4. What are the difficulties faced in agricultural marketing in Punjab?
5. Write a note on the development of industries in Punjab.
6. What are the difficulties faced in the industrial development of Punjab?
7. What steps should be taken to develop large scale industries in Punjab?

G. Long Answer Type Questions

1. Describe the main features of agriculture in Punjab.
2. Explain the main causes of Green Revolution in Punjab.
3. Critically evaluate the success of Green Revolution in Punjab.
4. Describe the need for industrialization in Punjab.
5. What are the obstacles in the way of industrial development in Punjab?
6. Explain the steps taken by Punjab Government to develop industries.

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10

Fiscal State of Punjab

After reading this chapter, you will be able to understand:

- Various sources of revenue and expenditure of Government of Punjab.
- Recognize the role of government in the economic activities of the state.
- Apprise the management of financial issues pertaining to the state.

CHAPTER - 10

Fiscal State of Punjab

10.1 INTRODUCTION

Financial system of the government means the system by which the government generates its revenue and makes its expenditure. Generally speaking, it means the budget of the government. The budget of a government is an annual statement of all the expected economic transactions of the government i.e. its expected revenue and its expected expenditure. The word 'expected' is used in the present context because the budget is prepared by the governments both Central and State, for the year to come and the government is not sure about its revenue and expenditure in the coming year and it only makes provisional estimates about these two. Government budget also refers to the details of its revenue and expenditure in the previous year, but this part is given very less importance.

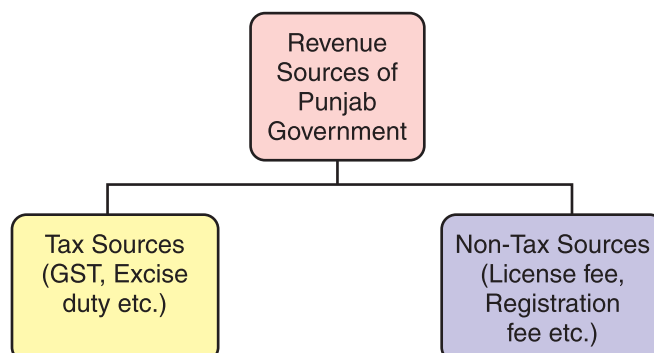
It is necessary for the government to prepare the budget, so that it has an idea about what should be its revenue and expenditure in the year to come and so it can plan its welfare and developmental programmes accordingly.

In this chapter, we will study about various sources of revenue and items of expenditure of the Punjab government. We will also know how the government takes care about welfare of its people by improving its economic development with its budgetary policy.

10.2 SOURCES OF REVENUE OF PUNJAB GOVERNMENT

The government of any region generates its revenue from two sources viz., tax sources and non-tax sources. These are explained as follows:

Chart 10.1



10.2.1 Tax Sources

Government imposes various types of taxes like Goods and Services Tax, income tax, excise duty, entertainment tax etc. on its people, which have to be paid directly or indirectly by the public. These taxes are the main source of revenue of the government. In the year 2020-21, the total tax revenue of the Punjab government was Rs 72042.42 crores, which is estimated to increase to Rs 95257.60 crores during the budget 2021-22 (Statistical Abstract of Punjab, 2021). The taxes from which the Punjab Government derives its revenue are described as follows:

Share from the Central Government Taxes : Punjab Government receives its share of various taxes from the Central Government. These taxes are levied by the Center government, but a part of them is provided to the Punjab government. During the year 2020-21, the share of taxes received by the Punjab Government from the Center Government was Rs 9833.61 crores, which was 13.65 percent of its total revenue. During the year 2021-22, the Punjab government is estimated to receive Rs 12026.71 crores as share of taxes.

State Goods and Services Tax : This is an indirect tax, which is payable by every person on the purchase of any good or service. At present, it is a very important source of revenue for the Punjab Government. During the year 2020-21, the Punjab government received a revenue of Rs 11522.30 crores from state goods and services tax which was 15.99 percent of its total revenue. During the year 2021-22, the Punjab government is estimated to receive Rs 16,000 crores from this tax.

Goods and Services Tax (GST)

GST was launched by Government of India in the year 2017. This tax is like Value Added Tax (VAT) in its application, but with a wider scope than VAT which was applicable on goods only. As the name suggests, this tax is applicable to goods as well as services. Government fixes different tax rates for different goods and services under GST like 0%, 5%, 12%, 18% and 28% depending upon the nature of goods and services.

Value Added Tax : This is also an indirect tax, which is levied by the Punjab government on the value addition during the production process of commodities. During the year 2020-21, the Punjab Government received revenue of Rs 5470.73 crores from Value Added Tax, which was 7.97 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 6027.76 crores from this tax.

State Excise Duty : The state excise duty is levied by the Punjab government on liquor, petroleum, tobacco etc. During the year 2020-21, the Punjab government received a revenue of Rs 5794.93 crores from excise tax, which was 8.04 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 7002.53 crores from this tax.

Tax on Vehicles : Whenever any two-wheeler or four-wheeler is purchased by the people, this tax is collected by the Punjab Government. During the year 2020-21, the Punjab government received a revenue of Rs 1567.94 crores from this tax which was 2.18 percent of its total revenue. During the year 2021-22, the Punjab government is expected to earn a revenue of Rs 2200 crores from this tax.

Electricity Tax : As we know that electricity in Punjab is provided by Punjab State Power Corporation Limited (PSPCL). So, when the Punjab Government provides electricity to the people for domestic or commercial purposes, tax is collected by it. During the year 2020-21, the Punjab government received a revenue of Rs 2894.51 crores from this tax which was 4.02 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 3026.01 crores from this tax.

Land Tax : As the name suggests, this tax is levied on the farmers according to the size of their land. During the year 2020-21, the Punjab government received a revenue of Rs 65.09 crores from this tax, which was 0.09 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 87.43 crores from this tax.

Other Taxes : During the year 2019-20, the Punjab Government received a revenue of Rs 9.01 crores from other taxes like entertainment tax, luxury tax etc. which was 0.01 percent of its total revenue.

Do this activity

- Collect the information about the revenue received by the Punjab Government from Goods and Services Tax and Value Added Tax from the year 2017-18 to the year 2020-21.
- What is the difference between Goods and Services Tax and Value Added Tax? Discuss with your teacher.

10.2.2 Non-Tax Sources

The government derives its revenue not only from tax sources but also from various types of non-tax sources. These mainly include different types of fees, fines, escheat etc. The total revenue received by the Punjab government from these non-tax sources was Rs 4632.88 crores in the year 2020-21 which is projected to increase to Rs 7758.48 crores during the 2021-22 budget (Statistical Abstract of Punjab, 2021). These non-tax receipts of the Punjab Government are described as follows:

Punjab Roadways : Punjab Roadways is a major institution for providing transportation services to the people of Punjab. During the year 2020-21, the Punjab government received a revenue of Rs 114.23 crores from it which was 0.16 percent of its total revenue. During the year 2021-22, the Punjab government is expected to earn a revenue of Rs 250 crores from this source.

Miscellaneous General Services : Punjab Government provides various general services to its people like Police, Printing, Stationery, Lottery etc. During the year 2020-21, the Punjab government received a revenue of Rs 2850.25 crores from it, which was 3.95 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 5533.58 crores from this source.

Interest Receipts : Loans are given by Punjab Government to various institutions, on which revenue is earned as interest. During the year 2020-21, the Punjab government received a revenue of Rs 121.64 crores from it. It was 0.17 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 250.03 crores from this source.

Other Non-Tax Receipts : Apart from the above, the Punjab Government has various other sources of non-tax revenue, which include various types of profits, dividends, income from economic services etc. During the year 2020-21, the Punjab government received a revenue of Rs 1546.76 crores from these, which was 2.15 percent of its total revenue. During the year 2021-22, the Punjab government is expected to receive a revenue of Rs 1724.87 crores from this source.

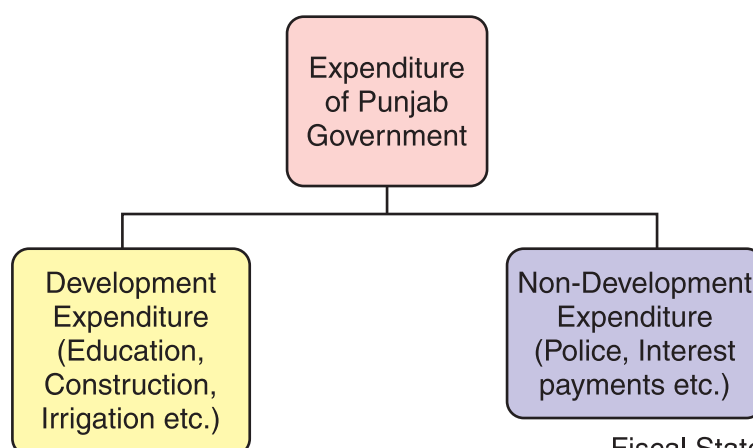
Let's Do It

- You may notice that there are some types of taxes which have greater share and a few others which have a smaller share in the revenue of the government. For example, sale of liquor accounts for 8% of the revenue of the state. Are there other ways of generating revenue? Discuss.
- Punjab Roadways has been running at a loss from the past several years. Do you think every service provided by the government should earn profits? Discuss with your teacher.

10.3 ITEMS OF EXPENDITURE OF THE GOVERNMENT

As the government receives its revenue from different sources, in the same way it also spends its money on different items. A total of Rs 92772.30 crores was spent by the Punjab Government in the year 2020-21, which is estimated to be Rs 103879.91

Chart 10.2



crores during the year 2021-22. The expenditure incurred by the Government of Punjab is divided into two categories which is shown in chart 10.2:

10.3.1 Developmental Expenditure of Punjab Government

Developmental expenditures incurred by a state has a positive effect on its development. It means that whenever this expenditure is incurred by the government, economic and social development improve. Various developmental expenditures incurred by the Punjab Government are described as follows:

Expenditure on Energy : Punjab Government makes an expenditure to provide energy for the development of different sectors viz. agriculture, industry and service. In the year 2020-21, the Punjab Government spent Rs 2202.94 crores on energy which was 2.38 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 1512.88 crores on it.

Public Works : Various public works are undertaken by the Punjab Government. This is to increase the welfare of the people and to provide them with social justice. It includes expenditure incurred on construction of roads, parks, schools, hospitals etc. In the year 2020-21, the Punjab Government spent Rs 586.50 crores on it which was 0.63 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 422.23 crores on it.

Education : Punjab government incurs expenditure on government schools and colleges, as salaries of employees, scholarships given to students studying in these institutions, etc. In the year 2020-21, the Punjab Government spent Rs 12133.23 crores on it which was 13.08 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 12636.20 crores on this expenditure head.

Medical and Public Health : Punjab government spends on government hospitals, dispensaries etc. to provide health facilities to the people. In the year 2020-21, the Punjab Government spent Rs 3686.29 crores on it which was 3.97 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 3821.22 crores on this.

Irrigation and flood control : Punjab is an agrarian state and for its agricultural development, it is essential to provide adequate irrigation facilities to the farmers and control floods in case of bad weather conditions. In the year 2020-21, the Punjab Government spent Rs 1063.33 crores on it which was 1.15 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 1114.96 crores on this.

Agriculture and Allied Activities : The Punjab Government provides seeds, fertilizers, pesticides, tools etc. to the farmers to develop agriculture in the state, and run veterinary hospitals etc. In the year 2020-21, the Punjab Government spent Rs

9879.20 crores on it which was 10.65 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 12465.19 crores on this.

Road Transport : Punjab government incurs expenditure on road construction. Apart from this, Punjab government also spent money to facilitate road transport. In the year 2020-21, the Punjab Government spent Rs 568.76 crores on it which was 0.61 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 323.72 crores on this.

Industrial and Mineral Resources: The Punjab government spends on developing industries and mining minerals in the state. In the year 2020-21, the Punjab Government spent Rs 2132.74 crores on it, which was 2.30 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 2115.65 crores on this.

10.3.2 Non-Developmental Expenditure of Punjab Government

Non-developmental expenditure means that expenditure which has no direct impact on the development of a state or country. But still the government has a responsibility towards its citizens and it has to incur these expenses and no government can avoid these. The major non-developmental expenditure incurred by the Punjab Government are described as follows:

Interest Payment : The Punjab Government borrows from various financial institutions and organisations to meet its financial requirements on which it has to pay interest every year. In the year 2020-21, the Punjab Government spent Rs 19,513.81 crores on it which was 21.03 percent of its total expenditure. During the year 2021-22, the Punjab government is expected to spend Rs 21,240.52 crores on this.

Pension and Other Retirement Benefits : Punjab Government employees, after their service and retirement are paid various benefits by the Government. In the year 2020-21, the Punjab government spent Rs 13,000 crores on it, which was 14.01 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 11767 crores.

Security : The Punjab government is concerned about the safety of everyone in the state. For instance, the police force is deployed by the government for the safety of the people. In the year 2020-21, the Punjab Government spent Rs 6208.01 crores on it, which was 6.69

Let's Do It

- Are the scholarships given to students fall under the category of developmental expenditure? Discuss in your class.
- Police is very important for our safety. But why is the expenditure on Punjab Police kept under the category of non-developmental expenditure? Discuss in your class.

percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 6735.78 crores.

Payment of Grants etc.: Various types of grants are given by the Punjab Government to various organisations and individuals. In the year 2020-21, the Punjab Government spent Rs 6717.06 crores on it, which was 7.24 percent of its total expenditure. During the year 2021-22, the Punjab government is estimated to spend Rs 4058.54 crores.

Thus, it can be said that the Punjab Government prepares a detailed account of its revenue items and its expenditure items during formulation of its budget, which reveals its economic policies and priorities.

10.4 OVERALL BUDGETARY POSITION OF PUNJAB GOVERNMENT

The overall budget of the Punjab Government means a consolidated account of all its revenue and expenditure. This is shown in the Table number 10.1.

Table 10.1 Overall Budgetary Position of Punjab Government
(Amount in Crore Rs)

Item	Year			
	2018-19	2019-20	2020-21	2021-22 (P)
1. Revenue Account				
(i) Revenue	62269.08	61574.75	72042.41	95257.60
(ii) Expenditure	75403.71	75859.64	92772.30	103879.91
Balance (i-ii)	(-) 13134.63	(-) 14284.89	(-) 20729.88	(-) 8622.30
2. Capital Account				
(i) Revenue	54775.70	72790.67	71377.08	69341.09
(ii) Expenditure	41544.22	58185.51	47227.39	64135.28
Balance (i-ii)	13231.48	14605.16	24149.69	5205.81
Overall Balance (1+2)	54678.85	72470.4	67957.27	72757.58
Benefit (+)/Loss (-)	(-) 96.88	320.57	3419.80	(-)3416.49

Source : Statistical Abstract of Punjab, 2021

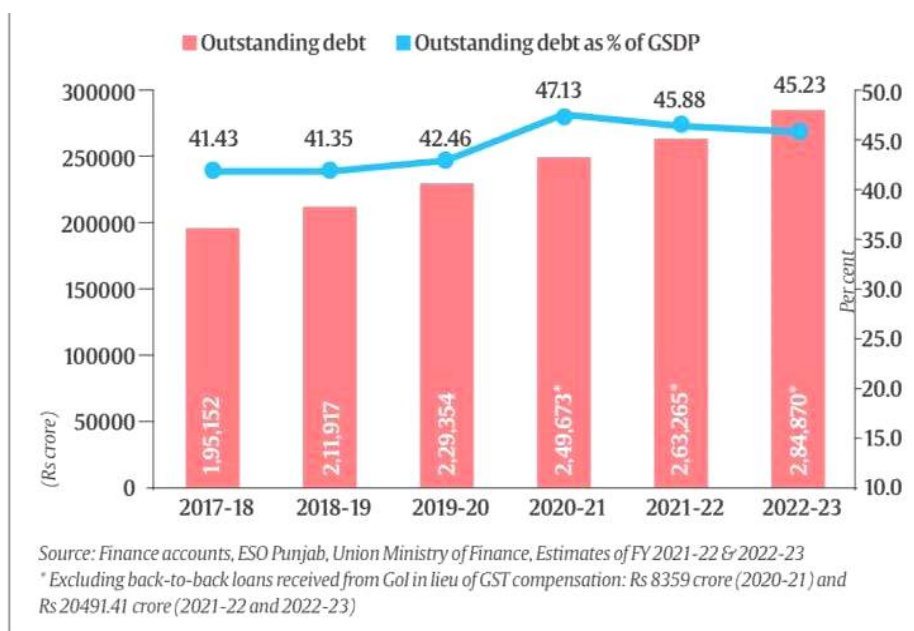
The budget of the Punjab government is actually a deficit budget as expenditure incurred has been more than its revenue. Economic theory states that if a government adopts deficit budget in the interest of the people, a certain level of it is acceptable. Keeping this in mind, the government should try to maintain a certain level of its budget

deficit or try to reduce it by increasing its revenue sources and by reducing its non-developmental expenditure.

10.5 PUBLIC DEBT

Punjab government borrows from various sources to cover its deficit budget and subsequently pays huge interest on it. Due to the increase in the deficit budget from the past few years, the amount of loan taken by the government and the amount of interest paid on it has been increasing over the period of time. This is shown by the following chart:

Chart 10.3 Debt Trends of Punjab Government



From the data given in chart 10.3, it can be concluded that due to the continuous budget deficit, the amount of debt taken by the Punjab government has been increasing considerably. Hence, to manage this situation, it can be suggested that the Punjab government should reduce its non-developmental expenditure and focus on developmental activities in the state.

Let's Do It

- The deficit budget of the Punjab government is increasing year by year. Discuss its reasons.
- Suggest some measures to reduce deficit budget in the state of Punjab.

10.6 CONCLUSION

In conclusion, it can be said that the expenditure of Punjab government is increasing at a faster pace than its sources of revenue. It is the reason that the budgetary deficit of the Punjab Government is increasing continuously. It is an alarming sign for the government to decrease its non-developmental expenditures and try to increase its sources of revenue. So that Punjab can again be made **RANGLA PUNJAB**.

RECAP

- The budget of the Punjab government consists of two parts, viz., revenue and expenditure.
- The Punjab government receives revenue in two ways: tax and non-tax sources.
- The tax sources of the Punjab government mainly include revenue from Goods and Services Tax, Value Added Tax, State Excise Duty, etc.
- The non-tax sources of the Punjab government mainly include revenue from interest receipts, miscellaneous receipts, Punjab roadways etc.
- Two types of expenditure are incurred by the Punjab Government, which are developmental and non-developmental expenditure.
- Developmental expenditure mainly includes expenditure on education, health, transportation, energy etc.
- Non-developmental expenditure mainly includes expenditure incurred on police, law, interest payments etc.
- Presently, the budget of the Punjab government is a deficit budget.
- Due to the continuous deficit budget for the last few years, the amount of debt taken by the Punjab government is increasing.

●●● Exercises ●●●

A. Multiple Choice Questions

1. In how many parts can the revenue sources of any government be divided?
(a) 2 (b) 3
(c) 4 (d) 5
2. Which of the following is a source of revenue for the government?
(a) Tax Source (b) Non-tax Source
(c) Both (a) and (b) (d) Income from Illegal activities
3. Which of the following is not a tax source of revenue of the Punjab Government?
(a) Goods and Services Tax (b) Value Added Tax
(c) State Excise Duty (d) Interest Receipts
4. Which of the following is a non-tax source of revenue for the Punjab Government?
(a) Electricity Tax (b) Punjab Roadways
(c) Land Tax (d) Entertainment Tax

5. Which of the following is an expenditure incurred by the Punjab Government?
 - (a) Developmental expenditure
 - (b) Non-developmental expenditure
 - (c) Both (a) and (b)
 - (d) Interest Receipts
6. Which of the following is a developmental expenditure incurred by the Punjab Government?
 - (a) Expenditure on education
 - (b) Expenditure on road construction
 - (c) Expenditure on health
 - (d) All of the above
7. Which of the following is a non-developmental expenditure incurred by the Punjab government?
 - (a) Expenditure on police
 - (b) Expenditure on energy
 - (c) Expenditure on medical education
 - (d) Expenditure on scholarships

B. Fill in the Blanks

1. At present almost every country or state government is a government. (Welfare/dictatorship)
2. Income sources of the state of Punjab Government can be divided into..... parts. (2/3)
3. Goods and Services Tax is a tax. (Direct/Indirect)
4. The expenditure incurred by the Punjab Government on its interest payments is a expenditure. (Developmental/Non-Developmental)
5. The budget prepared by the Punjab Government is a budget. (Deficit/Surplus)

C. True/False Type Questions

1. The Punjab Government does not receive any assistance in the form of taxes from the Central Government.
2. Value Added Tax is an indirect tax.
3. No tax is levied on two wheelers by Punjab Government.
4. Expenditure on health is taken as a developmental expenditure.
5. Expenditure on pensions by the Punjab Government falls under the category of non-development expenditure.

6. There is a continuous reduction in the public debt taken by the Punjab Government.

D. Very Short Answer Type Questions

1. What is meant by 'Goods and Service Tax' and who levies it?
2. What is meant by 'Value Added Tax'?
3. How is 'Value Added Tax' different from 'Goods and Services Tax'?
4. What is meant by State Excise Duty?
5. Write a note on land tax and entertainment tax.
6. What are the miscellaneous services provided by the Punjab Government?
7. Why expenditure on pension and retirement benefits is called non-developmental expenditure?
8. What is the reason for taking public loan by Punjab Government?
9. 'Government earns considerable revenue from excise duty.' Do you agree with this statement? Justify.
10. What is public debt? Why government should reduce it?

E. Short Answer Questions

1. Describe various tax sources of revenue of the Punjab Government?
2. Describe various non-tax sources of revenue of the Punjab Government?
3. Describe various developmental expenditure of the Punjab Government?
4. Describe various non-Developmental expenditure of the Punjab Government?
5. Write a note on the format of budget of the Punjab Government.
6. Write a note on public debt taken by the Punjab Government.

F. Long Answer Questions

1. Describe the various tax and non-tax sources of revenue of the Punjab Government?
2. Describe the various developmental and non-developmental expenditure of the Punjab Government?

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GLOSSARY

Better Compliance : Obeying or complying with the Government regulation. It is referred to usually in case of payment of taxes and dues to the Government.

Bilateral Trade Agreements : The agreements relating to exchange of commodities or services between two countries.

Budgetary Deficit : A situation when the government's income and tax receipts fail to cover its expenditures.

Bureau of Energy Efficiency (BEE) : It is a government organisation that aims to develop policies and strategies with a thrust on self regulation and market principles. It promotes energy conservation in different sectors of the economy and undertakes measures against the wasteful uses of electricity.

Business Process Outsourcing (BPO) : Outsourcing of business processes (activities constituting a service) by companies to other companies. This term is frequently associated with outsourcing of such activities (e.g. receiving and making calls on behalf of other companies popularly known as call centres), by foreign companies to Indian companies in the field of IT-enabled services.

Cash Reserve Ratio (CRR) : A proportion of the total deposits and reserves of the commercial banks that is to be kept with the central bank (RBI) in liquid form. It is used as a measure of control of RBI over the commercial banks.

Colonialism : The practice of acquiring colonies by conquest or other means and making them dependent. It also means extending power, control or rule by a country over the political and economic life of areas outside its borders. The main feature of colonialism is exploitation.

Commercialisation of Agriculture : It implies production of crops for the market rather than for self-consumption i.e. family consumption. During the British rule, the commercialisation of agriculture acquired a different meaning—it became basically commercialisation of crops. The British started offering higher price to farmers for producing cash crops rather than for food crops. They used these cash crops as raw materials for industries in Britain.

Consumption Basket : Group of goods and services consumed by a household. In order to estimate the consumption pattern of people, statistical agencies identify such items. For instance NSSO has identified 19 groups of items in the consumption

basket. Some of them are (i) cereals (ii) pulses (iii) milk and milk products (iv) edible oil (v) vegetables (vi) fuel and light and (vii) clothing.

Default : Failure to make repayment of the principal and interest on a debt e.g. sovereign debt (loan obtained by the government) to the lenders, say, international financial institutions, on the scheduled date, causing loss of credibility as a debtor.

Deficit Financing : A situation where the expenditure of the government exceeds its revenue.

Dereservation : Allowing an individual or group of enterprises to produce goods and services which were hitherto produced by a particular individual or group of enterprises. In India, it refers to allowing large-scale industries to produce goods and services which were produced only by the smallscale industries.

Devaluation : A fall in the exchange rate which reduces the value of a currency in terms of other currencies.

Disinvestment : A deliberate sale of a part of the capital stock of a company to raise resources and change the equity and/or management structure of a company.

Employers : Those self-employed workers who by and large, run their enterprises by hiring labourers.

Enterprise : An undertaking owned and operated by an individual or by group of individuals to produce and/or distribute goods and/or services mainly for the purpose of sale, whether fully or partly.

Export Duties : Taxes imposed on goods exported from a country.

Export Promotion : A set of measures (including fiscal and commercial support measures and steps aimed at removal of trade barriers) taken by a government to promote the export of goods with a view to achieve higher economic growth and accumulation of foreign exchange earnings.

Family labour/worker : A member who works without receiving wages in cash or in kind in a farm, an industry, business or trade conducted by the members of the family.

Financial Institutions : Institutions that engage in mobilisation and allocation of savings. They include commercial banks, cooperative banks, developmental banks and investment institutions.

Fiscal Management : The use of taxation and government expenditure to regulate the economic activities.

Fiscal Policy : All the planned actions of a government in mobilising financial resources for meeting its expenditure and regulating the economic activities in a country.

Formal Sector Establishments : All the public sector establishments and those private sector establishments which employ 10 or more hired workers.

G-20 : A forum of countries that intends to promote global economic stability and sustainable growth. This forum brings together finance ministers and central bank governors from 19 countries: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, The Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, The United Kingdom, The United States of America. The European Union is also a member of G-20 and is represented by the President of the European Council and by Head of the European Central Bank.

G-8 : The Group of Eight (G-8) consists of Canada, France, Germany, Italy, Japan, the United Kingdom of Great Britain and Northern Ireland, the United States of America, and Russian Federation. The hallmark of the G-8 is an annual economic and political summit meeting of the heads of government with international officials, though there are numerous subsidiary meetings and policy research. The Presidency of the group rotates every year. For the year 2006 it was held by Russia.

Goods and Services Tax : It is a single indirect tax on the supply of goods and services. It was introduced in July 2017 by abolishing a variety of taxes, such as sales tax and excise that prevailed in India. Under GST, tax is imposed on the basis of value addition at each stage of the movement of goods and services. Different slabs of tax rates, such as 0 per cent, 5 per cent, 12 per cent, 18 per cent and 28 per cent, are imposed on almost all goods and services. This slab is same throughout the country.

Gratuity : An amount of money given by the employer to the employee at the time of retirement for services rendered by the employee.

Gross Domestic Product : The total value of final goods and services produced within a country's borders in a year, regardless of ownership. It is used as one of many indicators of the standard of living in a country, but there are limitations with this view.

Gross Value Added : The sum of a country's GDP and net of subsidies and taxes in the economy ($GVA = GDP + \text{Subsidies} - \text{indirect taxes}$).

Infant Mortality Rate : It is the number of deaths of infants before reaching the age of one, in a particular year, per 1,000 live births during that year.

Inflation : A sustained rise in the general price level.

Informal Sector Enterprises : Those private sector enterprises, which employ less than 10 workers on a regular basis.

Integration of Domestic Economy : A situation where the policies of government facilitate free trade and investment with other countries making the domestic economy work together with other economies in an efficient and mutually interdependent way.

Labour Laws : All the rules and regulations framed by the government to protect the interests of the workers.

Maternal Mortality Rate : It is the relationship between the number of maternal deaths due to childbearing by the number of live births or by the sum of live births and foetal deaths in a given year.

Merchant Bankers : Banks or financial institutions, also known as investment bankers, that specialise in advising the companies and managing their equity and debt requirement (often referred to as portfolio management) through floatation and sale/purchase of stocks and bonds.

Mortality rate : The word 'mortality' comes from 'mortal' which originates from the Latin word mors (meaning death). It is the annual number of deaths (from a disease or in general) per 1,000 people. It is distinct from morbidity rate, which refers to the number of people who have a disease compared to the total number of people in a population.

MRTP Act : An Act (Monopolies Restrictive Trade Practices Act) framed to prevent monopolistic practices and regulate the conduct or business practices of firms that are not in public interest.

Multilateral Trade Agreements : Trade agreements made by a country with more than two nations to exchange goods and services.

National Product/Income : Total value of goods and services produced in a country plus income from abroad.

Nationalisation : Transfer of ownership from private sector to public sector. This involves take over of companies owned by individuals or group of individuals by either state or central government. In some contexts, it also involves transfer of ownership from state government to central government.

New Economic Policy : A term used to describe the policies adopted in India since 1991.

Non-renewable Resources : Resources that cannot be renewed. They have a finite, even if large, stock. Some examples are fossils fuels such as oil and coal and mineral resources—iron, lead, aluminum, uranium.

Opportunity Cost : It is defined with respect to a particular value or action and is equal to the value of the foregone alternative choice or action.

Per Capita Income : Total national income of a country divided by its population in a specific period.

Permit License Raj : A term used to denote the rules and regulations framed by the government to start, run and operate an enterprise for production of goods and services in India.

Planning Commission : An organisation set up by the Government of India. It is responsible for making assessment of all resources of the country, augmenting deficient resources, formulating plans for the most effective and balanced utilisation of resources and determining priorities.

Poverty Line : The per capita expenditure on certain minimum needs of a person including food intake of a daily average of 2,400 calories in rural areas and 2,100 calories in urban areas.

Private Sector Establishments : All those establishments, which are owned and operated by individuals or group of individuals.

Productivity : Output per unit of input employed. Increase in the efficiency on the part of capital or labour leads to increase in productivity. This term is generally used to refer to productivity increase in labour inputs.

Public Sector Establishments : All those establishments which are owned and operated by the government. They may be run either by local government, state government or by central government independently or jointly.

Renewable Resources : Resources that can be renewed through natural processes if they are used wisely. Forests, animals and fishes, if not overexploited, get easily renewed. Water is also in that category.

South Asian Association for Regional Cooperation (SAARC) : It is an association of eight countries of South Asia — Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka and Afghanistan. SAARC provides a platform for the peoples of South Asia to work together in a spirit of friendship, trust and understanding. It aims to accelerate the process of economic and social development in member countries.

Self-employed : Those who operate their own farm or non-farm enterprises or are engaged independently in a profession or trade with one or a few partners. They have freedom to decide how, where and when to produce and sell or carry out their operation. Their earning is determined wholly or mainly by sales or profits from their enterprises.

Social Security : A government or privately established system of measures, which ensures material security for the elderly, disabled, destitute, widows and children. It includes pension, gratuity, provident fund, maternal benefits, health care etc.

Special Economic Zone (SEZ) : It is a geographical region that has economic laws different from a country's typical economic laws. Usually the goal is to increase foreign investment. Special Economic Zones have been established in several countries, including the People's Republic of China, India, Jordan, Poland, Kazakhstan, the Philippines and Russia.

Stabilisation Measures : Fiscal and monetary measures adopted to control fluctuations in the balance of payments and high rate of inflation.

State Electricity Boards (SEBs) : These are part of the state administration that generate, transmit and distribute electricity in different states.

Statutory Liquidity Ratio (SLR) : A minimum proportion of the total deposits and reserves to be maintained by the banks in liquid form as per the regulations of the

‘ਸਮਾਜਿਕ ਨਿਆਂ, ਅਧਿਕਾਰਤਾ ਅਤੇ ਘੱਟ ਗਿਣਤੀ ਵਿਭਾਗ’ ਪੰਜਾਬ।

central bank (RBI). Maintenance of SLR, in addition to the Cash Reserve Ratio (CRR), is an obligation of the banks.

Stock Exchange : A market in which the securities of governments and public companies are traded. It provides the facilities for stock brokers to trade company stocks and other securities.

Stock Market : An institution where stocks and shares are traded.

Structural Reform Policies : Long-term measures like liberalisation, deregulation and privatisation aimed to improve the efficiency and competitiveness of the economy.

Tariff Barriers : All the restrictions on imports by a government in the form of taxes.

Trade Union : An organisation of workers formed for the purpose of addressing its members' interests in respect of wages, benefits, and working conditions.

Urbanisation : Expansion of a metropolitan area, namely the proportion of total population or area in urban localities or areas (cities and towns), or the increase of this proportion over time. It can thus represent a level of urban population relative to total population of the area, or the rate at which the urban proportion is increasing. Both can be expressed in percentage terms, the rate of change expressed as a percentage per year, decade or period between censuses.

Worker-Population Ratio : Total number of workers divided by the population. It is expressed in percentage.