FEB WEEKLY TEST – 2
11.2.24

12th - Geography	**Unit -2**	**Human Settlements**
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12th - Economics	**Unit -2**	**National Income**
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2. HUMAN SETTLEMENTS

INDRODUTION

In simpler term we can define settlement as any form of human habitation which ranges from a single dwelling to a large city. A human settlement is defined as a place inhabited more or less permanently. It includes building in which they live or use and the streets through which they travel. It also includes the temporary camps of the hunters and herders. It may consist of only a few dwelling units called hamlets or big cluster of building called urban cities.

Origin and development of Settlement

Most anthropologists believe that humans first appeared in the Great Rift Valley of East Africa thousands of years ago. From there, they spread to the Middle East, Asia, Europe, America and Oceania. Neolithic Revolution (Agricultural Revolution) occurred in Mesopotamia, people went from hunter-gatherers and nomads to domesticators. The population grew relatively quickly. The emergence of urban population occurred also in some areas. Agriculture became especially successful largely in the river valleys of Nile, Ganges and Yangtze kiang.

These areas had fertile soil from annual flooding which led to abundant harvest. First cities arose in these areas and people were able to grow surplus food to feed a non-farming urban population thereby leading to specialization among the population. The priests, scribes,

architects, farmers, soldiers, traders, blacksmiths, etc. were some other people ventured in these areas.

Site and Situation

Site

The Site of a settlement describes the physical nature of where it is located. Factors such as water supply, building materials, quality of soil, climate, shelter and defence were all considered when settlements were first established. For instance, the site of Sydney, in Australia, initially took advantage of the excellent natural harbor and surrounding fertile farmland.

Aspect and shelter are two of the most important factors that were considered when deciding where to locate a settlement. Aspect relates to the direction in which the land faces. In the Northern Hemisphere the best slopes to locate on are those that face south, as they will receive the most sunshine, and therefore be the best for agriculture. This can be seen clearly in many of the valleys of the Alps, where settlements have located on the south-facing slopes.

Shelter is also very important, particularly from the cold northerly winds and prevailing south westerly winds in the UK. A good example of settlements being sheltered by their natural surroundings are the many spring-line settlements found along the base of the chalk escarpments of the North and South Downs. These settlements would also have benefited from the good water source and fertile farmland nearby.

1. Water supply

Water supply is probably the single most important factor in deciding where a settlement might be located. Not only do rivers provide a source of clean drinking water, they also provide a food source through fishing, and a transport route. Most of the world's largest cities are located on rivers, especially the point at which they reach the sea, as this was often the first point that explorers landed.

2. Dry point sites

A dry point site is one that is slightly raised from the surrounding area, meaning that it is less likely to flood. Ely in Cambridgeshire, England, is a good example of dry point site.

3. Wet point sites

Wet point site refers to any site that has access to water, usually through being beside a river. Towns would either grow up along the river or clustered near the point at which the river enters the sea. Examples of wet point sites include the towns and villages of the Welsh valleys, which tend to extend along the flat valley floor, rather than up the steep valley sides. Spring line settlements in the North and South Downs, England are also good examples of wet point sites.

4. Defence

In medieval times, defence was one of the most important factors influencing the site of a settlement. The relief of the land often proved to be the best form of defence. Edinburgh castle sits on the top of a glacial crag, in an almost perfect position to defend itself, with very little chance for the attackers. In Italy, there are many walled hill-top villages, whilst the

Maoris in New Zealand built their settlements (called Pa's) on the top of steep hills to prevent being attacked. In India, Ichhapur Defence Estate is a census town in Barrackpore, West Bengal.

The other common natural feature used for defence is water, and in particular rivers. Both Shrewsbury and Durham are very good examples of where a meander of the river has formed an area of land bounded by water on three sides. This provided both cities with excellent defence, as they only had a thin neck of land to defend.

5. Resources

The idea of resources covers a huge number of different things. For early settlers the most important resources were fuel, building materials and food. Settlements grew in areas where wood was plentiful, stone easily accessible and good soil allowed agriculture to be developed.

Since in early days of settlement many different resources have become the focal points for the growth of urban areas.

6. Mining

The coal mines of South Wales, Tin mines of Cornwall and large mining projects at Carajas in Northern Brazil, have all encouraged the rapid growth of settlements aimed at housing the workers and providing them with all that they require.

7. Precious metals

Settlements in South Africa have grown after the discovery of large deposits of precious metals such as gold. The most famous settlement Grew due to finding gold is San Francisco, after the gold rush to California in 1849.

8. Route centres

Route centres are often called Nodal Points. Nodal Points are formed by the meeting of two valleys, but settlement nowadays will grow where two main roads meet. In the UK, York is a good example of a route Centre. Birmingham also enjoys a very good location, where many routes join up, and this is one of the reasons for its growth to become one of the largest cities in the UK.

9. Bridging points

Just as water is very important for drinking, fishing, irrigation and navigation, so the ability to cross the rivers is also very important.

Many towns and cities have built up at points where it was the easiest to cross a large river. Exeter is one such example, crossing the river Exe in England.

However one of the best examples is Paris in France. The original town was based on the tiny Iledela Cite, which is an island in the middle of the River Seine. This island meant they could build two small bridges across the river rather than one large one.

Nowadays the island has been engulfed by the huge city that Paris has become, however it does still have many bridges going to it and is the point where the huge Notre Dame Cathedral is built.

10. The confluence of two rivers

Just as two valleys, or roads, make a nodal point for settlement growth, so do two rivers joining. One such example is found in Khartoum in Sudan, where the Blue and the White Nile

meet. In India, Allahabad is located at the confluence of River Ganga and Yamuna and Bhavani (Tamil Nadu) is at the confluence of River Cauvery and Bhavani.

Situation

The situation of a settlement is the description of the settlement in relation to the other settlements and physical features around it. The situation of a settlement is the most important in determining whether it grows to become a large city or stays as a small town or village.

In the UK, Birmingham is an example of a city with excellent situation. It is located central to the country, with excellent links by road to the North and South to London.

As cities begin to fulfill different functions their importance can increase or decrease. Their situation plays an important part in deciding which of these functions will occur.

It refers to the location of the actual settlement. The initial choice of a site for a settlement depends on its meeting certain daily needs such as water supply, availability of potential farmland, building materials and fuels etc.

Settlements can broadly be divided into two types – rural and urban. Let us know some differences between rural and urban areas in general.

i. The major difference between rural and urban areas is the function. Rural areas have predominantly primary activities such as agriculture, whereas urban areas have domination of secondary and tertiary activities such as manufacturing industries and service sectors.
ii. Generally the rural areas have low density of population than urban areas.
iii. Urban settlements are defined by their advanced civic amenities, opportunities for education, and facilities for transport, business and social interaction and overall better standard of living whereas rural areas lack of such amenities.
iv. Rural areas do not have pollution or traffic problems that beset regular urban areas.
v. In the rural society there was very little scope for occupational mobility. Incities there are many occupations, so occupational mobility is frequent.
vi. Rural people are less mobile and therefore the social relations among them are intimate. In urban areas, the way of life is complex and fast, hence, the social relations are formal.

Pattern of Rural Settlement

On the basis of forms or shapes of the settlements, rural settlements are classified as Linear, Rectangular, Circular, Star like, T-shaped village, Y-shaped village, Compact, Disperse, Planned, etc.

The settlement in which houses are constructed along a road, railway line, river, canal edge of a valley, or along a levee is known as Linear Pattern.

The settlements constructed in a rectangular shape are known as Rectangular Pattern. Such kind of settlements is found in plain areas and in wide inter-montane valley.

The settlements constructed in a circular shape are known as **Circular Pattern.** Such kind of settlement is found around lakes, tanks, or a planned village.

The settlements constructed in a star shape are known as Star like Pattern. Such kind of settlement is found around the points where several roads cross each other (making star shape).

Do you know?
Kraal is a group of houses surrounding an enclosure for livestock, or the social unit that inhabits these structures. The term has been more broadly used to describe the way of life associated with the kraal that is found among some African, especially South African, peoples. Kraal consists of a number of huts arranged in a circle around a cattle corral. Polygyny is common, and each wife has her own hut within the kraal. The head of the kraal may have custody of the property attached to the houses of his several wives.

The settlements in which houses are constructed at the tri-junctions of the roads are known as T-shaped Pattern. Such kind of settlement is found along the road, which meets with another road at the dead end (the straight going road ends) and bifurcates left and right (T-Shape).

The settlement, in which houses are constructed along the straight road, is known as **Y-Shape pattern**. It is further bifurcated into two roads (similar to Y shape).

Classification of Rural Settlement

Based on shape, the settlements are classified as

1. Compact or Nucleated Settlements

In the nucleated settlements, the houses are built very close to each other. Normally, fertile plain regions have such compact or nucleated settlements.

2. Dispersed Settlements

In such kind of settlements, houses are spaced far apart and often interspersed with fields; however, their market and some other activities are centralized where they participate together.

Urban settlement

The census of India, 1991 defines urban settlements as "All places which have municipality, corporation, cantonment board or notified town area committee and have a minimum population of 5000 persons, at least 75 per cent of male workers are engaged in non-agricultural pursuits and a density of population of at least 400 persons per square kilometers are urban settlements.

Evolution of Urban Settlement

The first urban settlement to reach a population of one million was the city of London by around C.E. 1810. By 1982 approximately 175 cities in the world had crossed the one million population mark. Presently 48 per cent of the world's population lives in urban settlements compared to only 3 per cent in the year 1800.

Stages of Urban Settlement

Depending on the size and the services available and functions rendered, urban centers are designated as town, city, million city, conurbation, Megalopolis.

Town (Population more than 5000 people)

The concept of 'town' can best be understood with reference to 'village'. Population size is not the only criterion. Functional contrasts between towns and villages may not always be clear cut, but specific functions such as, manufacturing, retail and wholesale trade, and professional services exist in towns.

City (Population more than 100,000)

A city may be regarded as a leading town. Cities are much larger than towns and have a greater number of economic functions. They tend to have transport terminals, major financial institutions and regional administrative offices. When the population crosses the one million mark it is designated as a million city.

Conurbation (Population of 2 or more cities combined)

The term conurbation was coined by Patrick Geddes in 1915 and applied to a large area of urban development that resulted from the merging of originally separated towns or cities. Greater London, Manchester, Chicago and Tokyo are examples. In India, Hyderabad and Cochin are the examples of conurbation cities.

Megalopolis (Population more than 10 million)

This Greek word "Megalopolis" meaning "great city", was popularized by Jean Gottman (1957) and signifies 'super- metropolitan' regionextending, as union of conurbations. The urban landscape which stretches from Boston in the north to south of Washington in the U.S.A is the best known example of a megalopolis.

Million Cities (Population more than 1million)

A city with million or more people is termed as the million city. The number of million cities in the world has been increasing as never before. London reached the million marks in 1800, followed by Paris in 1850, New York in 1860, and by 1950 there were around 80 such cities. The rate of increase in the number of million cities has been three-fold in every three decades – around 160 in 1975 to around 438 in 2005.

The fastest growing city

- Tiruppur is located at 11.1075°N and 77.3398°E on the banks of the Noyyal River. It has an average elevation of 295 metres (967 feet) and covers an area of 159.6 km2.
- Tiruppur was an agricultural town with irrigated farms and the farmers became small owners of various textile related units during the 1970s. The boom in the textile industry led to an interwoven network of the small scale units leading to growth of the city into a major textile hub.
- The recent revelation of the study conducted by Oxford Economics marked several Indian cities in top ten categories of fastest-growing cities of the world.
- Tiruppur, bags the sixth fastest growing city in India followed by Tiruchirappalli and Chennai.

Definition of Town

In 2001, places were designated as urban or towns on the following principles.

1. All places with Municipality, Corporation, Cantonment Board, Sanitary Board, Notified Area Committee etc.
2. All other places which satisfy the following criteria.

   i. A minimum population of 5,000.
   ii. At least 75 per cent of the male working population being engaged in non-agricultural (and allied) activity.
   iii. A density of population of at least 400 persons per square kilometer (or one thousand persons per square mile).

The Urban Agglomeration

As per census 2001, it was decided that the core town or at least one of the constituent towns of an urban agglomeration should necessarily be a statutory town and the total population of all the constituents should not be less than 20,000 (as per 1991 census).

Urban agglomeration is a continuous urban spread constituting a town and its adjoining urban outgrowths (OGs), or two or more physical contiguous towns together and any adjoining urban outgrowths of such towns. Examples of Outgrowth are railway colonies, university campuses, port area, military camps etc. that may have come up near a statutory town or city but within the revenue limits of a village or villages contiguous to the town or city. With these two basic criteria having been met, the following are the possible different situations in which urban agglomerations could be constituted.

i) A city or town with one or more contiguous outgrowths.
ii) Two or more adjoining towns with or without their outgrowths.
iii) A city and one or more adjoining towns with their outgrowths all of which form a continuous spread.

Standard urban area

A new concept that had been developed for the 1971 Census for the tabulation of certain urban data was the Standard Urban Area.

The essential of a Standard Urban Area are:

(i) It should have a core town of a minimum population size of 50,000.
(ii) The contiguous areas made up of other urban as well as rural administrative units should have close mutual socio-economic links with the core town and
(iii) The probabilities are that this entire area will get fully urbanized in a period of two to three decades.

The idea is that it should be possible to provide comparable data for a definite area of urbanization continuously for three decades which would give a meaningful picture. This replaced the concepts of Town Group that was in vogue at the 1961 Census. The town groups were made up of independent urban units not necessarily contiguous to one another but were to some extent inter-dependent. The data for such town groups became incomparable from census to census as the boundaries of the towns themselves changed and the intermediate areas were left out of account; this concept came for criticism at one of the symposium of the International Geographic Union in 1968 and the concept of Standard Urban Area came to be developed for adoption at the 1971 Census. If data for this Standard Area were to be made

available in the next two or three successive censuses, it is likely to yield much more meaningful picture to study urbanisation around large urban nuclei.

Do you know?
Ecumenopolis (Ecumeno means world; polis means city) is a single city encompassing the whole world that is held to be a possibility of the future

Basis for classification of urban settlements

The definition of urban areas varies from one country to another. Some of the common bases of classification are size of population, occupational structure and Administrative setup.

Population size

In India the size of population, density of 400 persons per sq. km and share of non-agricultural workers are taken into consideration.

Occupational structure

In India if more than 50 per cent of its economically productive population is engaged in non-agricultural pursuits.

Administration Setup

For example, in India, a settlement of any size is classified as urban, if it has a municipality, Cantonment Board or Notified Area Council.

Classification of Urban Settlement

Depending upon the functionality of the urban settlement, towns are classified as **Administrative Towns**, Commercial Towns, Cultural Towns, Recreational Towns, and Industrial Towns.

The settlements that established for the administrative purpose or having largely administrative function are known as administrative towns. For example, Washington D.C., New Delhi, Canberra, Paris, Beijing, Addis Ababa, and London etc.

The settlements that facilitate commercial opportunities are known as trading and commercial towns. For example, Agra, Lahore, Baghdad as an important transport node; Manchester and St Louis in land centers; Winnipeg and Kansas City as agricultural market towns; Frankfurt and Amsterdam as banking and financial centers; etc.

The settlements established because of religious adherence are known as **cultural or religious towns**. For example, Jerusalem, Mecca, Jagannath, Puri, Madurai and Varanasi, etc.

The settlements established for the recreational purpose are known as **recreational towns**. For example, Miami (U.S.A), Panaji (India), etc.

The settlements established because of industrial development are known as **industrial towns**. For example, Pittsburgh (U.S.A), Jamshedpur (India).

The concentric zone theory

This theory was given by Ernest Burgess in 1925. He envisaged that the development of a city outwards from a center in concentric zones in a ripple-like fashion. He made the following assumptions:

a. The city grows outwards in the form of five concentric zones or rings as long as there are no physical barriers, such as rivers or hills to distort the pattern.

b. The city has a single centre.
c. Growth is accomplished by a simple extension of each zone outwards into the next zone.

The characteristic features of each of the five zones can be described as follows.

Zone A: The central business district (C.B.D)

It is the heart of the urban community where the commercial, social and civic activities are concentrated. The heart of the C.B.D. or the downtown core has office buildings, departmental stores, theatres, hotels, banks and civic government buildings, while outside this core are warehouses and light industry.

Zone B: The transition zone next to the C.B.D

It is the transition zone where the central business activities and factories mix and invade an area of aging residential dwellings. This is also the zone of residential decay where the new migrants come and live because the rents are low and transportation costs to the workplace are minimal. Thus, these are the sites of urban slums.

Zone C: The zone of independent working men's home

This zone is inhabited by the blue-collar workers who are generally the second generation migrants. These people have the capacity to own their individual houses away from the C.B.D., but still live within easy access of their workplace. Here, the family groups are more stable and crime rates are lower.

Zone D: The zone of better residence

The next concentric zone has middle and upper class residences which are approximately 15 to 20 minutes by public transport from zone.

Zone E: The commuter zone

This outer zone encircles the city and lies beyond the continuous built-up areas. Much of this zone is still an open space and is often located beyond the city limits. Here, small villages, surrounded by open country, gradually become suburbs. Since people in this zone work in the C.B.D., the commuter zone is located within one hour's travelling time from the Centre of the city.

Burgess stressed that the outward growth of the city implies that each zone is not static. Business activities expand into the transition zone which forces low income groups to move outwards. This group, then, displaces the middle class and the wealthy that, in turn, are forced to move outwards.

Urbanization of the World and India

Urbanisation refers to the population shift from rural to urban residency, the gradual increase in the proportion of people living in urban areas and the ways in which each society adapts to this change.

It is predominantly the process by which towns and cities are formed and become larger as more people begin living and working in central areas. Although the two concepts are sometimes used interchangeably, urbanization should be distinguished from urban

growth. Urbanization is "the proportion of the total national population living in areas classed as urban," while urban growth refers to "the absolute number of people living in areas classed as urban". The United Nations projected that half of the world's population would live in urban areas at the end of 2008. It is predicted that by 2050 about 64% of the developing world and 86% of the developed world will be urbanized.

That is equivalent to approximately 3 billion urbanites by 2050, much of which will occur in Africa and Asia. Notably, the United Nations has also recently projected that nearly all global population growth from 2017 to 2030 will be absorbed by cities, about 1.1 billion new urbanites over the next 13 years.

Urbanisation in India began to accelerate after independence, due to the country's adoption of a mixed economy, which gave rise to the development of the private sector. Urbanisation is taking place at a faster rate in India. Population residing in urban areas in India, according to 1901 census, was 11.4%. This count increased to 28.53% according to 2001 census, and crossing 30% as per 2011 census, standing at 31.16%. According to a survey by UN State of the World Population report in 2007, by 2030, 40.76% of country's population is expected to reside in urban areas. As per World Bank, India, along with China, Indonesia, Nigeria, and the United States, will lead the world's urban population surge by 2050.

Mumbai saw large scale rural-urban migration in the 20th century. Mumbai, in 2018, accommodates 22.1 million people, and is the largest metropolis by population in India, followed by Delhi with 18.6 million inhabitants. Witnessing the fastest rate of urbanisation in the world, as per 2011 census, Delhi's population rises by 4.1%, Mumbai's by 3.1% and Kolkata's by 2% as per 2011 census compared to 2001 census.

Urban fringe

Urban fringe is an area of transition between well recognized urban land uses and the area devoted to agriculture. It is an area where there is a mixture of rural and urban land uses and where a process of change from rural to urban land use is taking place. The urban fringe has the appearances of a proper city with residential and commercial centers, but it often lacks proper city services such as piped water supply, sewage and garbage disposal facilities. It may include the municipal towns and fully urbanized revenue villages contiguous to the main city.

Urban sprawl or suburban sprawl

Urban sprawl or suburban sprawl describes the expansion of human population away from central urban areas into low-density, monofunctional and usually car-dependent communities, in a process called suburbanization. In addition to describing a particular form of urbanization, the term also relates to the social and environmental consequences associated with this development. In Continental Europe the term "peri-urbanisation" is often used to denote similar dynamics and phenomena, although the term urban sprawl is currently being used by the European Environment Agency. There is widespread disagreement about what constitutes sprawl and how to quantify it. For example, some commentators measure sprawl only with the average number of residential units per acre in a given area. But others associate it with decentralization (spread of population without a well-defined centre), discontinuity (leap frog development), segregation of uses, and so forth.

Causes of Urban Sprawl

Urban sprawl can be caused by many factors. They are:

Lower Land Rates: Lower cost land and houses in the outer suburbs of the cities, because the centers of urban development have really made people want to stop settling in these areas and want to venture further out.

Rise in Standard of Living: There are also increases in standards of living and average family incomes, which means that people have the ability to pay more to travel and commute longer distances to work and back home.

Lack of Urban Planning: People love to find areas that are less trafficked and more calm, which leads them to sprawl out to other sections of the town. Unprecedented development, cutting of trees, loss of green cover, long traffic jams and poor infrastructure force the people to move out to new areas.

Lower House Tax Rates: Cities will usually have high property taxes, and you can usually avoid these taxes by living in the outer suburbs because the taxes are usually lower than they are in other situations.

Rise in Population Growth: Another factor that contributes towards urban sprawl is rise in population growth. As number of people in a city grows beyond capacity, the local communities continue to spread farther and farther from city centers.

Consumer Preferences: People in high income groups have stronger preferences toward larger homes, more bedrooms, bigger balconies and bigger lawns. This also causes urban sprawl as this option is not available in crowded cities. People generally look out for low-density residential areas where they can get home according to their preference.

Problems of Urbanization

India has the second largest urban population in the world only after China. India's urban population (about 28% of the total population) is almost equal to the total population of USA. The rate of urban growth is on the upswing. People in large number are arriving in the mega and metropolitan cities, swelling urban India by more than five per cent annually. This stupendous growth of population is the cause of numerous socio-economic and environmental problems. Some of the important problems of urban India have been briefly presented below:

1**. Problem of space and scarcity of residential accommodation**

The growing population demands more space which is not easily available because of physical and geographical constraints. The scarcity of space leads to high price of land and high rents for offices and residential accommodations. Since people cannot afford high rents, it is the main cause of unwanted growth of slums.

According to one estimate, there is an annual shortage of about two million houses in Indian cities. This has forced low income group people to live in slums or occupy footpaths and road pavements. The number of such slums and pavement dwellers is rising in the metropolitan cities of India.

2. Inadequacy of Social Amenities

In most of the cities of India, there is growth and not urbanisation. In fact, the number of people is increasing in the cities while the infrastructural facilities and civic amenities are quite inadequate. With greater concentration of people in urban places, the social amenities like housing, electricity, drinking water, transport, sanitation, sewage disposal, educational institutions, hospitals, parks, playgrounds, and recreational facilities are quite under great stress.

3. Unemployment

Unemployment is the state of being involuntarily out of work. In India, the rate of urban unemployment which is more than 3 per cent annually is increasing progressively. According to one estimate, about 25 per cent of the workers in the urban centres are unemployed. The high rate of unemployment and under-employment often leads to high rate of crime.

4. Problem of Transport

Transport bottlenecks and traffic congestion are the major problems of most of the Indian cities. The larger a town grows the more important its functions become. The workers and commuters need more transport facilities. Unfortunately, the roads in most of the cities, especially in the old towns (down-towns) are narrow which cannot cope with the growing pressure of passengers, travelers, and commuters. The number of private vehicles is rising steeply. It leads to traffic congestion, delays, irritation, and tension. If the number of vehicles is allowed to increase at the present rate without widening and upgrading the roads, the whole transport system of the major cities may collapse.

5. The Energy Crisis

The shortage of energy reduces the industrial production of goods and their distribution. In fact, energy depends on the industrial growth, efficiency of the transport and human comfort. The peak power demand in the metropolises, million and class one cities is increasing day by day and power situation is not geared to meet it.

6. Inadequacy of Water Supply

Water is the first and foremost necessity of human life. In fact, water is life, and man cannot survive without it. The average per capita consumption of water in Kolkata is 250 liters, in Mumbai175 liters and only 80 liters in Delhi as against 1200 liters in Los Angles and 1100 litres in Chicago. The acute scarcity of water in the urban places of India may be appreciated from the fact that in Chennai, Hyderabad, Jaipur, Jodhpur, Nagpur, Shimla, Solan, Surat, Udaipur, Vadodara, etc., only one to two hours of water supply in a day is permitted. The National Capital (New Delhi) also regulates water supply to only about four hours a day.

7. Environmental Pollution

Environmental pollution is the other serious problem of all the million and mega-cities. It is not only air-pollution caused by smoke emitted from vehicles, factories and houses; water and noise pollutions are equally serious. The scarcity of dumping grounds makes the rural-urban fringe unhygienic and less conducive for human health. The problem of garbage

disposal (hazardous plastics, metal and package) is thus quite serious in most of the Indian cities and urban places. Unfortunately, most of the garbage is dumped into the rivers or along their banks. The cities like Mumbai, Kolkata, and Chennai continue to discharge a major part of their garbage into the sea.

8. Increase in Crimes

Increasing urban crimes are disturbing the peace of modern cities. According to sociologists, unemployment is the main cause of crimes in urban areas. The unemployed youths indulge in crime like abduction, extortion, kidnapping, murder, pick-pocketing, rape, robbery, snatching, and theft. The slums are especially infested with unemployed criminals who, in due course of time, become habitual offenders. Material culture, growing consumerism, selfishness, stiff competition, lavishness, increasing socio-economic disparities, rising unemployment and loneliness are some of the main reasons of this menace.

12th Geography
Unit 3. RESOURCE

Introduction

Have you heard about **Voyager 1** launched in 1977 still is travelling at the speed of **62140 km/ hour or 17 km/sec.?** Do you know what fuel is used in it? It is **hydrazine**. What, do you think, would be the future fuel? It is certainly going to be **hydrogen**. Think about how hydrogen stands as an important future fuel.

- A resource is a naturally occurring exploitable material that a society perceives to be useful to its economic and material wellbeing. Willing, healthy and skilled workers also constitute a valuable resource, but without access to materials such as fertile soil or petroleum, human resources are limited in their effectiveness.

- Resources are the basis of the economic development of any nation. Different countries are at different levels of economic development primarily because of the variation in the availability of natural resources. The US and west European countries are economically prosperous because they possess vast natural and human resources and technology. On the other hand, in most parts of Africa and Asia, though they are naturally rich in resources, due to their lack of knowledge, the resources are unutilized and they are not used in the service of man.

Classification of Resources

- Resources are classified on various bases. Based on the continual availability, resources are classified in to **renewable** and **non- renewable resources.**

- The resources which can always be used again and again are known as **renewable resources**. It means these resources have natural regeneration and are inexhaustible. Air, water, solar energy etc. are examples of renewable resources. **Non-renewable resources** are available in finite quantities and cannot be obtained once if they are utilized. If these resources are used in large scale, they will get exhausted soon and as such these resources are called as **exhaustible resources.** Coal, oil and minerals are examples of this type.

- On the basis of origin, the resources are classified in to **biotic** and **abiotic resources**. When a resource is originated from living organism, the resource is known as **biotic resource**. Coal, mineral oil and forests are examples of biotic resources. **Abiotic resources** are composed of non-living inorganic matter. Air, land, water and minerals are examples of this type.

- On the basis of status of development, the resources are classified in to **potential resources** and **developed resources**. Potential resources are those which are known to exist and may be used in the future. Until the resource is extracted and put in to use, it remains a potential resource. **Developed resources** are those which have been surveyed and their quality and quantity have been determined for utilisation. The development of resources

depends on technology and level of their feasibility. Petroleum resource from Mumbai High is an example of Developed resources.

- Apart from the above classifications, the resources which are available in nature are known as **natural resources** and the one created by man is known as **man-made resource**. Similarly the air like resources which exist everywhere is called as **ubiquitous resources** and the resources which are concentrated only at specific places are known as **localised resources.** This kind of resource may exercise great influence on the economic development of the respective regions.

Mineral Resources

- A homogeneous, naturally occurring substance which has a definite chemical composition is called a mineral. They can be identified by their physical properties and chemical components. Minerals exist in different types based on their formation. Minerals play an indispensable part of our daily activities. Almost everything we use, from a tiny particle to a huge building or a big ship all, is made up of minerals. Minerals are one of the most valuable resources of the earth. All the stages of human development or progress have been named after them. For example, stone age, copper age, bronze age and Iron Age.

- They are exhaustible or non-renewable. Besides, they are distributed very unevenly. They are generally found in the form of ores. The ore contains several impurities. Minerals are separated from the ores involving a number of distinct processes.

- A country's economic development is depending on the minerals. There are several types of minerals, but according to their characteristics and commercial use.

Uses of Minerals

- Minerals are basic and essential raw materials in our daily lives and are vital for economic, social and technological development. They are used,

    - In the construction of buildings, bridges and settlement.
    - As raw materials in industries
    - As fuels
    - In the manufacture of defiance equipment's.
    - In the field of communication like manufacturing telephone, wires, cables, electronic devices etc.
    - In making of alloys for various purposes.
    - In making of ornaments.
    - In the manufacture of fertilizers, pesticide, fungicides etc.

Mode of Occurrence of Minerals

- Minerals are generally found in 'Ores'. It is actually an accumulation of any mineral mixed with other elements. Minerals generally occur in many forms. They are

1. Veins and lodes

- Minerals generally occur in the cracks, crevices, faults and joints of the igneous and metamorphic rocks. Minerals in smaller occurrence are called a 'Vein' and a larger occurrence is called a 'lode, for example, Copper and Gold are found in lodes and veins.

2. Beds or Layers

- Minerals that are formed as a result of deposition, accumulation and concentration generally occur in horizontal layers. E.g. Coal, Potash, etc.

Residual mass of weathered particles

- When the decomposed rocks are washed away by water, the soluble particles are removed, leaving a mass containing ores. Such occurrences are called residual mass. E.g. Bauxite

3. Alluvial deposits or placer deposits

- These are the deposits found in the sands of valley floor and at the foot hills. These deposits consist of the minerals such as Gold, Silver and Platinum.

The world distribution of minerals

- Metallic Minerals The minerals which contain metal in them are called as metallic minerals.

Iron - Ore

- It is the basic mineral and the backbone of industrial development of the world. Iron Ore is the most widely distributed element of the earth's crust and it rarely occurs in a free state. It is found as the composition of many rocks and minerals. Iron-ore makes up 4.6% of the earth crusts. Iron is found in the form of Iron - ore. They are classified into 4 categories.

  (i) Magnetite: It is red in colour and has 72% of pure Iron
  (ii) Hematite: It is black in colour and has 70% of pure Iron
  (iii) Limonite: Its colour varies from dark brown to yellow and has 50% of pure iron.
  (iv) Siderite: It is brown in colour and contains only 30% of pure iron is present.

- The iron content of these ores is highly variable. If the iron content is less than 30% in an ore, it is considered to be uneconomical. Iron is mixed with fixed proportions of Manganese, Nickel, Chromium or Vanadium to make different varieties of steel.

Distribution of Iron ore

- Iron - ore is unevenly distributed in the world. Good quality Iron ore is found in Australia, Brazil, Russia, China, USA, Ukraine, Canada, etc. Russia has the largest proven reserves of iron ore in the world.

- Australia is the largest producer of Iron ore in the world. Other leading producers are China, Brazil, India and Russia. The Majority of Iron ore is (84%) produced by 5 countries alone.

Iron ore

Rank	Country	Production (metric ton)	Share (%)
1	Australia	531,075,350	33.72
2	China	345,841,000	21.99
3	Brazil	271,275,900	17.22
4	India	124,852,650	7.93
5	Russia	55,550,000	3.53
	Others		15.64

Major Iron Ore Fields in the World

Country	Iron ore fields
Australia	Mt. Bruce, Mt. Goldsworthy, Mt. whaleback, etc.
China	Manchuria Region, Shandong, Sinkiang region, etc.
Brazil	Itabria in south east region.
India	Chhattisgarh and Baster region, Odisha, Chitradurg, Kdermukh, Mayurbbanj, region etc.
Russia	Ural region, Kuzbas, Angara, etc.
U.S.A	Messabi range, Marquette range, cornwall, Albama, Appalachin region, etc.
Germany	Rhur basin.
Ukraine	Krivoi rog.

Manganese ore

- It is a kind of Ferro-alloy used to manufacture the special quality steel. A little manganese added to iron, removes gases and acts as a 'Cleanser' in the manufacturing process. Nearly 6 Kg of manganese is used for making one ton of steel.

- Manganese is used for special quality steel making; it makes steel anti - corrosive, hard and clean. It helps to increase toughness, strength and durability to resist oxidation in blast furnaces. It is used to produce alloys with Copper, Bronze, and Nickel. It is used for producing heavy machinery, tools, bleaching powder, insecticides and paints.

Distribution and production of Manganese ore

- South Africa, Australia, China, Gabon, Kazakhstan, Brazil, India, Ghana, Ukraine and Mexico are the major countries possessing manganese ore. South Africa is the largest producer of manganese ore in the world, followed by Australia. The other leading manganese producers are China, Gabon and Brazil. India is the 8th largest producer of manganese in the world though it possesses the largest reserves of manganese in the world.

Manganese-Ore Production

Rank	Country	Production (metric ton)	Share (%)
1	South Africa	4,754,560	30.84
2	Australia	2,388,500	15.50
3	China	2,150,000	13.95
4	Gabon	1,658,500	10.76
5	Brazil	1,141,684	7041
	others		21.54

Copper

Rank	Country	Production (metric ton)	Share (%)
1	Chile	5,552,600	27.20
2	Peru	2,353,859	11.53
3	China	1,851,000	9.10
4	United states	1,430,000	7.00
5	Congo	1,035,631	5.07
	Others		40.13

Copper

- It is a non - ferrous, soft brown metal. It is a good conductor, with high luster, density and melting point. Copper occurs in three forms as native metal in its pure state, as oxides and as sulphide.

- The chief ore of copper is copper pyrite. It yields nearly 76% of the world production of copper. Copper is extracted by the process of crushing, concentration, roasting, smelting and refining. It was discovered in the earliest stage of civilization. Copper is one of the first metals known and used by man. It is found in the igneous and metamorphic rocks. Copper is unfortunately very soft, but by mixing with tin, bronze can be obtained and mixing with zinc, brass can be obtained which is harder and tougher than pure copper. Copper is used in

(i) Electrical Engineering
(ii) Metallurgical Industries
(iii) Making of alloys and making tubes, pipes, pumps, radiators and boilers.
They are also used in the production of a wide range of ornamental materials.

Production and distribution of Copper

- Copper deposits are found in almost every country. The main producers are Chile, Peru, China, USA and Congo. Chile is the largest producer of Copper in the world. It produces 27.20% of the world Copper, followed by Peru, which produces 11.53%. India holds 35th rank and it produces only 0.15% of the world's production.

Bauxite

- Bauxite is an important ore which is the main source of Aluminum. It is an impure raw material. It generally occurs as an ingredient of chemical compounds in highly complex minerals such as Cryolite, Corundum and Kaolin. Bauxite occurs quite near the surface and is generally mined by open cast method. It has a wide range of applications which include construction of buildings, utensils and airplane parts.

Production and world distribution of Bauxite

- The main Bauxite producers are Australia, China, Brazil, Guinea and India. The World's greatest Bauxite producers and exporters are the countries located in the tropical and sub-tropical region. Australia is the largest producer of bauxite in the world. India is the 5th largest producer of bauxite in the world.

BAUXITE (ORE)

Rank	Country	Production MT	Share in %
1	Australia	83,516,578	29.31
2	China	65,000,000	22.81
3	Brazil	39,244,200	13.77
4	Guinea	31,117,131	10.92
5	India	24,644,632	8.66
	others		14.53

Gold

- Gold is a precious metal which occurs in alluvial or placer deposits or as reefs or lodes in the underground. Gold is used extensively for jewellery and also in dentistry, glass and porcelain dyes, in medicines and other industries. The purity of gold is expressed in terms

of carat. China, Australia, Russia, USA and Canada are the leading producers of gold in the world. India ranked 33rd position in the gold production in 2016.

GOLD

Rank	country	Production	Share in %
1	China	453,500	14.11
2	Australia	282,421	8.79
3	Russia	262,380	8.16
4	United states	222,211	6.91
5	Canada	165,034	5.13
	Others		56.90

Do you know?
Fool's Gold refers to pyrite of Iron Sulphide because of its similarity in shape and colour to actual gold.

Platinum

- Platinum is a rare metal. It is costlier than gold. It has a very high melting point. It is a heavy, malleable, ductile, highly inactive, silverish, white transaction metal. It is one of the densest metal almost twice as dense as lead. Platinum is found with other rare metals such as osmium, Palladium, Iridium and rhodium. Platinum is also used in industrial applications. South Africa is the largest producer of platinum in the world. The other leading producers are Russia, Zimbabwe, Canada and USA.

Platinum

Rank	Country	Production Kg	Share in%
1	South Africa	133,241	71.75
2	Russia	21,860	11.77
3	Zimbabwe	15,110	8.14
4	Canada	9,300	5.01
5	USA	3,891	2.10
	Others		1.33

Non- metallic minerals

- The minerals which do not contain metal in them are called as non-metallic minerals.

Mica

- Mica is a Latin word micare means to shine, to flash or to glitter. Mica has a crystalline and layered structure and can be split into very thin sheets. It does not react to water, acids, oil

or solvents. It is lightweight, flexible and strong. It can resist extremely high temperatures or sudden changes in temperature and is able to withstand high voltages and insulate with low power loss. It can absorb or reflect light, which enables a decorative effect and protects against ultra-violet (UV) light.

Major Uses of Mica

- Mica has several applications. There are several main sectors where the use of mica is identified. They are the paint and coatings sector, Cosmetics and personal care companies, Plastics and printing ink manufactures the electronics sector, the automotive sector, the construction industry and the oil industry.

Phosphate

- Phosphate occurs in the sedimentary rocks or as phosphate nodules. Another source is bird dropping of Guano. It is the most important source of phosphorus. It is mainly used in fertilizer. China is the largest producer of Phosphate in the world. The other leading producers are Morocco, USA, Russia and Peru. The Guano deposits are found in Peruvian and Chilean deserts in South America. India is the 20thlargest producer of Phosphate in the world.

Phosphate (2016)

Rank	Country	Production MT	Share in %
1	China	43,319,400	51.58
2	Morocco	8,601,000	10.24
3	USA	7,615,000	9.07
4	Russia	48,36,00	5.76
5	Peru	4,103,220	4.78
	Others		18.57

Do you know?
Agencies involved in the exploration of minerals in India. GSI, ONGC, MECL, NMDC, IMB, BGML, HCL, NALCO are the departments involved in mining in different states of India.

Energy Resources

- Resources may be classified into renewable and non-renewable resources. Mineral resources like coal, Petroleum and natural gas are the exhaustible or non-renewable resources. They cannot be replaced once they are consumed. Coal and petroleum are the fossil fuels, on which the modern culture relies so much.

- Energy gives motion to our industrial machines and vehicles. It is the primary input in the production of goods and services. The wheel of progress moves with the flow of energy. The energy resources may be classified into two types.

(i) Nonrenewable sources of Energy

- Once these resources are used, they cannot be regained again. In other words, they are exhaustible. They are coal, Petroleum natural gas and atomic fuels.

Coal

- Coal is a fossil fuel. It is a flammable, black or brown sedimentary rock and is mainly composed of carbon. It is the altered remains of prehistoric vegetation that originally accumulated in swamps and peat bogs. The dense forest plants were converted into coal due to intense pressure and heat inside the earth by the process of carbonization. Most of the coal resources of the world were formed during the carboniferous period (280 to 350 million years ago). The quality of the coal is determined by its carbon content. The following types of coal have been identified on the basis of their physical properties. They are,

(i) **Peat** is the first stage of transformation of wood into coal and it has only 30 to 35% of carbon.

(ii) **Lignite or Brown** coal is the inferior quality and contains 35-45% carbon

(iii) **Bituminous or coking coal** is the second best variety of coal and contains 70-90% of carbon. It is the most widely spread and most widely used variety of coal. It is the most popular coal in commercial use.

(iv)**Anthracite** is the best quality coal, which contains more than 95% of carbon. It is very hard but emits very less smoke and leaves very less ash. However its deposits are limited.

Production and world distribution of Coal

- Coal reserves are found in more than 70 countries of the world but the major coal reserves occur in the USA, Russia, China and South Africa. China is the largest producer of steam coal in the world followed by India. The other leading producers of steam coal are USA, Indonesia, and South Africa etc.

Steam coal – It is used for producing steam and it has high sulphur content.

Steam Coal

Rank	Country	Production (metric ton)	Share in %
1	China	2,49,793,000	47.42

2	India	601,131,000	11.44
3	United states	553,936,000	10.54
4	Indonesia	459,469,000	8.74
5	South Africa	253,452,000	4.82
	others		17.04

HOTS

Why is hydrogen used as fuel in rockets?

China was the largest producer of coking coal in the world in 2016 followed by Australia. The other leading producers of coking coal are Russia, India and USA.

Cooking Coal

Rank	Country	Production MT	Share in %
1	China	591,998,000	54.67
2	Australia	189,302,000	17.48
3	Russia	83,800,000	7.74
4	India	61,661,000	5.69
5	United states	50,645,000	4.68
	Others		9.74

Major Coal Mining Centres

Country	Mining centers
China	Shansi, shantung, Fushun, Shenyang, etc.
India	Bokaro, jaria, korba, ranikanch, singerni, etc.
U.S.A	Arkansas, colorodo, illionions, Indiana, Michigan etc.
Australia	Bowen basin, Brisbane, Canberra, Sydney, New-castle, Tasmania, etc.
Russia	Moscow-Tula region, Chokot, basin, Ob basin, etc.

Trade

- The main exporters of coal in the world are Australia, Indonesia, Russia, Colombia and South Africa and the main importers are China, India, Japan, Korea and Germany.

Uses of Coal

- Man has used coal for hundreds of years. But it has gained importance only after industrial revolution. It contributes about 25% of global energy demand. Coal is used for various purposes. It is used as a source of steam energy, electrical energy, domestic fuel, metallurgical coke, chemical industries and byproducts such as Ammonium sulphate, Naphthalene, Phenol, Benzene, etc.

Petroleum (or) Mineral oil

- Petroleum is a mineral that exists under the surface of the earth in liquid, solid and gaseous forms. Liquid petroleum may be in the form of crude oil. The solid form may be mineral waxes or asphalts. The gaseous form is natural gas. It is a main source of energy in the World due to its multiple uses. The human activities are directly or indirectly depend on the use of petroleum or its sub products.

Formation and occurrence of mineral oil

- It is formed by slow chemical and bio chemical decomposition of the remains of organic matter in sedimentary rocks. It is found in the pores of the sedimentary rocks. Oil is lighter than water hence, floats over water. Drilling of oil wells is the hole drilled in the earth's crust and when it reaches the rock cap, the natural gas comes out first with a great pressure. When the pressure of gas subsides, petroleum starts flowing out when the pressure of natural gas is released.

Petroleum reserves of the world

- The west Asia or Middle East is has the largest petroleum reserves, which is about 60% of the world's oil reserve. The total estimated world's oil reserves in 2008 were 1,243 (109 bbl). Saudi Arabia, Canada, Iran, Iraq and Kuwait have large reserves of petroleum.

Production and world distribution of petroleum

- The petroleum producing countries of the world can be grouped in to five geographical regions:

    1. West Asia (or) Middle East region
    2. American region
    3. Russian region
    4. East & south Asian region and
    5. African region

- Saudi Arabia is the largest oil producer of the world with 13.62% of the world output of oil. Russia is the second largest producer in the world. India is placed at 24th position in petroleum production in the world. The distribution of oil is naturally uneven; Middle East contains 60% of global reserves and rest of the world only 40%.

Petroleum

Rank	Country	Share in %
1	Saudi Arabia	13.62
2	Russia	12.72

3	USA	12.62
4	Iraq	5.09
5	Iran	5.03
6	china	4.64
	Others	46.28

Trade

- The world leading exporters of petroleum are Saudi Arabia, Russia, Iraq, UAE and Canada and the main importers are USA, China, India, Japan and Korea.

Do you know?
OPEC is the short form of the "Organisation of Petroleum Exporting Countries. It was formed in 1960 at Bagdad convention. Initially it comprised of Saudi Arabia, Iran, Iraq, Kuwait and Venezuela. Later on added in eight countries Libya, Algeria, Qatar, UAE, Nigeria, Ecuador and Angola, Indonesia left from OPEC in recently.

Major Petroleum Production Centres

Country	Production centres
Saudi Arabia	Ghawar, Abquiaq, Abuhadriya, etc.
Russia	Volga-Caspin region, Kamchatka- Sakhalin region, Ob Lena basin.
U.S.A	Tennessee- new york, ohino, Indiana, Pennsylvania, Texa, Mississippi, gulf of California, etc.
Iraq	Kirkuk, Mosul, Daura, etc.
China	Taching, Chinchou, Yemen, south china sea, etc.

Natural Gas

- It is the cheapest source of energy. It is found along with or without petroleum. It is considered as an environment friendly fuel because of its low carbon dioxide emissions. Therefore, this is the only fuel for the present century and it is also called green energy. A powerful odorant, ethanethiol is added, so that leaks can be detected easily. It is prepared by refining petroleum or wet natural gas.

Natural gas reserves and Production

- The known natural gas reserve in the world is about 6254 trillion cubic feet. Most of these reserves are found in Russia, Iran, Qatar, UAE, Saudi Arabia, USA etc. USA has the largest

reserve and is the leading producer of natural gas in the world followed by Russia. India is the 28th producer of natural gas in the world. It is widely used as a fuel in industries and domestic cooking purposes. Petrochemical industries use it as fuel and raw material. It is also used in chemical industries, artificial rubber, plastic, fertilizers, ink, and carbon and as artificial lighting.

Natural Gas

Rank	Country	Production (metric ton)	Share (%)
1	United states	755,010	20.56
2	Russia	641,000	17.45
3	Iran	202,440	5.51
4	Qatar	181,250	4.94
5	Canada	157,179	4.28
	Others		47.28

Trade

- Russia, Qatar, Norway, Canada and Algeria are the leading exporters of Natural gas in the world. Japan, Germany, China, Italy and Turkey are the leading importers of natural gas.

Nuclear Energy

- It is commonly said, this energy holds the key of future. Energy contained within the nucleus of an atom is called nuclear energy. Heavy metals like Uranium, Thorium, Radium, Plutonium and Lithium are the main sources of nuclear energy. However Uranium is the most important source of nuclear energy. The nuclear energy production was started first in USA in 1950. Nuclear energy now provides about 11% of the World's electricity. At present there are more than 450 operable fission reactors in the world. The world's first commercial nuclear power station Calder Hall at Wind scale, England was opened in 1956.

Uranium (U3O8)

Rank	Country	Production (metric ton)	Share (%)
1	Kazakhstan	29,113	38.89
2	Canada	16,666	22.26
3	Australia	7,352	9.82

4	Namibia	4,302	5.75
5	Niger	4,101	5.48
	Others		17.80

Do you know?
Most devastating nuclear accidents
1. Three mile Island- March 28, 1979 USA
2. Chernobyl - April 29, 1986, Russia
3. Fukushima Daiich- March 11, 2011, Japan

Renewable sources of Energy:

- All regions of the world are facing the twin problems of fast increasing demand for energy and limited supplies and rapidly depleting conventional sources of energy. Under these circumstances, non-conventional sources of energy are getting more importance. These sources are renewable, clean and non-polluting. They are solar, wind, geothermal, wave, tidal energy, bio-gas etc.

Hydel Power

- Hydro electricity is produced by using the potential energy of water falling from a certain height. The falling water spins the turbine blades and energy is produced. It is a clean eco-friendly and renewable source of energy. It contributes nearly 7% of the world electricity production. China has the largest potential followed by Brazil, Indonesia, Canada and Zaire. China is the largest producer of Hydroelectricity in the world, followed by Canada.

Solar energy

- It is based on mechanical conversion of solar energy into electricity. It is available in abundance but only in the recent period it gets more importance due to technological development. Solar energy is used for various purposes.

Do you know?
Noor Complex is the world's largest concentrated solar power (CSP) plant, located in the Sahara Desert.

Kamuthi, the world`s largest single solar power plant
Kamuthi Solar Power Project is a photovoltaic power station spread over an area of 2,500 acres (10 km2) in Kamuthi, Ramanathapuram district. The project was commissioned by Adani Power. With a generating capacity of 648 MW at a single location, The Kamuthi Solar Power Project was completed on 21 September 2016. Around 8,500 workers installed an average of 11 MW of capacity per day to complete the project within 8 months. The entire solar park is connected to a 400 kV substation of the Tamil Nadu Transmission Corp. The solar panels are cleaned daily by a self-charged robotic system.

- USA is the major producer of solar cells at present. It is simply the energy provided by the sun, which makes production of solar electricity possible. **Solar power in India** is a fast developing industry. The country's solar installed capacity reached 26 GW as of 30 September 2018. India expanded its solar-generation capacity 8 times from 2,650 MW on 26 May 2014 to over 20 GW as on 31 January 2018. The country added 3 GW of solar capacity in 2015-2016, 5 GW in 2016-2017 and over 10 GW in 2017-2018, with the average current price of solar electricity dropping to 18% below the average price of its coal-fired counterpart.

Wind Energy

- The wind is a clean, free and readily available renewable energy source. Wind turbines are capturing the wind's power and converting it to electricity. Wind power has become a pillar in their strategies to phase out fossil and nuclear energy. Wind energy is now the second fastest growing source of electricity in the world. It fulfills about 5% of world's electricity demand. The world's largest wind farm is in Altamont pass in California. India is emerging as a major wind power producer of world. The important wind farms in India - (i).The largest wind farms in India are Muppandal in Kanyakumari District of Tamil Nadu and Jaisalmer wind park in Rajasthan. They are the first and second largest wind farms of India. Based on the location of its generation it is classified into:

  1. Onshore wind energy and
  2. Offshore wind energy

  1. Onshore wind energy –Energy generated from the plants located on the land is known as onshore wind energy. Onshore wind has the advantage of being one of the most affordable renewable energy sources. It is cheaper than any other renewable source of energy but it requires more area to install than any other energy.

  2. Offshore wind energy –It refers to the use of wind farms developed in seas and oceans. The largest offshore wind farms are currently in the U.K and Germany. These two countries installed 2/3 capacity. London Array is the largest offshore wind farm in the world. The first offshore wind farm is planned near Dhanuskodi in Tamil Nadu.

  Tidal **energy** - It is a renewable energy powered by the natural raise and fall of ocean water. Its production is very small. The first tidal power station was located in La Rance in France. The largest tidal power station is at Sihwa Lake in South Korea and it is the largest tidal power producer in the world. There are three different category of sources from which the tidal energy is generated. The sources are tidal streams, barragesandtidallagoons.

- India's first attempt to harness tidal power for generating electricity would be in the form of a 3MW plant at the Durgaduani creek in sunderbans delta of West Bengal. The Gulf of Kutch and Cambay in Gujarat and the Ganges delta in sunderbans, the world's largest mangrove, are the 3 sites identified as potential areas for tidal power generation in India.

Geo Thermal Energy

- Geo thermal energy is derived from the natural heat of the earth. The United States is the world's largest producer, and the largest geothermal development in the world is The Geysers north of San Francisco in California, the U.S.

- In India, exploration and study of geothermal fields started in 1970. The GSI (Geological Survey of India) has identified 350 geothermal energy locations in the country. The most promising of these is in Puga valley of Ladakh. The estimated potential for geothermal energy in India is about 10000 MW. There are seven geothermal provinces in India: the Himalayas, Sohana, West coast, Cambay, Son- Narmada-Tapti (SONATA), Godavari, and Mahanadi.

Conservation of Resources

- It takes millions of years for the formation of minerals. Compared to the present rate of consumption, the replenishment rate of minerals is very slow. Hence, mineral resources are finite and non- renewable. Due to this, it is important to conserve the mineral resources.

Ways of Conserving Resources

- ❖ Controlling population growth will reduce the demand for resources.
- ❖ Creating social awareness regarding the importance of conservation of resources
- ❖ Reusing and recycling of resources.
- ❖ Using the renewable source of energy as an alternative to non- renewable resources.
- ❖ Developing the usage methods which minimize the wastages.
- ❖ Propagating the environmental ill effects caused by various products.
- ❖ Choosing the products with less packaging.

4. Economic activities

INTRODUCTION

Waymo car

Have you heard about Waymo car? A car without brakes, accelerators or steering wheel – a driverless car is indeed a dream come true.

Google started testing self-driving technology with the Toyota Prius on freeways in California in 2009.

A new development was the unveiling of a new prototype vehicle in 2014, capable of being a fully self-driving car. These intelligent cars use sensors and software to detect objects like pedestrians, cyclists and can safely drive around them. According to Google, the car can process both map and sensor information to find out its exact location - precisely which street or lane it is driving in. The sensors are so powerful that it can detect all kinds of objects. What's more interesting, the software can predict what these objects around the car will do next and take action accordingly.

In an instance, where the traffic signal turned green and the car was about to move forward, the car sensed an ambulance coming from the right side and it stopped, making way for the ambulance. Google calls its cars, 'experienced drivers'. Each car's speed is capped safely at 25 mph (40 km/hr). The cars halt for 1.5 seconds after the signal turns green at a junction as many accidents happen during this time.

But the cars can travel as fast as 161 km/hr. To ensure safety, the front side has about 2 feet of foam and the windshield is made of plastic instead of glass. This is the amazing product of secondary industries which we learn about as part of economic activities in this lesson

Economic activity refers to the activity of making, providing, purchasing and selling goods or services. Economic activities exist at all levels within a society. Human beings are engaged in various kinds of economic activities. In general all the economic activities are broadly categorised into Primary, Secondary and Tertiary activities. The Tertiary activities are further sub divided into Quaternary and Quinary activities.

Let us first understand the meaning and concept of the different categories of economic activities.

Types of Economic system:

1. **Subsistence economy:** Goods and services which are created for the use of the producers and their kinship groups.

2. **Commercial economy:** Goods and services which are produced mainly for sale. Market competition is the primary force determining the production and distributions.

3. **Planned economy:** Goods and services created are controlled by government agencies. Supply and price are controlled by the state. It was practiced earlier by the Communist controlled societies.

Primary activities

Primary activities help man to fulfill his needs and desires, by using resources which are gifted to man by nature. These activities are directly connected with nature. Hunting, Gathering, Pastoralism, Fishing, Forestry, Mining and Agriculture are the primary activities.

Hunting and Gathering

Until 12,000 years ago, all humans lived as hunters and gatherers. At present only 0.0001% human live as hunters and gatherers. Gathering and hunting are the oldest known economic activity in the world. It often involves primitive societies which collect both plants and animals to satisfy their needs for food, shelter and clothing. These primitive activities are being carried out still in a very few parts of the world. Gathering is practiced in the areas of High altitude zones of Northern Canada, Northern Eurasia and Southern Chile and in the low altitude zones of the Amazon Basin, Tropical Africa, Northern fringe of Australia and interior parts of South East Asia. Present day gatherers and hunters are confined to a few pockets. Inuit in the Arctic region, Pygmies of Kalahari, Pintupi, Aborgines of Australians, and Paliyan of South India are the examples of foragers.

Pastoralism

Pastoralism is the process of grazing and rearing of different types of animals like cattle, sheep, goats, etc. in an organised manner to get animals products. The animals rearing can be primitive which is carried on by nomads or highly scientific means on a commercial scale. So, animal grazing and rearing can be divided into two broad categories as Nomadic Herding and Commercial Livestock Rearing.

Nomadic Herding (or) Pastoral Nomadism

It is a primitive subsistence activity in which the herders rely on animals for food, clothing, shelter, tools and transport. They move from place to place along with their livestock, depending on the availability of pastures and water. These people do not lead a settled life but keep on moving from place to place. Pastoral nomadism is commonly practiced in regions with little arable land, typically in the developing world. They are mostly found in central and western Asia, Northern and Western regions of Africa and some parts of southern Africa and Tundra regions.

Transhumance

Transhumance is the seasonal movement of people with their livestock between fixed summer and winter pastures. In mountain region it implies movement between higher altitude pastures during summer and valleys in winter.

Gujiars, Bakarwals, Gaddis and Bhotiyas in the Himalayan region migrate from plains to the mountain in summer and to the plains from the high altitude pastures in winter. In the tundra regions, herders move from south to north in summer and from north to south in winter. The number of pastoral nomads has been decreasing and the areas operated by them shrinks due to developments and spreading of other economic activities.

Commercial Livestock Rearing

Commercial livestock rearing is more organised and capital intensive activity in comparison with the Nomadic pastoralism. It is generally practiced in permanent ranches. Ranches refer to the large stock farms, usually fenced in, where animals are breed and reared on a commercial scale. Animals are grazed over large areas which are known as ranches in Prairies and estancia in Pampas. Most modern technology is used for commercial grazing, great emphasis is laid on breeding, genetic improvement, disease control and health of the animals. Products such as meat, wool, hides and skin are processed and packed scientifically and exported to different world markets. New Zealand, Australia, Argentina, Uruguay and USA are the major countries where commercial livestock rearing is practiced.

Do you know?

Employees of the economic activity	
Economic activity	**Name**
Primary	Red collar
Secondary	Blue collar
Tertiary	Pink collar
Quaternary	White collar
Quinary	Gold collar

Agriculture

Agriculture is the most fundamental form of human activity and includes not only cultivation of crops but also the domestication of animals. The following are the major agricultural types and their characteristic features.

Shifting Cultivation

Shifting Cultivation is a kind of traditional farming practiced by tribes in the hilly and forest regions. It is practiced especially in tropical Africa. In this farming an area of ground is cleared of vegetation and cultivated for a few years and then abandoned for a new area until its fertility has been naturally restored. They are called with different names in different regions as follows Shifting Cultivation in Northeast India.

S.No	Name	Region
1	Jhuming/Bewar	North eastern states of India
2	Ladang	Malaysia
3	Chengin/Kaingin	Philippines
4	Milpa	Central America and Mexico
5	Konuko	Venezuela
6	Roca	Brazil
7	Masole	Congo
8	Ray	Vietnam
9	Humah	Indonesia
10	Taungya	Myanmar
11	Chen	Sri Lanka

Subsistence agriculture

Subsistence Agriculture is a type of farming in which output is consumed almost entirely by the farmers and their families leaving only a small proportion for sale. Farmers follow traditional method of cultivation in this kind of farming.

Intensive agriculture

Intensive Agriculture is the one in which the agricultural land is utilised intensively. Farmers prefer the cultivation of short duration crops which enables the cultivation of two or three crops in the same piece of land in a year. Generally it is practiced wherein the size of the agricultural land holding is small.

Plantation Agriculture

Plantation agriculture is a form of commercial farming where crops are grown for profit. Large land areas are needed for this type of agriculture. Countries that have plantation Agriculture usually experience high annual temperatures and receive high annual rainfall. Plantation is mainly found in countries that have a tropical climate. The important plantation crops are tea, coffee, cocoa, rubber, oil palm, sugarcane, bananas and pineapples.

Extensive Farming

It is a kind of farming practiced in the regions where the size of the land holding is very large. It is practiced in the Interior parts of semi-arid lands of the mid-latitudes. Wheat is the major crop of this region and the farming is highly mechanized.

Mixed Farming

It is an agricultural system in which a farmer conducts different agricultural practice together, such as crops, fishing and livestock. The aim is to increase income through different sources and to complement land and labour demands across the year.

Do you know?
Pomology – the study of growing fruits.
Olericulture – science of vegetable growing.
Floriculture – refers to cultivation of flowers.
Sericulture – refers to Rearing of Silkworms

Mediterranean Agriculture

Mediterranean agriculture is highly specialised commercial agriculture. It is practised in the countries on either side of the Mediterranean Sea in Europe and in North Africa from Tunisia to Atlantic coast, southern California, central Chile, south western parts of South Africa and south and south western parts of Australia. This region is an important supplier of citrus fruits. Viticulture or grape cultivation is a speciality ofthe Mediterranean region. Best quality wines in the world with distinctive flavours are produced from high quality grapes in various countries of this region. The inferior grapes are dried into raisins and currants. This region also produces olives and figs. The advantage of Mediterranean agriculture is that more valuable crops such as fruits and vegetables are grown in winters when there is great demand in European and North American markets.

Horticulture

Specialised cultivation of flowers, vegetables and fruits is called horticulture. It is also termed as "truck farming". These crops are grown on small farms which are well connected to the markets by cheap and efficient means of transportation. It is labour and capital intensive crops. The main areas are northwest Europe, northern eastern USA and Mediterranean region. The study of grape cultivation is known as viticulture.

Von Thunen model of agriculture

The Von Thunen model of agricultural land use was created by the farmer, landowner, and economist Von Thunen in 1826 in a book called The Isolated State. Von Thunen model was created before industrialization and is based on the following limiting assumptions:

The city is located centrally within an "Isolated State" that is self-sufficient and has no external influences.

- The Isolated State is surrounded by an unoccupied wilderness.
- The land of the State is completely flat and has no rivers or mountains to interrupt the terrain.
- The soil quality and climate are consistent throughout the State.
- Farmers in the Isolated State transport their own goods to market via ox cart, across the land, directly to the central city. Therefore, there are no roads.
- Farmers act to maximize profits.

In an Isolated State with the foregoing statements being true, Von Thunen hypothesized that a pattern of rings around the city would develop based on land cost and transportation cost.

The Four Rings

Ring 1: Dairying and intensive farming occur in the ring closest to the city. Because vegetables, fruit, milk, and other dairy products must get to market quickly, they would be produced close to the city. The first ring of land is also more expensive, so the agricultural products would have to be highly valuable ones and the rate of return is maximized.

Ring 2: Timber and firewood would be produced for fuel and building materials in the second zone. Before industrialization and coal power, wood was a very important fuel for heating and cooking. Wood is very heavy and difficult to transport, so it is located as close to the city as possible.

Ring 3: The third zone consists of extensive field crops such as grains for bread. As grains last longer than dairy products and they are much lighter than fuel, to reduce transport costs, they can be located farther from the city.

Ring 4: Ranching is located in the final ring surrounding the central city. Animals can be raised far from the city because they are self-transporting.

What the Model Tells Us?

Even though the Von Thunen model was created in a time before factories, highways, and even railroads, it is still an important model in geography. The Von Thunen model is an excellent illustration of the balance between land cost and transportation costs. When one gets closer to a city, the price of land increases. The farmers of the Isolated State balance the cost of transportation, land, and profit and produce the most cost-effective product for market. Of course, in the real world, things do not happen as they would in a model.

Mining

The process of extracting minerals from the earth crust is known as mining. The discovery of minerals in the history of human development is reflected in many stages in terms of copper, Bronze and Iron Age. The use of minerals in ancient times was largely confined to making of tools, utensils and weapons. The actual development of mining began with the industrial revolution and its importance is continuously increasing.

Types of Mining

Open-pit or opencast mining

Open pit mining involves mining minerals ore that can be found near the surface layer of the site. Some quarries can be over 1000 meters deep. This form of mining doesn't require tunneling into the earth and is a simple method of mining that yields high production.

Surface Mining

Surface mining is the process of mining the ores found on the surface of the earth. In this process, any unwanted soil is stripped off from the land and the ore beneath is extracted. Surface mining often leaves behind large areas of infertile land and waste rock as 70% of the mined earth is waste materials.

Underground or sub surface mining/Shaft mining

Sub-surface mining involves the digging of a network of shafts and tunnels into the earth to reach and extract the deposit of mineral ore beneath the earth. In comparison to other methods, underground mines impacts are less on the environment and are more harmful to those working within them. In modern practice, underground mines are pre-assessed for oxygen toxicity levels and a system of ventilation machines and protocols are in place to ensure workplace safety.

In-Situ Mining

It is a rarely used method of mining material. It is also called as solution mining. It is the process of pumping a solution into the ore body, which dissolves the ore and is then extracted by a second pump. This method is used most in mining uranium deposits.

Secondary Activities

Secondary sector transforms the raw materials obtained from the primary sector into consumer goods. So it consists of manufacturing and industrial activities. Since it adds value for the raw materials, it is also called as value addition sector. Industries consume large

quantities of energy and require factories and machinery to convert the raw materials into goods and products. The secondary sector supports both the primary and tertiary sectors.

Factors affecting location of Industries

1. Availability of raw-materials or nearness to raw-materials: Availability of raw materials or nearness to raw materials is a primary factor which governs location of industries. An industry is located in a place where raw materials are available in abundance and at cheaper rates. It is more so for the weight loosing and bulky raw materials. For example, oil refinery factories are established at Visakhapatnam because oil is imported through Vizag port.

2. Availability of power: Availability of power is another important factor of concentration or location of industries. In olden days steam was used for running industries. As a result industry is established near the coal mines. But with the invention of electricity, today industries are located in any place where electricity is available. Industries like aluminum units are located near the hydroelectric projects.

3. Transport costs: Transport costs also influence the location of industries. Industries incur transport costs for bringing raw-materials and for sending the finished goods into the markets. It is economical to start an industry near the area where transport costs are minimum and low. Raw-materials which are heavy and occupy large place, require huge cost for transporting them. So an industry must be located near the area where the transport costs are minimal.

4. Nearness to the market: This is a chief factor governing the location of an industry in modern period. Several advantages are secured when an industry is established near the market. Production can be carried on in accordance with the changes in the consumers' tastes. Economies of transport can be secured in importing raw-materials.

5. Availability of labour: Labour is required for organizing the productive affairs of an industry. The entrepreneurs like to start industries in those areas where labour is abundantly available. The growth of cotton textile industry near Bombay is due to the availability of cheap labour.

6. Government policy: The policy of government also influences the location of industries. The Government may establish an industry on political considerations by giving several incentives. It provides finance, land, water, and transport and communication facilities in backward regions with a view to developing them. It also provides tax concession, marketing consultancy, export and import facilities.

7. Availability of capital: Capital is the most essential factor for the establishment of an industry in a locality.

Weber's Theory of Location

Weber has developed an industrial location emphasising the least cost principle. This is based on assumptions relating to transport costs and other conditions. From his theory, industrial locations for three different situations are made clear.

Assumptions:

1. Some resources are available only in certain regions. Yet, resources such as water are ubiquitous (present everywhere).

2. Markets are found only in specific places.

3. Transport costs are determined based on the weight of the raw materials and distance of transfer.

4. There is competition in the markets for the commodities produced at the industry.
5. Humans use their discretion in their consumer behavior in relation to the industrial commodities.

Based on these assumptions, together with the notion of high profits with least costs and imagination, Weber describes his theory of industrial location.

Weber uses a triangular structure to elaborate on his theory of industrial location using least transport cost principle. The two corners of the triangle defined by the base line represent the places where raw materials are found (R1 and R2). The market (M) is at the apex of the triangle. In the figure below, R1 and R2 are resource locations, consisting of two types of resources. M is the market and P is the industrial location.

As the logic behind Weber's location indicates, some industries produce finished products which lose weight (weight losing raw materials). In this case, the transport cost for raw materials transfer to the industrial location is higher than the transport cost of moving finished products from industrial location to market. It is because the waste from raw materials at the industrial site will be high. Hence, it is profitable to have industry at the raw materials' locations.

If industry is located at the raw material source R1, then raw material R2 must be transported to industrial location R1 and the finished products must be transported to the market M. This results in transport costs. Likewise the industry could be located at R2, too. But if it is located at M, R1 and R2 resources must be transported to market M. This would also involve transport costs. If on the other hand, the industry is located half way between R1 and R2, and then the transport cost to bring the raw materials from R1 and R2 is equal. Transport cost involved in transporting the finished products to the Market decreases because of small distance to market M (if transport cost is assumed to increase with distance).

In the final analysis, the transport cost for raw materials to the industrial location P and the finished products to market M from P together is the least when industry is located at P. There is thus a chance for increased profit for the industry.

The triangle at top left represents a location where distance to be covered by transport is at minimum, the triangle at the top right illustrates the location of a 'weight – losing industry' and the triangle at the bottom left represents the location of a 'weight – gaining industry'. Hence, the location of industry at P is an 'optimal industrial location'.

As the industry is located at a point between the raw materials locations, transport cost to transfer bulky raw materials is reduced considerably. The transport cost for transferring the

finished products from the industry to the market is also small. In such a context, Weber believes that it is profitable to set up the industry at a location in between the industry.

There are some industries which manufacture finished products gaining weight in the process. The transport cost between raw materials location and industry is lower than the transport cost of finished products from industrial location to the market. It is logical therefore to locate the industry at the market. According to Weber, this location is more profitable to the industry than any other. The Weber's location theory is that it is based on the transport cost. Nevertheless, this theory of industrial location is considered superior to other industrial location theories for its logical conclusion.

On the Basis of Labour
Large Scale Industries

Industries which employ a large number of labourers with huge capital are called large-scale industries. Cotton and jute textile industries are large scale industries.

Small Scale Industries

Industries which employ a small number of labourers with small investments are called small scale industries. They include nut & bolt making, coir making, plastic bags industries, dying industry, match box making, weaving industry are some examples for small scale industries

Cottage Industries

Those industries whose labour force consists of family units or individuals working at home with their own equipments are called cottage industries. It is a small and often informally organized industry. The industries like weaving and pottery are the examples this category. On the Basis of size of raw-Material and Finished Goods

Heavy Industries

Industries which use heavy and bulky raw-materials and produce products of the same category are called heavy industries. Iron and steel industry presents a good example of heavy industries.

Light Industries

The light industries use light raw-materials and produce light finished products. Electric fans, sewing machines are light industries.

On the basis of Ownership
Private Sector Industries

Industries owned by individuals or firms such as Bajaj Auto or TISCO situated at Jamshedpur are called private sector industries.

Public Sector Industries

Industries owned by the state and its agencies like Bharat Heavy Electricals Ltd., or Bhilai Steel Plant or Durgapur Steel Plant are public sector industries.

Joint Sector Industries

Industries owned jointly by the private firms and the state or its agencies such as Gujarat Alkalies Ltd., or Oil India Ltd. fall in the group of joint sector industries.

Co-operative Sector Industries

Industries owned and run co-operatively by a group of people who are generally producers of raw materials of the given industry such as a sugar mill owned and run by farmers are called co-operative sector industries.

On the Basis of Source of Raw Materials

Agro Based Industries

Agro based industries are those industries which obtain raw-material from agriculture. Cotton textile, jute textile, sugar and vegetable oil are representative industries of agro-based group of industries.

Mineral Based Industries

The industries that receive raw materials primarily from minerals such as iron and steel, aluminum and cement industries fall in this category.

Pastoral-Based Industries

These industries depend upon animals for their raw material. Hides, skins, bones, horns, shoes, dairy, etc. are some of the pastoral-based industries.

Forest Based Industries

Paper card-board, lac, rayon, resin, tanning of leather, leave- utensils, basket industries are included in this type of industries.

Classification based on Nature of products

Based on the nature of products it is classified into basic industries and consumer goods. Basic industries are manufacturing goods by using them as raw materials are basic industries. For example Iron and steel machines for textile industry. Consumer industries are producing goods for consumers. For example, Television, soap, biscuits, etc.

Tertiary activities

The tertiary industry provides services to its consumers. It is also known as service industry/sector.

All types of services and special skills provided in exchange of payments are called tertiary activities. Health, education, law, governance and recreation etc.; require professional skills. These services require other theoretical knowledge and practical training. Most of the tertiary activities are performed by skilled workers and professionally trained experts and consultants.

Tertiary activities involve commercial output of services rather than the production of tangible goods. Expertise provided by service relies more heavily on special skills, experience and knowledge of the workers rather than on the production techniques, machinery and factory processes. Trade and commerce, transport, communication and services are the categories of tertiary sector. Tertiary sector is further divided into quaternary and quinary sector.

Quaternary Activities

The quaternary sector of the economy consists of intellectual activities, example, libraries, scientific research, education, and information technology. The workforce who is readily involved in this sector is typically well-educated, and people are often seen earning well through their participation in this industry.

Quinary Activities

The professions of the people working in this industry are generally referred to as "gold collar" professions since the services included in the sector focus on interpretation of existing or the new ideas, evaluation of new technologies, and the creation of services. It involves highly paid professionals, research scientists, and government officials. The people are designated with high positions and powers, and those who make important decisions that are especially far-reaching in the world around them often belong to this category.

Division of the world

For analytical purposes, World Economic Situation and Prospects classifies (WESP) all countries of the world into one of three broad categories: developed countries, countries in transition (South-Eastern Europe Commonwealth of Independent States and Georgia) less developed countries and developing countries.

The classification of countries is based on the economic status such as Gross Domestic Product (GDP), Gross National Product (GNP), per capita income, industrialization, the standard of living, etc. Developed Countries refer to the sovereign state, whose economy has highly progressed and possess great technological infrastructure, as compared to other nations.

Developed countries

A developed country, industrialized country, more developed country, or more economically developed country (MEDC), is a country that has a developed economy and advanced technological infrastructure relative to other less industrialized nations. Most commonly, the criteria for evaluating the degree of economic development are gross domestic product (GDP), gross national product (GNP), the per capita income, level of industrialization, amount of widespread infrastructure and general standard of living.

Developed countries have generally post-industrial economies, meaning the service sector provides more wealth than the industrial sector. As of 2015, advanced economies comprise 60.8% of global GDP based on nominal values and 42.9% of global GDP based on purchasing-power parity (PPP) according to the International Monetary Fund. In 2017, the ten largest advanced economies by GDP in both nominal and PPP terms were Australia, Canada, France, Germany, Italy, Japan, South Korea, Spain, the United Kingdom, and the United States.

Countries in transition

A country in transition economy or transitional economy is an economy which is changing from a centrally planned economy to a market economy. Transition economies undergo a set of structural transformations intended to develop market-based institutions. These include economic liberalization, where prices are set by market forces rather than by a central planning organization. The process has been applied in the former Soviet Union and

Eastern bloc countries of Europe and some Third world countries, and detailed work has been undertaken on its economic and social effects.

The Least Developed Countries

The Least Developed Countries is a list of countries that, according to the United Nations, exhibit the lowest indicators of socioeconomic development, with the lowest Human Development Index ratings of all countries in the world. A country is classified among the Least Developed Countries if it meets three criteria.

- Poverty – adjustable criterion based on GNI per capita averaged over three years. As of 2018 a country must have GNI per capita less than US$1,025 to be included on the list, and over $1,230 to graduate from it.
- Human resource weakness (based on indicators of nutrition, health, education and adult literacy).
- Economic vulnerability (based on instability of agricultural production, instability of exports of goods and services, economic importance of non-traditional activities, merchandise export concentration, handicap of economic smallness, and the percentage of population displaced by natural disasters).

The world's 10 biggest economies in 2017

The economy of the United States is the largest in the world. At $18 trillion, it represents a quarter share of the global economy (24.3%), according to the latest World Bank figures.

China follows, with $11 trillion, or 14.8% of the world economy. Japan is in third place with an economy of $4.4 trillion, which represents almost 6% of the world economy. European countries take the next three places on the list: Germany in fourth position, with a $3.3 trillion economy; the United Kingdom in fifth with $2.9 trillion; and France in sixth with $2.4 trillion. India is in seventh place with $2 trillion, and Italy in eighth with an economy of over $1.8 trillion. Ninth place goes to Brazil, with an almost $1.8 trillion economy. And in 10th is Canada, with an economy of over $1.5 trillion. The economy of the United States is larger than the combined economies of numbers three to 10 on the list.

Fastest-growing economy

Although China trails the US by $7 trillion, it's catching up. China's economy grew by 6.7% in 2016, compared with America's 1.6%, according to the IMF. It has also overtaken India as the fastest-growing large economy. The IMF's World Economic Outlook estimated China's economy grew at 6.7% in 2016, compared with India's 6.6%. The chart above shows the world's 40 biggest economies individually, but grouped by colour into continents. The Asian bloc clearly has a larger share than anywhere else, representing just over a third (33.84%) of global GDP. That's compared to North America, which represents just over a quarter, at 27.95%. Europe comes third with just over one-fifth of global GDP (21.37%). Together, these three blocs generatemore than four-fifths(83.16%) of the world's total output.

2. National Income

" The concept of national income is an indispensable preparation for tackling the great issues of unemployment, inflation and growth".
- Samuelson

Introduction

_____National Income provides a comprehensive measure of the economic activities of a nation. It denotes the country's purchasing power. The growth of an economy is measured by the rate at which its real national income grows over time. National income thus serves as an instrument of economic planning. Further, national income is one of the most significant macroeconomic variables. Thus, a clear understanding of the meaning, concepts, measurement and uses of national income is essential.

Nobel laureate Simon Kuznets first introduced the concept of national income.

Meaning of National Income

In common parlance, National Income means the total money value of all final goods and services produced in a country during a particular period of time (one year).

Definitions

"The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend".
-Alfred Marsh

GDP and its detractors.
The welfare of anation can scarcelybe inferred froma measurement ofnational incomeas defined by theGDP... goals formore growth shouldspecify of what andfor what.

"The net output of the commodities and services flowing during the year from the country's productive system into the hands of the ultimate consumers or into net addition to the country's stock of capital goods".
- Simon Kuznets.

Basic concepts of national income.

The following are some of the concepts used in measuring national income.

- GDP
- GNP
- NNP
- NNP at factor cost
- Personal Income
- Disposable Income
- Per capita Income

- Real Income
- GDP deflator

Gross Domestic Product (GDP)

GDP is the total market value of final goods and services produced within the country during a year. This is calculated at market prices and is known as GDP at market prices.

GDP by expenditure method at market prices = C + I + G + (X – M)

Where
C – consumption goods;
I – Investment goods;
G – Government purchases;
X – Exports; M – Imports (X – M) is net export which can be positive or negative.

a) Net Domestic Product (NDP)

NDP is the value of net output of the economy during the year. Some of the country's capital equipment wears out or becomes out dated each year during the production process. Thus

Net Domestic Product = GDP - Depreciation.

Gross National Product (GNP)

GNP is the total measure of the flow of final goods and services at market value resulting from current production in a country during a year, including net **income from abroad. GNP includes five types of final goods and services:**

1. **value of final consumer goods and services produced in a year to satisfy the immediate wants of the people which is referred to as consumption (C);**
2. **gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods which is called as gross investment (I) ;**
3. **goods and services produced or purchased by the government which is denoted by (G) ; and**
4. **net exports of goods and services, i.e., the difference between value of exports and imports of goods and services, known as (X-M) ; Net factor incomes from abroad which refers to the difference between factor incomes (wage, interest, profits) received from abroad by normal residents of India and factor incomes paid to the foreign residents for factor services rendered by them in the domestic territory in India (R-P);**
5. **GNP at market prices means the gross value of final goods and services produced annually in a country plus net factor income from abroad (C + I + G + (X-M) + (R-P)).**

GNP at Market Prices = GDP at Market Prices + Net Factor income from Abroad.

Net National Product (NNP) (at Market price)

Net National Product refers to the value of the net output of the economy during the year. NNP is obtained by deducting the value of depreciation, or replacement allowance of the capital assets from the GNP. It is expressed as,

NNP + GNP – depreciation allowance

(depreciation is also called as Capital Consumption Allowance)

NNP at Factor cost

NNP refers to the market value of output. Whereas NNP at factor cost is the total of income payment made to factors of production. Thus from the money value of NNP at market price, we deduct the amount of indirect taxes and add subsidies to arrive at the net national income at factor cost.

NNP at factor cost = NNP at Market prices – Indirect taxes + Subsidies

Personal Income

Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in a year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profit and employees' contributions to social security schemes and adding transfer payment.

Personal Income = National Income– (Social Security Contribution and undistributed corporate profits) +Transfer payments

Disposable Income

Disposable Income is also known as Disposable personal income. It is the individuals income after the payment of income tax. This is the amount available for households for consumption.

Disposable Income = Personal income – Direct Tax. As the entire disposable income is not spent on consumption, Disposal income = consumption + saving

Per Capita Income

The average income of a person of a country in a particular year is called Per Capita Income. Per capita income is obtained by dividing national income by population.

$$\text{Per Capita income} = \frac{National\ Income}{Population}$$

Real Income

Nominal income is national income expressed in terms of a general price level of a particular year in other words, real income is the buying power of nominal income. National income is the final value of goods and services produced and expressed in terms of money at current prices. But it does not indicate the real state of the economy. The real income is derived as follows:

P1 – Price index during current year;
P0 – Price index during base year

GDP deflator

GDP deflator is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100.

$$\text{GDP deflator} = \frac{Nominal\ GDP}{Real\ GDP} \times 100$$

Methods of Measuring National Income

All goods and services produced in the country must be counted and converted against money value during a year. Thus, whatever is produced is either used for consumption or for saving. Thus, national output can be computed at any of three levels, viz., production, income and expenditure. Accordingly, there are three methods that are used to measure national income.

1. Production or value added method
2. Income method or factor earning method
3. Expenditure method

And if these methods are done correctly, the following equation must hold

Output = Income = Expenditure

GDP – By Sum of Spending, Factor Incomes or Output		
GDP (Expenditure)	**GDP (Factor Incomes)**	**GDP (Value of Output)**
Consumption	Income from people in jobs and in self employment (e.g. wages and salaries)	Value added from each of the main economic sectors
Government spending		
Investment spending		

Change in value of stocks	Profits of private sector business	These sectors are • Primary • Secondary • Manufacturing • Quaternary
Exports	Rent income from the ownership of land	
-Imports		
= GDP (known as aggregate demand)		

_____This is because the three methods are circular in nature. It begins as production, through recruitments of factors of production, generating income and going as incomes to factors of production.

Product Method

Product method measures the output of the country. It is also called inventory method. Under this method, the gross value of output from different sectors like agriculture, industry, trade and commerce, etc., is obtained for the entire economy during a year. The value obtained is actually the GNP at market prices. Care must be taken to avoid double counting.

The value of the final product is derived by the summation of all the values added in the productive process. To avoid double counting, either the value of the final output should be taken into the estimate of GNP or the sum of values added should be taken.

In India, the gross value of the farm output is obtained as follows :

i. **Total production of 64 agriculture commodities is estimated. The output of each crop is measured by multiplying the area sown by the average yield per hectare.**
ii. **The total output of each commodity is valued at market prices.**
iii. **The aggregate value of total output of these 64 commodities is taken to measure the gross value of agricultural output.**
iv. The net value of the agricultural output is measured by making deductions for the cost of seed, manures and fertilisers, market charges, repairs and depreciation from the gross value.

Similarly, the gross values of the output of animal husbandry, forestry, fishery, mining and factory establishments are obtained by multiplying their estimatesof total production with market prices. Net value of the output in these sectors is derived by making deductions for cost of materials used in the process of production and depreciation allowances, etc. from gross value of output.

Net value of each sector measured in this way indicates the net contribution of the sector to the national income.

Precautions

The product method is followed in the underdeveloped countries, but it is less reliable because the margin of error in this method is large. In India, this method is applied to agriculture, mining and manufacturing, including handicrafts.

1. Double counting is to be avoided under value added method. Any commodity which is either raw material or intermediate good for the final production should not be included. For example, value of cotton enters value of yarn as cost, and value of yarn in cloth and that of cloth in garments. At every stage value added only should be calculated.
2. The value of output used for self consumption should be counted while measuring national income.
3. In the case of durable goods, sale and purchase of second hand goods (for example pre owned cars) should not be included.

Income Method (Factor Earning Method)

This method approaches national income from the distribution side. Under this method, national income is calculated by adding up all the incomes generated in the course of producing national product.

Steps involved

1. The enterprises are classified into various industrial groups.
2. Factor incomes are grouped under labour income, capital income and mixed income.
   i. Labour income - Wages and salaries, fringe benefits, employer's contribution to social security.
   ii. Capital income – Profit, interest, dividend and royalty
   iii. Mixed income – Farming, sole proprietorship and other professions.
3. National income is calculated as domestic factor income plus net factor incomes from abroad. In short,

$$Y = w + r + i + \pi + (R-P)$$

w = wages, r = rent, i = interest, π = profits, R = Exports and P = Imports

This method is adopted for estimating the contributions of the remaining sectors, viz., small enterprises, banking and insurance, commerce and transport, professions, liberal arts and domestic service, public authorities, house property and foreign sector transaction.
Data on income from abroad (the rest of the world sector or foreign sector) are obtained from the account of the balance of payments of the country.

Precautions

While estimating national income through income method, the following precautions should be taken.

Items not to be included

1. Transfer payments are not to be included in estimation of national income as these payments are not received for any services provided in the current year such as pension, social insurance etc.
2. The receipts from the sale of second hand goods should not be treated as part of national income as they do not create new flow of goods or services in the current year.
3. Windfall gains such as lotteries are also not to be included as they do not represent receipts from any current productive activity.
4. Corporate profit tax should not be separately included as it has been already included as a part of company profit.

Items to be included

1. Imputed value of rent for self occupied houses or offices is to be included.
2. Imputed value of services provided by owners of production units (family labour) is to be included.

The Expenditure Method (Outlay method)

Under this method, the total expenditure incurred by the society in a particular year is added together. To calculate the expenditure of a society, it includes personal consumption expenditure, net domestic investment, government expenditure on consumption as well as capital goods and net exports. Symbolically,

$$GNP = C + I + G + (X-M)$$

C - Private consumption expenditure
I - Private Investment Expenditure
G - Government expenditure

X-M = Net exports

Precautions

1. Second hand goods: The expenditure made on second hand goods should not be included.

2. Purchase of shares and bonds: Expenditures on purchase of old shares and bonds in the secondary market should not be included.

3. Transfer payments: Expenditures towards payment incurred by the government like old age pension should not be included.

4. Expenditure on intermediate goods: Expenditure on seeds and fertilizers by farmers, cotton and yarn by textile industries are not to be included to avoid double counting. That is only expenditure on final products are to be included.

Factor cost (FC)
There are a number of inputs that are included into a production process when producing goods and services. These inputs are commonly known as factors of production and include things such as land, labour, capital and entrepreneurship.
Producers of goods and services incur a cost for using these factors of production. These costs are ultimately added onto the price of the product.
The factor cost refer to the cost of production that is incurred by a firm when producinggoods and services.
Examples of such production costs include the cost of renting machines, purchasing machinery and land, paying salaries and wages, cost of obtaining capital, and the profit margins that are added by the entrepreneur.
The factor cost does not include the taxes that are paid to the government since taxes are not directly involved in the production process and, therefore, are not part of the direct production cost.
However, subsidies received are included in the factor cost as subsidies are direct inputs into the production.

Market price (MP)
Once goods and services are produced they are sold in a market place at a set marketprice.
The market price is the price that consumers will pay for the product when they purchaseit from the sellers.
Taxes charged by the government will be added onto the factor price while subsidesprovided will be reduced from the factor price to arrive at the market price.
Taxes are added on because taxes are costs that increase the price, and subsidies arereduced because subsidies are already included in the factor cost, and cannot be doublecounted when market price is calculated.
Thus, MP = FC + Indirect Taxes - Subsidies ..... Equation (1)
Or, FC = MP - Indirect Taxes + Subsidies ..... Equation (2)

National Income (NNP_{FC}) = Gross Value Added by all the production Enterprises within the Domestic territory of the Country – Depreciation – Net Indirect Taxes + Net Factor Income from Abroad

[Where, Net Indirect Taxes = Indirect tax – Subsidies]
[Gross Value Added = Value of Output – Intermediate Consumption]
Value of Output = Sales = Change in Stock
Where, Change in Stock = Closing Stock – Opening Stock

Note: If entire out put is sold within the year, then value of output will be equal to salesitself.

or

Value of Output = Price x Quantity Sold

GDP_{MP} = Private Final Consumption + Government Final Consumption Expenditure+ Gross

Domestic Capital Formation + Net Exports (Exports – Imports)

Importance of National Income Analysis

National income is of great importance for the economy of a country. Nowadays the national income is regarded as accounts of the economy, which are known as social accounts. It enables us

1. To know the relative importance of the various sectors of the economy and their contribution towards national income; from the calculation of national income, we could find how income is produced, how it is distributed, how much is spent, saved or taxed.
2. To formulate the national policies such as monetary policy, fiscal policy and other policies; the proper measures can be adopted to bring the economy to the right path with the help of collecting national income data.
3. To formulate planning and evaluate plan progress; it is essential that the datapertaining to a country's gross income, output, saving and consumption from different sources should be available for economic planning.
4. To build economic models both in short - run and long - run.
5. To make international comparison, inter - regional comparison and inter - temporal comparison of growth of the economy during different periods.
6. To know a country's per capita income which reflects the economic welfare of the country (Provided income is equally distributed)
7. To know the distribution of income for various factors of production in the country.
8. To arrive at many macro economic variables namely, Tax – GDP ratio, Current Account Deficit - GDP ratio, Fiscal Deficit - GDP ratio, Debt - GDP ratio etc.

Difficulties in Measuring National Income

In India, a special conceptual problem is posed by the existence of a large, unorganised and non-monetised subsistence sector where the barter system still prevails for transacting goods and services. Here, a proper valuation of output is very difficult.

Transfer payments

Government makes payments in the form of pensions, unemployment allowance, subsidies, etc. These are government expenditure. But they are not included in the national income. Because they are paid without adding anything to the production processes.

During a year, Interest on national debt is also considered transfer payments because it is paid by the government to individuals and firms on their past savings without any productive work.

Difficulties in assessing depreciation allowance

The deduction of depreciation allowances, accidental damages, repair and replacement charges from the national income is not an easy task. It requires high degree of judgment to assess the depreciation allowance and other charges.

Unpaid services

A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc. She is not paid for them and her services are not directly included in national income. Such services performed by paid servants are included in national income. The reason for the exclusion of her services from national income is that the love and affection of a housewife in performing her domestic work cannot be measured in monetary terms. Similarly, there are a number of goods and services which are difficult to be assessed in money terms for the reason stated above, such as rendering services to their friends, painting, singing, dancing, etc.

Income from illegal activities

Income earned through illegal activities like gambling, smuggling, illicit extraction of liquor, etc., is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered as productive from the point of view of society.

Production for self-consumption and changing price

Farmers keep a large portion of food and other goods produced on the farm for self consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not.

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

Capital Gains

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, other property, stocks or shares, etc. is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income.

Statistical problems

There are statistical problems, too. Great care is required to avoid double counting. Statistical data may not be perfectly reliable, when they are compiled from numerous sources. Skill and efficiency of the statistical staff and cooperation of people at large are also equally important in estimating national income.

The following are the some of the statistical problems:

1. Accurate and reliable data are not adequate, as farm output in the subsistence sector is not completely informed. In animal husbandry, there are no authentic production data available.
2. Different languages, customs, etc., also create problems in computing estimates.
3. People in India are indifferent to the official inquiries. They are in most cases non-cooperative also.
4. Most of the statistical staff are untrained and inefficient.

Therefore, national income estimates in our country are not very accurate or adequate. There is at least 10 per cent margin of error, i.e., national income is overestimated or underestimated by at least 10 per cent. That is why the GDP estimates for India varies from 2 trillion US dollar to 5 trillion US dollar.

National Income and Social Accounting

National income is also being measured by the social accounting method. Under this method, the transactions among various sectors such as firms, households, government, etc., are recorded and their interrelationships traced. The social accounting framework is useful for economists as well as policy makers, because it represents the major economic flows and statistical relationships among various sectors of the economic system. It becomes possible to forecast the trends of economy more accurately.

Social Accounting and Sector

Under this method, the economy is divided into several sectors. A sector is a group of individuals or institutions having common interrelated economic transactions. The economy is divided into the following sectors

i. Firms,
ii. Households,
iii. Government,
iv. Rest of the world and
v. Capital sector.

- Firms" undertake productive activities. Thus, they are all organizations which employ the factors of production to produce goods and services.
- Households" are consuming entities and represent the factors of production, who receive payment for services rendered by them to firms. Households consume the goods and services that are produced by the firms.

Thus, firms make payment to households for their services. Households spend money incomes they received on the goods and services produced by the firms. This is a circular flow of money between these two groups.

- The Government sector" refers to the economic transactions of public bodies at all levels, centre, state and local. In their work concerning social accounting, Edey and Peacock have defined government as a collective 'person' that purchases goods and services from

firms. These purchases may be financed through taxation, public borrowings, or any other fiscal means. The main function of the government is to provide social goods like defence, public health, education, etc. This means satisfying the collective wants of society. However, public enterprises like Post Offices and railways are separated from the Government sector and included as "Firms".

- Rest of the world sector" relates to international economic transactions of the country. It contains income, export and import transactions, external loan transaction, and allied overseas investment income and payments.
- Capital sector" refers to saving and investment activities. It includes the transactions of banks, insurance corporations, financial houses, and other agencies of the money market. These are not included under "Firms". These agencies merely provide financial assistance to the firms' activities.

While assessing sectoral contribution to GDP, the economy is divided into three namely Primary, Secondary and Tertiary sectors.

National Income and Welfare

National Income is considered as an indicator of the economic wellbeing of a country. The economic progress of countries is measured in terms of their GDP per capita and their annual growth rate. A country with a higher per capita income is supposed to enjoy greater economic welfare with a higher standard of living.

But the rise in GDP or per capita income need not always promote economic welfare. The per capita income as an index of economic welfare suffers from limitations which are stated below:

1. The economic welfare depends upon the composition of goods and services provided. The greater the proportion of capital goods over consumer goods, the improvement in economic welfare will be lesser. Similarly the production of luxuries is meant for rich classes only.
2. Higher GDP with greater environmental hazards such as air, water and soil pollution will be little economic welfare.
3. The production of war goods will show the increase in national output but not welfare.
4. An increase in per capita income may be due to employment of women and children or forcing workers to work for long hours. But it will not promote economic welfare.

Therefore the Physical Quality of Life Index (PQLI) is considered a better indicator of economic welfare. It includes standard of living, life expectancy at birth and literacy.

National Income & Erosion of national Wealth

For achieving higher GDP, larger natural resources are being depleted or damaged. This means reduction of potential for future growth. Hence, it is suggested that while assessing national income, loss of natural resources should be subtracted from national income.

National income in terms of US$

When Indian national income is expressed in terms of US$, the former looks very low. If Purchasing Power Parity (PPP) method is adopted India looks better.

Social and Environmental Cost

While producing economic goods, many environmental and social bads are also generated. Hence, they also must be considered while enumerating National income.

Unit 6
Banking

"Commercial Banks are the institutions that make short term loans to business and in the process create Money'.'
- Culbertson

Introduction

Finance is the life blood of all economic activities such as trade, commerce, agriculture and industry. A bank is generally understood as an institution which provides fundamental financial services such as accepting deposits and lending loans. Banking sector acts as the backbone of modern business world. The banking system significantly contributes for the development of any country. Due to the importance in the financial stability of a country, banks are highly regulated in most countries.

Historical Development

The Ricks Banks of Sweden, which had sprung from a private bank established in 1656 is the oldest central bank in the world. It acquired the sole right of note issue in 1897. But the fundamentals of the art of banking have been developed by the Bank of England (1864) as the first bank of issues.

A large number of central banks were established between 1921 and 1954 in compliance with the resolution passed by the International Finance Conference held at Brussels in 1920. The South African Reserve Bank (1921), the Central Bank of China (1928), The Reserve Bank of New Zealand (1934), The Reserve Bank of India (1935), the Central Bank of Ceylon (1950) and the Bank of Israel (1954) were established.

Commercial banks

Commercial bank refers to a bank, or a division of a large bank, which more specifically deals with deposit and loan services provided to corporations or large/ middle-sized business - as opposed to individual members of the public/small business. They do not provide, long-term credit, as liquidity of assets is to be maintained.

Functions of Commercial Banks:

Commercial banks are institutions that conduct business with profit motive by accepting public deposits and lending loans for various investment purposes. The functions of commercial banks are broadly classified into primary functions and secondary functions, which are shown in the picture

Functions of Commercial Banks

(a) Primary Functions:

1. Accepting Deposits

It implies that commercial banks are mainly dependent on public deposits. There are two types of deposits, which are discussed as follows

i. Demand Deposits

It refers to deposits that can be withdrawn by individuals without any prior notice to the bank. In other words, the owners of these deposits are allowed to withdraw money anytime by writing a withdrawal slip or a cheque at the bank counter or from ATM centres using debit card.

ii. Time Deposits

It refers to deposits that are made for certain committed period of time. Banks pay higher interest on time deposits. These deposits can be withdrawn only after a specific time period by providing a written notice to the bank.

2. Advancing Loans

It refers to granting loans to individuals and businesses. Commercial banks grant loans in the form of overdraft, cash credit, and discounting bills of exchange.

(b) Secondary Functions

The secondary functions can be classified under three heads, namely, agency functions, general utility functions, and other functions.

1. Agency Functions: It implies that commercial banks act as agents of customers by performing various functions.

(i) Collecting Cheques

Banks collect cheques and bills of exchange on the behalf of their customers through clearing house facilities provided by the central bank.

(ii) Collecting Income

Commercial banks collect dividends, pension, salaries, rents, and interests on investments on behalf of their customers. A credit voucher is sent to customers for information when any income is collected by the bank.

(iii) Paying Expenses

Commercial banks make the payments of various obligations of customers, such as telephone bills, insurance premium, school fees, and rents. Similar to credit voucher, a debit voucher is sent to customers for information when expenses are paid by the bank.

(2) General Utility Functions: It implies that commercial banks provide some utility services to customers by performing various functions.

(i) Providing Locker Facilities

Commercial banks provide locker facilities to its customers for safe custody of jewellery, shares, debentures, and other valuable items. This minimizes the risk of loss due to theft at homes. Banks are not responsible for the items in the lockers.

(ii) Issuing Traveler's Cheques

Banks issue traveler's cheques to individuals for traveling outside the country. Traveler's cheques are the safe and easy way to protect money while traveling.

(iii) Dealing in Foreign Exchange

Commercial banks help in providing foreign exchange to businessmen dealing in exports and imports. However, commercial banks need to take the permission of the Central Bank for dealing in foreign exchange.

3. Transferring Funds

It refers to transferring of funds from one bank to another. Funds are transferred by means of draft, telephonic transfer, and electronic transfer.

4. Letter of Credit

Commercial banks issue letters of credit to their customers to certify their creditworthiness.

(i) Underwriting Securities

Commercial banks also undertake the task of underwriting securities. As public has full faith in the creditworthiness of banks, public do not hesitate in buying the securities underwritten by banks.

(ii) Electronic Banking

It includes services, such as debit cards, credit cards, and Internet banking.

(C) Other Functions:

(i) Money Supply

It refers to one of the important functions of commercial banks that help in increasing money supply. For instance, a bank lends □5 lakh to an individual and opens a demand deposit in the name of that individual. Bank makes a credit entry of Rs.5 lakh in that account. This leads to creation of demand deposits in that account. The point to be noted here is that there is no payment in cash. Thus, without printing additional money, the supply of money is increased.

(ii) Credit Creation

Credit Creation means the multiplication of loans and advances.Commercial banks receive deposits from the public and use these deposits to give loans. However, loans offered are many times more than the deposits received by banks. This function of banks is known as 'Credit Creation'.

(iii) Collection of Statistics:

Banks collect and publish statistics relating to trade, commerce and industry. Hence, they advice customers and the public authorities on financial matters.

Mechanism / Technique of Credit Creation by Commercial Banks

Bank credit refers to bank loans and advances. Money is said to be created when the banks, through their lending activities, make a net addition to the total supply of money in the economy. Likewise, money is said to be destroyed when the loans are repaid by the borrowers to the banks and consequently the credit already created by the banks is wiped out in the process.

Banks have the power to expand or contract demand deposits and they exercise this power through granting more or less loans and advances and acquiring other assets. This power of commercial bank to create deposits through expanding their loans and advances is known as credit creation.

Primary / Passive Deposit and Derived / Active Deposit

The modern banks create deposits in two ways. They are primary deposit and derived deposit. When a customer gives cash to the bank and the bank creates a book debt in his name called a deposit, it is known as a "primary deposit'. But when such a deposit is created, without there being any prior payment of equivalent cash to the bank, it is called a 'derived deposit'.

Primary Deposits

- It is out of these primary deposits that the bank makes loans and advances to its customers.
- The initiative is taken by the customers themselves. In this case, the role of the bank is passive.
- So these deposits are also called "Passive deposits".

Credit Creation literally means the multiplication of loans and advances. Every loan creates its own deposits. Central Bank insists the banks to maintain a ratio between the total deposits they create and the cash in their possession.

For the purpose of understanding, it is assumed that all banks are obliged to keep the ratio between cash and its deposits at a minimum of 20 percent.

1. The banks do not keep any excess reserves, in other words, it would exhaust possible avenues of income earning activities like giving loans etc. up to the maximum extent after attaining the minimum cash reserves.

2. There are no drains in the supply of money i,e., the public do not suddenly want to hold more ideal currency or withdraw from the time deposits.

Under the above assumptions, when a customer deposits a sum of Rs.1000 in a bank, the bank creates a deposit of Rs. 1000 in his favor. Bank deposits (Bank Money) have increased by Rs.1000. But, at this stage, there is no increase in the total supply of money with the public, because the above extra bank money of Rs.1000 is offset by the cash of Rs.1000 deposited in the bank.

The bank has now additional cash of Rs.1000 in its custody. Since it is required to keep only a cash reserve of 20 per cent, this means that Rs. 800 is excess cash reserve with it. According to the above assumption, the bank should lend out this Rs. 800 to the public. Suppose, it does so, and the debtor deposits the money in his own account with another bank B, Bank is creating a deposit of Rs. 800. Bank B then has also excess cash reserve of Rs. 640(800-160). It could, in its turn, lend out Rs. 640. This Rs. 640 will, in its turn find its way with, say Bank C; it will create a deposit of Rs. 640and so on.

The total deposits will now grow into Rs. 1000+800+640+…….till ultimately the excess cash reserve peters out. It can be shown that when that stage is reached the total of the above will be Rs. 5000.

Money Multiplier = 1/20% =1/20/100=1/20x100=5
Credit creation is 1000x5 = Rs. 5000.

Role of Commercial Banks in Economic Development of a Country

1. Capital Formation

Banks play an important role in capital formation, which is essential for the economic development of a country. They mobilize the small savings of the people scattered over a wide area through their network of branches all over the country and make it available for productive purposes.

Now-a-days, banks offer very attractive schemes to induce the people to save their money with them and bring the savings mobilized to the organized money market. If the banks do not perform this function, savings either remains idle or used in creating other assets,(eg.gold) which are low in scale of plan priorities.

2. Creation of Credit

Banks create credit for the purpose of providing more funds for development projects. Credit creation leads to increased production, employment, sales and prices and thereby they bring about faster economic development.

3. Channelizing the Funds towards Productive Investment

Banks invest the savings mobilized by them for productive purposes. Capital formation is not the only function of commercial banks. Pooled savings should be allocated to various sectors of the economy with a view to increase the productivity. Then only it can be said to have performed an important role in the economic development.

4. Encouraging Right Type of Industries

Many banks help in the development of the right type of industries by extending loan to right type of persons. In this way, they help not only for industrialization of the country but also for the economic development of the country. They grant loans and advances to manufacturers whose products are in great demand. The manufacturers in turn increase their products by introducing new methods of production and assist in raising the national income of the country. Sometimes, sub-prime lending is also clone. That is how there was an economic crisis in the year 2007-08 in the US.

5. Banks Monetize Debt

Commercial banks transform the loan to be repaid after a certain period into cash, which can be immediately used for business activities. Manufacturers and wholesale traders cannot increase their sales without selling goods on credit basis. But credit sales may lead to locking up of capital. As a result, production may also be reduced. As banks are lending money by discounting bills of exchange, business concerns are able to carryout the economic activities without any interruption.

6. Finance to Government

Government is acting as the promoter of industries in underdeveloped countries for which finance is needed for it. Banks provide long-term credit to Government by investing their funds in Government securities and short-term finance by purchasing Treasury Bills. RBI has given Rs. 68,000 crores to the government of India in the year 2018-19, this is 99% the RBI's surplus.

7. Employment Generation

After the nationalization of big banks, banking industry has grown to a great extent. Bank's branches are opened frequently, which leads to the creation of new employment opportunities.

8. Banks Promote Entrepreneurship

In recent days, banks have assumed the role of developing entrepreneurship particularly in developing countries like India by inducing new entrepreneurs to take up the well-formulated projects and provision of counseling services like technical and managerial guidance. Banks provide 100% credit for worthwhile projects, which is also technically feasible and economically viable. Thus commercial banks help for the development of entrepreneurship in the country.

Non-Banking Financial Institution (NBFI)

A non-banking financial institution (NBFI) or non-bank financial company (NBFC) is a financial institution that does not have a full banking license or is not supervised by the central bank.

The NBFIs do not carry on pure banking business, but they will carry on other financial transactions. They receive deposits and give loans. They mobilize people's savings and use the funds to finance expenditure on investment activities. In short, they are institutions which undertake borrowing and lending. They operate in both the money and the capital markets.

NBFIs can be broadly classified into two categories. Viz.., (1) Stock Exchange; and (2) Other Financial institutions. Under the latter category comes Finance Companies, Finance Corporations, ChitFunds, Building Societies, Issue Houses, Investment Trusts and Unit Trusts and Insurance Companies.

Central Bank

A central bank, reserve bank, or monetary authority is an institution that manages a state's currency, money supply, and interest rates. Central banks also usually oversee the commercial banking system of their respective countries.

Functions of Central Bank (Reserve Bank of India)

The Reserve Bank of India (RBI) is India's central banking institution, which controls the monetary policy of the Indian rupee. It commenced its operations on 1 April 1935 in accordance with the Reserve Bank of India Act, 1934. The original share capital was divided into shares of Rs.100 each fully paid, which were initially owned entirely by private shareholders. Following India's independence on 15 August 1947, the RBI was nationalised on 1 January 1949.

1. **Monetary Authority:** It controls the supply of money in the economy to stabilize exchange rate, maintain healthy balance of payment, attain financial stability, control inflation, strengthen banking system.

2. **The issuer of currency:** The objective is to maintain the currency and credit system of the country. It is the sole authority to issue currency. It also takes action to control the circulation of fake currency.

3. **The issuer of Banking License:** As per Sec 22 of Banking Regulation Act, every bank has to obtain a banking license from RBI to conduct banking business in India.

RESERVE BANK OF INDIA		
History	**Administration**	**Functions**
• Formed on April 1, 1935 in accordance with the RBI Act, 1934 • Nationalized on January 1, 1949 (Fully owned by GOI) • Headquarter moved from Calcutta to Mumbai in 1937 • Osborne Smith was the firstGovernor of RBI	• It is the Central Bank/ Regulator for all bank in India • Also called "Lender of Last Resort" • Governors and 4 Deputy Governors along with a central board of directors appointed by the GOI.	• Issues currency • Banker to the government {It collects receipts of funds and makes payments on behalf of the government} • Regulator of Indian Banking system • Custodian of Forex • Controller of credit

The process of issuing paper currency was started in the 18th century. Private Banks such as the bank of Bengal the bank of Bombay and the Bank of Madras – first printed paper money.

The first rupee was introduced by Sher Shah Suri based on a ratio of 40 copper pieces (paisa) per rupee. The name was derived from the Sanskrit word Raupya, meaning silver. Each banknote has its amount written in 17languages (English and Hindi on the front and 15 other on the back) illustrating the diversity of the country.

4. **Banker to the Government:** It acts as banker both to the central and the state governments. It provides short-term credit. It manages all new issues of government

loans, servicing the government debt outstanding and nurturing the market for government securities. It advises the government on banking and financial subjects.

5. **Banker's Bank:** RBI is the bank of all banks in India as it provides loan to banks, accept the deposit of banks, and rediscount the bills of banks.

6. **Lender of last resort:** The banks can borrow from the RBI by keeping eligible securities as collateral at the time of need or crisis, when there is no other source.

7. **Act as clearing house:** For settlement of banking transactions, RBI manages 14 clearing houses. It facilitates the exchange of instruments and processing of payment instructions.

8. **Custodian of foreign exchange reserves:** It acts as a custodian of FOREX. It administers and enforces the provision of Foreign Exchange Management Act (FEMA), 1999. RBI buys and sells foreign currency to maintain the exchange rate of Indian rupee v/s foreign currencies.

9. **Regulator of Economy:** It controls the money supply in the system, monitors different key indicators like GDP, Inflation, etc.

10. **Managing Government securities:** RBI administers investments in institutions when they invest specified minimum proportions of their total assets/liabilities in government securities.

11. **Regulator and Supervisor of Payment and Settlement Systems:** The Payment and Settlement Systems Act of 2007 (PSS Act) gives RBI oversight authority for the payment and settlement systems in the country. RBI focuses on the development and functioning of safe, secure and efficient payment and settlement mechanisms.

12. **Developmental Role:** This role includes the development of the quality banking system in India and ensuring that credit is available to the productive sectors of the economy. It provides a wide range of promotional functions to support national objectives. It also includes establishing institutions designed to build the country's financial infrastructure. It also helps in expanding access to affordable financial services and promoting financial education and literacy.

13. **Publisher of monetary data and other data:** RBI maintains and provides all essential banking and other economic data, formulating and critically evaluating the economic policies in India. RBI collects, collates and publishes data regularly.

14. **Exchange manager and controller:** RBI represents India as a member of the International Monetary Fund [IMF]. Most of the commercial banks are authorized dealers of RBI.

15. **Banking Ombudsman Scheme:** RBI introduced the Banking Ombudsman Scheme in 1995. Under this scheme, the complainants can file their complaints in any form,

including online and can also appeal to the Ombudsman against the awards and the other decisions of the Banks.

16. **Banking Codes and Standards Board of India:** To measure the performance of banks against Codes and standards based on established global practices, the RBI has set up the Banking Codes and Standards Board of India (BCSBI).

Credit Control Measures

Credit control is the primary mechanism available to the Central banks to realize the objectives of monetary management. The RBI is much better placed than many of credit control. The statutory basis for the control of the credit system by the Reserve Bank is embodied in the Reserve Bank of India Act, 1934 and the Banking Regulation Act, 1949.

Credit Control Measures	
General (Quantitative)	**Selective (Quantitative)**
1. Bank Rate 2. Open Market Operations 3. Variable Cash Reserve Ratio	1. Rationing of Credit 2. Direct Action 3. Moral suasion 4. Publicity 5. Regulation of Consumer' Credit 6. Marginal Requirements

Methods of Credit Control

I. Quantitative or General Methods:

1. Bank Rate Policy:

The bank rate is the rate at which the Central Bank of a country is prepared to re-discount the first class securities. It means the bank is prepared to advance loans on approved securities to its member banks. As the Central Bank is only the lender of the last resort the bank rate is normally higher than the market rate. For example: If the Central Bank wants to control credit, it will raise the bank rate. As a result, the deposit rate and other lending rates in the money-market will go up. Borrowing will be discouraged, and will lead to contraction of credit and vice versa.

2. Open Market Operations:

In narrow sense, the Central Bank starts the purchase and sale of Government securities in the money market.

In Broad Sense, the Central Bank purchases and sells not only Government securities but also other proper eligible securities like bills and securities of private concerns. When the banks and the private individuals purchase these securities they have to make payments for these securities to the Central Bank.

3. Variable Reserve Ratio:
a) Cash Reserves Ratio:

Under this system the Central Bank controls credit by changing the Cash Reserves Ratio. For example, if the Commercial Banks have excessive cash reserves on the basis of which they are creating too much of credit, this will be harmful for the larger interest of the economy. So it will raise the cash reserve ratio which the Commercial Banks are required to maintain with the Central Bank.

Similarly, when the Central Bank desires that the Commercial Banks should increase the volume of credit in order to bring about an economic revival in the economy. The central Bank will lower down the Cash Reserve Ratio with a view to expand the lending capacity of the Commercial Banks.

Variable Cash Reserve Ratio as an objective of monetary policy was first suggested by J.M. Keynes. It was first followed by Federal Reserve System in United States of America. The commercial banks as per the statute has to maintain reserves based on their demand deposit and fixed deposit with central bank is called as Cash Reserve Ratio.

If the CRR is high, the commercial bank's capacity to create credit will be less and if the CRR is low, the commercial bank's capacity to create credit will be high.

b) Statutory Liquidity Ratio:

Statutory Liquidity Ratio (SLR) is the amount which a bank has to maintain in the form of cash, gold or approved securities. The quantum is specified as some percentage of the total demand and time liabilities (i.e., the liabilities of the bank which are payable on demand anytime, and those liabilities which are accruing in one month's time due to maturity) of a bank.

II. Qualitative or Selective Method of Credit Control:

The qualitative or the selective methods are directed towards the diversion of credit into particular uses or channels in the economy. Their objective is mainly to control and regulate the flow of credit into particular industries or businesses. The following are the frequent methods of credit control under selective method:

1. Rationing of Credit
2. Direct Action
3. Moral Persuasion
4. Method of Publicity
5. Regulation of Consumer's Credit
6. Regulating the Marginal Requirements on Security Loans

1. Rationing of Credit

This is the oldest method of credit control. Rationing of credit as an instrument of credit control was first used by the Bank of England by the end of the 18th Century. It aims to control and regulate the purposes for which credit is granted by commercial banks. It is generally of two types.

a) The variable portfolio ceiling: It refers to the system by which the central bank fixes ceiling or maximum amount of loans and advances for every commercial bank.

b) The variable capital asset ratio: It refers to the system by which the central bank fixes the ratio which the capital of the commercial bank should have to the total assets of the bank.

2. Direct Action

Direct action against the erring banks can take the following forms.
a) The central bank may refuse to altogether grant discounting facilities to such banks.
b) The central bank may refuse to sanction further financial accommodation to a bank whose existing borrowing are found to be in excess of its capital and reserves.
c) The central bank may start charging penal rate of interest on money borrowed by a bank beyond the prescribed limit.

3. Moral Suasion

This method is frequently adopted by the Central Bank to exercise control over the Commercial Banks. Under this method Central Bank gives advice, then requests. and persuades the Commercial Banks to co-operate with the Central Bank in implementing its credit policies.

4. Publicity

Central Bank in order to make their policies successful, take the course of the medium of publicity. A policy can be effectively successful only when an effective public opinion is created in its favour.

5. Regulation of Consumer's Credit:

The down payment is raised and the number of installments reduced for the credit sale.

6. Changes in the Marginal Requirements on Security Loans:

This system is mostly followed inU.S.A. Under this system, the Board of Governors of the Federal Reserve System has been given the power to prescribe margin requirements for the purpose of preventing an excessive use of credit for stock exchange speculation.

This system is specially intended to help the Central Bank in controlling the volume of credit used for speculation in securities under the Securities Exchange Act, 1934.

The Repo Rate and the Reverse Repo Rate are the frequently used tools with which the RBI can control the availability and the supply of money in the economy. RR is always greater than RRR in India	
Repo Rate: (RR)	Reverse Repo Rate (RRR)
The rate at which the RBI is willing to lend to commercial banks is called Repo Rate. Whenever banks have any shortage of funds they can borrow from the RBI, against securities. If the RBI increases the Repo Rate, it makes borrowing expensive for banks and vice versa. As a tool to control inflation, RBI increases the Repo Rate, making it more expensive for the banks to borrow from the RBI. Similarly, the RBI will do the exact opposite in a deflationary environment.	The rate at which the RBI is willing to borrow from the commercial banks is called reverse repo rate. If the RBI increases the reverse repo rate, it means that the RBI is willing to offer lucrative interest rate to banks to park their money with the RBI. This results in a decrease in the amount of money available for banks customers as banks prefer to park their money with the RBI as it involves higher safety. This naturally leads to a higher rate of interest which the banks will demand from their customers for lending money to them.

Reserve Bank of India and Rural Credit

In a developing economy like India, the Central bank of the country cannot confine itself to the monetary regulation only, and it is expected that it should take part in development function in all sectors especially in the agriculture and industry.

Role of RBI in agricultural credit

RBI has been playing a very vital role in the provision of agricultural finance in the country. The Bank's responsibility in this field had been increased due to the predominance of agriculture in the Indian economy and the inadequacy of the formal agencies to cater to the huge requirements of the sector. In order to fulfill this important role effectively, the RBI set up a separate Agriculture Credit Department. However, the volume of informal loans has not declined sufficiently.

Functions of Agriculture Credit Department:

a. To maintain an expert staff to study all questions on agricultural credit;
b. To provide expert advice to Central and State Government, State Co-operative Banks and other banking activities.
c. To finance the rural sector through eligible institutions engaged in the business of agricultural credit and to co-ordinate their activities.

The duties of the RBI in agricultural credit were much restricted as it had to function only in an ex-officio capacity being the Central Bank of the country. It could not lend directly

to the farmers, but the supply of rural credit was done through the mechanism of refinance with institutions specializing in rural credit. Primary societies may borrow from Central Co-operative Bank, and the latter may borrow from the apex or the State Co-operative Bank, which in its turn might get accommodation facilities from the RBI.

The RBI was providing medium-term loans also for a period exceeding 15 months to 5 years for reclamation of land, construction of irrigation works, purchase of machinery, etc.

The Reserve Bank of India was also providing long-term loans to fiancé permanent changes in land and also for the redemption of old debts.

With the establishment of National Bank for Agriculture and Rural Development (NABARD), all the functions of the RBIrelating to agricultural credit had been taken over and looked after by NABARD since 1982. Since then, all activities relating to rural credit are entirely looked after by NABARD.

The Agricultural Refinance Development Corporation (ARDC)

Farmers in India require mainly medium term and long term loans and they face a lot of difficulties in getting them. The only organization providing long term credit is Land Development Banks which have lagged behind and recorded only limited success. The credit requirements of the agricultural sector are increasing year after year. With the aim of bridging the gap in agricultural finance and to extend credit for projects involving agricultural development, an organization called the Agricultural Refinance Development Corporation (ARDC) was established by an Act of Parliament and it started functioning from July 1, 1963.

Objectives of the ARDC:

i. To provide necessary funds by way of refinance to eligible institutions such as the Central Land Development Banks, State Co-operative Banks, and Scheduled banks.
ii. To subscribe to the debentures floated by the Central Land Development banks, State Co-operative Banks, and Scheduled banks, provided they were approved by the RBI.

Regional Rural Banks (RRBs)

One of the important points of the 20 points economic programme of Mrs. Indira Gandhi during emergency was the liquidation of rural indebtedness by stages and provide institutional credit to farmers and artisans in rural areas. It was in pursuance of this aspect of the New Economic programme that the Government of India setup Regional Rural Banks (RRBs) on 1975. The share capital of RRB is subscribed by the Central Government (50%), the State Government concerned (15%), and the sponsoring commercial bank (35%).

The main objective of the RRBs is to provide credit and other facilities particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs so as to develop agriculture, trade, commerce, industry and other productive activities in the rural areas.

Concessions to RRBs

From the beginning, the sponsor banks have continued to provide managerial and financial assistance to RRBs and also other concessions such as lower rate of interest (8.5 per cent) on the latter's borrowings from sponsor banks. Further, the cost of staff deputed to RRBs and training expenses of RRB staff are borne by the sponsor banks.

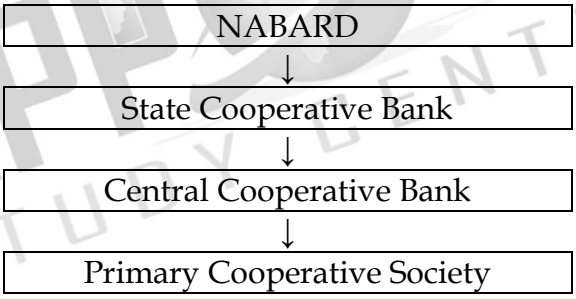
The RBI has been granting many concessions to RRBs:

a. They are allowed to maintain cash reserve ratio at 3 per cent and statutory liquidity ratio at 25 per cent; and

b. They also provide refinance facilities through NABARD.

NABARD and its role in Agricultural credit

Since its inception, RBI has shown keen interest in agricultural credit and maintained a separate department for this purpose. RBI extended short-term seasonal credit as well as medium-term and long-term credit to agriculture through State level co-operative banks and Land Development banks.



Three Tier Cooperative Credit Structure

At the same time, RBI has also set up the Agricultural Refinance Development Corporation (ARDC) to provide refinance support to the banks to promote programmes of agricultural development, particularly those requiring term credit. With the widening of the role of bank credit from "agricultural development" to "rural development" the Government proposed to have a more broad-based organization at the apex level to extend support and give guidance to credit institutions in matters relating to the formulation and implementation of rural development programmes.

A National Bank for Agriculture and Rural Development (NABARD), was therefore, set up in July 1982 by an Act of parliament to take over the functions of ARDC and the refinancing functions of RBI in relation to co-operative banks and RRBs. NABARD is linked organically with the RBI by the latter contributing half of its share capital the other half being contributed by the Government of India(GOI). GOI nominates three of its Central Board

Directors on the board of NABARD.A Deputy Governor of RBI is appointed as Chairman of NABARD.

Functions of NABARD

NABARD has inherited its apex role from RBI i.e, it is performing all the functions performed by RBI with regard to agricultural credit.

i. NABARD acts as a refinancing institution for all kinds of production and investment credit to agriculture, small-scale industries, cottage and village industries, handicrafts and rural crafts and real artisans and other allied economic activities with a view to promoting integrated rural development.

ii. It provides short-term, medium-term and long-term credits to state co-operative Banks (SCBs), RRBs, LDBs and other financial institutions approved by RBI.

iii. NABARD gives long-term loans (upto 20 Years) to State Government to enable them to subscribe to the share capital of co-operative credit societies.

iv. NABARD gives long-term loans to any institution approved by the Central Government or contribute to the share capital or invests in securities of any institution concerned with agriculture and rural development.

v. NABARD has the responsibility of co-ordinating the activities of Central and State Governments, the Planning Commission (now NITI Aayog) and other all India and State level institutions entrusted with the development of small scale industries, village and cottage industries, rural crafts, industries in the tiny and decentralized sectors, etc.

vi. It has the responsibility to inspect RRBs and co-operative banks, other than primary co-operative societies.

vii. It maintains a Research and Development Fund to promote research in agriculture and rural development

Reserve bank of India and industrial finance

Though industries get finance from commercial banks, the quantum and the term will be very much limited generally. Commercial banks lend for short term only, as they get only short-term deposits from the public. Further lending to industries is only a fragment of the total lending by the banks.

Hence, there is a need and urgency of establishing long-term credit facilities to industries. The institutional set-up in India for financing in India for financing and promoting industries are as follows

All-India Level Institutions:

1. Industrial Finance Corporation of India (IFCI)

This was first in the chain of establishment of financial corporations to provide financial assistance for industrial development. This was established on July 1, 1948 under the Act of the Parliament. IFCI provides assistance to the industrial concerns in the following ways:

i) Long-term loans; both in rupees and foreign currencies.
ii) Underwriting of equity, preference and debenture issues.
iii) Subscribing to equity, preference and debenture issues.
iv) Guaranteeing the deferred payments in respect of machinery imported from abroad or purchased in India; and
v) Guaranteeing of loans raised in foreign currency from foreign financial institutions.

Financial assistance of IFCI can be availed by any Limited Company in the public, private or joint sector, or by a co-operative society incorporated in India, which is engaged or proposes to be engaged in the specified industrial activities. Such financial assistance will be available for the setting up of new industrial projects and also for the expansion diversification, renovation or modernisation of existing ones.The IFCI also provides financial assistance on concessional terms for setting up industrial projects in industrially less developed districts in the States or Union Territories notified by the Central Government,

The IFCI raises its resources by way of (a) issue of bonds in the market; (b) borrowing from Industrial Development Bank of India and the Central Government; (c) foreign credit secured from foreign financial institutions and borrowings in the international capital markets.

3. Industrial Credit and Investment Corporation of India (ICICI)

Functions of ICICI

- Assistance to industries
- Provision of foreign currency loans
- Merchant banking
- Letter of credit
- Project promotion
- Housing loans
- Leasing operations

This was set up on 5th January 1955 as a joint-stock company on the advice given by a three-man mission sponsored by the World Bank and The Government of USA to the Government of India. The principal purpose of this institution is to channelize the World Bank funds to industry in India and also to help build up a capital market. Initially the capitalof ICICI was held by private companies, institutions and individuals. But now, a very large part of its equity capital is held by public sector institutions, such as banks, LIC, GIC and its subsidiaries, as 'this private institution was nationalized.

The significant feature of the operations of ICICI is the foreign currency loans sanctioned by this institution to industries. Since its inception, nearly 50 per cent of its disbursement had been in foreign currencies. This is possible because of the facility it enjoys of raising funds in foreign currencies. The World Bank has been the single largest source of such funds. Since 1973, the ICICI has entered the international capital markets also for raising foreign currency loans.

The major portion of its rupee resources is raised by way of debentures in the capital market. The ICICI also borrows from the Industrial Development Bank of India and the Government. The major portion of its assistance has gone to the private sector.

Industrial Development Bank of India (IDBI)

The Industrial Development Bank of India has been conceived with the primary object of creating an apex institution to co-ordinate the activities of other financial institutions, including banks. The Development Bank was a wholly owned subsidiary of the Reserve Bank of India upto February 15, 1976. It was delinked from the RBI with effect from February 16, 1976 and made an autonomous corporation fully owned by the Government of India.

Functions of IDBI: The functions of IDBI fall into two groups (i) Assistance to other financial institutions; and (ii) Direct assistance to industrial concerns either on its own or in participation with other institutions. The IDBI can provide refinance in respect of term loans to industrial concerns given by the IFC, the SFCs, other financial institutions notified by the Government, scheduled banks and state cooperative banks.

A special feature of the IDBI is the provision for the creation of a special fund known as the Development Assistance Fund. The fund is intended to provide assistance to industries which require heavy investments with low anticipated rate of return. Such industries may not be able to get assistance in the normal course. The financing of exports was also undertaken by the IDBI till the establishment of EXIM BANK in March, 1982.

State Level Institutions

1. State Financial Corporation (SFCs)

The government of India passed in 1951 the State Financial Corporations Act and SFCs were set up in many states. TheSFCs are mainly intended for the development of small and medium industrial units within their respective states. However, in some cases they extend to neighbouring states as well.

The SFCs provide loans and underwriting assistance to industrial units having paid-up capital and reserves not exceeding Rs. 1 crore. The maximum amount that can be sanctioned to an industrial concern by SFC is Rs. 60 lakhs.

SFCs depend upon the IDBI for refinance in respect of the term loans granted by them. Apart from these, the SFCs can also make temporary borrowings from the RBI and borrowings from IDBI and by the sale of bonds.

State Industrial Development Corporations (SIDCOs)

The Industrial Development Corporations have been set up by the state governments and they are wholly owned by them. These institutions are not merely financing agencies; they are entrusted with the responsibility of accelerating the industrialization of their states.

SIDCOs provide financial assistance to industrial concerns by way of loans guarantees and underwriting of or direct subscriptions to shares and debentures. In addition to these, they undertake various promotional activities, such as conducting techno-economic surveys, project identification, preparation of feasibility studies and selection and training of entrepreneurs. They also promote joint sector projects in association with private promoter in such type of projects. SIDCOs take 26 percent, private co-promoter takes 25 percent of the equity, and the rest is offered to the investing public. SIDCOs undertake the development of industrial areas by providing all infrastructural facilities and initiation of new growth centers. They also administer various State government incentive schemes. SIDCOs get refinance facilities form IDBI. They also borrow through bonds and accept deposits.

Monetary Policy

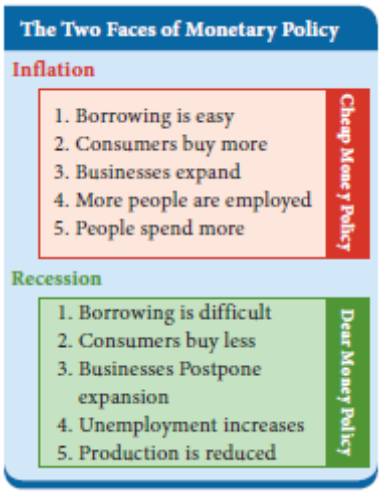
Monetary Policy is the macroeconomic policy being laid down by the Central Bank towards the management of money supply and interest rate. It is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity. The monetary policy gained its significance after the World War II, thanks to the initiation made by Milton Friedman, who is associated with the doctrine of "monetarism" and who received Nobel Prize in 1976. He boldly announced in his book "Monetary History of the UnitedStates, 1867 – 1960" that the Great Depression of the 1930's was largely the outcome of the bungling monetary policies of the Federal Reserve System.

Monetary Policy: Expansionary Vs. Contractionary

Expansionary policy is cheap money policy when a monetary authority uses its tools to stimulate the economy. An expansionary policy maintains short-term interest rates at a lower than usual rate or increases the total supply of money in the economy more rapidly than usual. It is traditionally used to try to combat unemployment by lowering interest rates in the hope that less expensive credit will entice businesses into expanding. This increases aggregate demand (the overall demand for all goods and services in an economy), which boosts short-term growth as measured by gross domestic product (GDP) growth.

The Contractionary monetary policy is dear money policy, which maintains short-term interest rates higher than usual or which slows the rate of growth in the money supply or even shrinks it. This slows short-term economic growth and lessens inflation. Contractionary

monetary policy can lead to increased unemployment and depressed borrowing and spending by consumers and businesses, which can eventually result in an economic recession if implemented too vigorously.



Objectives of Monetary Policy

The monetary policy in developed economies has to serve the function of stabilization and maintaining proper equilibrium in the economic system. But in case of underdeveloped countries, the monetary policy has to be more dynamic so as to meet the requirements of an expanding economy by creating suitable conditions for economic progress. It is now widely recognized that monetary policy can be a powerful tool of economic transformation.

The specific objectives of monetary policy are

1. Neutrality of Money
2. Stability of Exchange Rates
3. Price Stability
4. Full Employment
5. Economic Growth
6. Equilibrium in the Balance of Payments

1. Neutrality of Money

Economists like Wicksteed, Hayek and Robertson are the chief exponents of neutral money. They hold the view that monetary authority should aim at neutrality of money in the economy. Monetary changes could be the root cause of all economic fluctuations. According to neutralists, the monetary change causes distortion and disturbances in the proper operation of the economic system of the country.

2. Exchange Rate Stability

Exchange rate stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries. When there was disequilibrium in the balance of payments of the country, it was automatically corrected by

movements. It was popularly known as "Expand Currency and Credit when gold is coming in; contract currency and credit when gold is going out." This system will correct the disequilibrium in the balance of payments and exchange rate stability will be maintained.

It must be noted that if there is instability in the exchange rates, it would result in outflow or inflow of gold resulting in unfavorable balance of payments. Therefore, stable exchange rates are advocated.

3. Price Stability

Economists like Crustave Cassel and Keynes suggested price stabilization as a main objective of monetary policy. Price stability is considered the most genuine objective of monetary policy. Stable prices repose public confidence. It promotes business activity and ensures equitable distribution of income and wealth. As a consequence, there is general wave of prosperity and welfare in the community.

But it is admitted that price stability does not mean 'price rigidity' or price stagnation'. A mild increase in the price level provides a tonic for economic growth. It keeps all virtues of a stable price.

4. Full Employment

During world depression, the problem of unemployment had increased rapidly. It was regarded as socially dangerous, economically wasteful and morally deplorable. Thus, full employment was considered as the main goal of monetary policy. With the publication of Keynes' General Theory of Employment, Interest and Money in 1936, the objective of full employment gained full support as the chief objective of monetary policy.

5. Economic Growth

Economic growth is the process whereby the real per capita income of a country increases over a long period of time. It implies an increase in the total physical or real output, production of goods for the satisfaction of human wants.

Therefore, monetary policy should promote sustained and continuous economic growth by maintaining equilibrium between the total demand for money and total production capacity and further creating favourable conditions for saving and investment. For bringing equality between demand and supply, flexible monetary policy is the best course.

6. Equilibrium in the Balance of Payments

Equilibrium in the balance of payments is another objective of monetary policy which emerged significant in the post war years. This is simply due to the problem of international liquidity on account of the growth of world trade at a more faster speed than the world liquidity.

It was felt that increasing of deficit in the balance of payments reduces the ability of an economy to achieve other objectives. As a result, many less developed countries have to curtail their imports which adversely affects development activities. Therefore, monetary authority makes efforts to maintain equilibrium in the balance of payments.

Recent Advancements in Banking Sector

E- Banking

Online banking, also known as internet banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. The online banking system typically connects to or be part of the core banking system operated by a bank and is in contrast to branch banking which was the traditional way customers accessed banking services.

Today, "virtual banks" (or "direct banks") have only an internet presence, which enables them to lower costs than traditional brick-and-mortar banks.

RTGS and NEFT

Inter Bank Transfer enables electronic transfer of funds from the account of the remitter in one Bank to the account of the beneficiary maintained with any other Bank branch. There are two systems of Inter Bank Transfer - RTGS and NEFT. Both these systems are maintained by RBI. NEFT operates in half hourly batches. Currently there are twenty three settlements from 8 am to 7 pm on all working days including working Saturdays. Therefore, the beneficiary can expect to get the credit for the transactions put through between 8 am to 5.30 pm on all working days including working Saturdays on the same day.
For transactions settled in the 6.30 and 7 pm batches on all working days including working Saturdays, the credit will be afforded either on the same day or on the next working day.

NEFT	RTGS
National electronic Fund Transfer	Real Time Gross Settlement
Transactions happens in batches hence slow	Transactions Happens in real time hence fast
Timings : 8:00 am to 6:30 pm (12: 30 pm on Saturday)	Timings : 9:00 am to 4:30 pm (1:30 pm on Saturday)
No minimum limit	Minimum amount for RTGS transfer is ₹ 2 lakhs

ATM (Automated Teller Machine)

ATMs transformed the bank tech system when they were first introduced in 1967. The next revolution in ATMs is likely to involve contactless payments. Much like Apple Pay or Google Wallet, soon we will be able to conduct contactless ATM transactions using a smartphone.

Some ATM innovations are already available overseas. For example, biometric authentication is already used in India, and its recognition is in place at QatarNational Bank ATMs. These technologies can help overall bank security by protecting against ATM hacks.

Paytm

Payments Bank. In August 2015, Paytm received a license from RBI to launch a payments bank. The Paytm Payments Bank is a separate entity in which founder Vijay Shekhar Sharma will hold 51% share, One97 Communications holds 39% and 10% will be held by a subsidiary of One97 and Sharma.

Debit card and Credit Card

A Debit card is a card allowing the holder to transfer money electronically from their bank account when making a purchase.

A credit card is a payment card issued to users (cardholders) to enable the cardholder to pay a merchant for goods and services based on the cardholder's promise to the card issuer to pay them for the amounts so paid plus the other agreed charges. The card issuer (usually a bank) creates a revolving account and grants a line of credit to the cardholder, from which the cardholder can borrow money for payment to a merchant or as a cash advance. In other words, credit cards combine payment services with extensions of credit. Complex fee structures in the credit card industry may limit customers' ability to shopping.

Recent Issues

Once the borrower fails to make interest or principal payments for 90 days the loan is considered to be a non- performing asset (NPA). NPAs are problematic for financial institutions since they depend on interest payments for income. As on now the size of NPAs is estimated to be around 10 lakh crores. As a result, the banks do not have adequate capital. Hence the Government (of India) is forced to infuse capital to the banks by using poor tax – payers money. Already more than a sum of Rs. 2 lakh crores have been injected. During 2018 - 19, the GOI has infused Rs. 68,000 crores into the banking system. Thus the NPAs ultimately affect the common people.

Merger of Banks

Union Cabinet decided to merge all the remaining five associate banks of State Bank Group with State Bank of India in 2017. After the Parliament passed the merger Bill, the subsidiary banks have ceased to exist.

Five associates and the BharatiyaMahila Bank have become the part of State Bank of India (SBI) beginning April 1, 2017. This has placed State Bank of India among the top 50 banks in the world. The five associate banks that were merged are State Bank of Bikaner and Jaipur (SBBJ), State Bank of Hyderabad (SBH), State Bank of Mysore (SBM), State Bank of Patiala (SBP) and State Bank of Travancore (SBT). The other two Associate Banks namely State

Bank of Indore and State Bank of Saurashtra had already been merged with State Bank of India. After the merger, the total customer base of SBI increased to 37 crore with a branch network of around 24,000 and around 60,000 ATMs across the country.

Money Market

Money market is the mechanism through which sthort term funds are loaned and borrowed. It designates financial instittutions which handle the purchase, sale and transfer of short term credit instruments. Commercial banks, acceptance houses, Non Banking Financial Institutions and the Central Bank are the institutions catering to the requirements of short term funds in the money Market.

Capital Market

Capital Market is a part of financial system which is concerned with raising capital by dealing in shares, bonds and other long term investments.

The market where investment instruments like bonds, equities and mortgages are traded is known as the capital market

Demonisation

Demonitisation is the act of stripping a currency unit of its status as legal tender. It occurs whenever there is a change of national currency. The current form or forms of money is pulled from circulation, often to bereplaced with new coins or notes. On 8 November 2016, the Indian Prime Minister Mr. Narendra Modi announced the demonetization of all Rs. 500 and Rs. 1000 bank notes of the Mahatma Gandhi Series. However, more than 99% of those currencies came back to the RBI.

Objectives of Demonetisation

1. Removing Black Money from the country.
2. Stopping of Corruption.
3. Stopping Terror Funds.
4. Curbing Fake Notes

Unit 9. Fiscal Economic

"Incomings may be scant; but yet, no failures there,If in expenditure you rightly learn to spare".
- Thirukkural No.478

Introduction

The term 'Fiscal Economics' is a new one; the old and popular term of the subject is 'Public Finance'. The subject Public Finance is related to the financing of the State activities and it discusses the financial operations of the Government treasury. The term fiscal is derived from Greek word which means basket and symbolizes the public purse. Hence the subject 'Public Finance' has been newly termed 'Fiscal Economics'.

Public Finance studies the manner in which the state raises and spends the resources. The state is concerned with the collective wants of the citizens.

The modern state is a welfare state. The activities of the state have increased extensively and intensively. To perform these activities, the state needs funds. This chapter deals with the Public Revenue, Public Expenditure, Public Debt, Budget, Federal Finance and Local Finance.

Meaning of Public Finance

Public finance is a study of the financial aspects of Government. It is concerned with the revenue and expenditure of the public authorities and with adjustment of the one to the other.

Definitions

"Public finance is one of those subjects that lie on the border line between Economics and Politics. It is concerned with income and expenditure of public authorities and with the adjustment of one to the other".
-Huge Dalton
"Public finance is an investigation into the nature and principles of the state revenue and expenditure".
-Adam Smith

Subject Matter / Scope of Public Finance

In Modern times, the subject 'Public Finance' includes five major sub-divisions, viz., Public Revenue, Public Expenditure, Public Debt, Financial Administration and Fiscal Policy.

1. Public Revenue

Public revenue deals with the methods of raising public revenue such as tax and non-tax, the principles of taxation, rates of taxation, impact, incidence and shifting of taxes and their effects.

2. Public Expenditure

This part studies the fundamental principles that govern the Government expenditure, effects of public expenditure and control of public expenditure.

3. Public Debt

Public debt deals with the methods of raising loans from internal and external sources.The burden, effects and redemption of public debt fall under this head.

4. Financial Administration

This part deals with the study of the different aspects of public budget. The budget is the Annual master financial plan of the Government. The various objectives and steps in preparing a public budget, passing or sanctioning, allocation evaluation and auditing fall within financial administration.

5. Fiscal Policy

Taxes, subsidies, public debt and public expenditure are the instruments of fiscal policy.

Public finance and Private finance

Public finance deals with study of income, expenditure, borrowing and financial administration of the government. Private finance is the study of income, expenditure, borrowing and financial administration of individual or private companies. Both public and private finance are fundamentally similar in nature but different from each other on various operational aspects. The similarities and dissimilarities between public and private finance have been explained below.

Similarities

1. Rationality

Both public finance and private finance are based on rationality. Maximization of welfare and least cost factor combination underlie both.

2. Limit to borrowing

Both have to apply restraint with regard to borrowing. The Government also cannot live beyond its means. There is a limit to deficit financing by the state also.

3. Resource utilisation

Both the private and public sectors have limited resources at their disposal. So both attempt to make optimum use of resources.

4. Administration

The effectiveness of measures of the Government as well as private depends on the administrative machinery. If the administrative machinery is inefficient and corrupt it will result in wastages and losses.

Dissimilarities

1. Income and Expenditure adjustment

The government adjusts the income to the expenditure while individuals adjust their expenditure to the income. Private finance involves stitching coat according to cloth available whereas public finance decides the cloth according to the need for the coat.

2. Borrowing

The government can borrow from internal and external sources; it can borrow from the people by issuing bonds. However, an individual cannot borrow from himself.

3. Right to print currency

The government can print currency. This involves the creation, distribution and monitoring of currency. The private sector cannot create currency.

4. Present vs. future decisions

The public finance is more involved with future planning and making long-term decisions. These investments could include building of schools, hospitals and infrastructure. The private finance makes financial decisions on projects with a short term vision.

5. Objective

The public sector's main objective is to provide social benefit in the economy. The private sector aims to maximize personal benefit i.e. Profit.

6. Coercion to get revenue

The sources of income of a private individual is relatively limited while those of the Government is wide. The Government can use its power and authority.

7. Ability to make huge and deliberate changes

The public finance has the ability to make big decisions on income. For example, it can effectively and deliberately adjust the revenue. But individuals cannot make such massive decisions.

Functions of Modern State

The modern state is a welfare state and not just police state. The state assumes greater roles by creating economic and social overheads, ensuring stability both internally and externally, conserving resources for sustainable development and so on.

(i) Defence

The primary function of the Government is to protect the people from external aggression and internal disorder. The government has to maintain adequate police and military forces and render protective services.

(ii) Judiciary

Rendering justice and settlement of disputes are the concern of the government. It should provide adequate judicial structure to render justice to all classes of citizens.

(iii) Enterprises

The regulation and control of private enterprise fall under the purview of the modern State. Ownership of certain enterprises and operating them successfully are the responsibilities of the government.

(iv) Social Welfare

It is the duty of the state to make provisions for education, social security, social insurance, health and sanitation for the betterment of the people in the country.

(v) Infrastructure

Modern States have to build the base for the economic development of the country by creating social and economic infrastructure.

(vi) Macro-economic policy

The Government has to administer fiscal policy and monetary policy to achieve macro-economic goals.

(vii) Social Justice

During the process of growth of an economy, certain sections of the society gain at the cost of others. The Government needs to intervene with fiscal measures to redistribute income.

(viii) Control of Monopoly

Concentration of economic power is another evil to be corrected by the Government. So, the state intervenes through control of monopolies and restrictive trade practices to curb concentration of economic power.

In fine, the state can play three kinds of roles.

i) As a producer of goods and services.
ii) As a supplier of public goods and social goods.
iii) As a regulator of the system.

Public Expenditure

Meaning

Public expenditure refers to Government spending incurred by Central, State and Local governments of a country.

Definition

Public expenditure can be defined as, "The expenditure incurred by public authorities like central, state and local governments to satisfy the collective social wants of the people is known as public expenditure".

Classification of public expenditure are as follows:

1. Classification on the Basis of Benefit:
Cohn and Plehn have classified the public expenditure on the basis of benefit into four classes:
a) Public expenditure benefiting the entire society, e.g., the expenditure on general administration, defence, education, public health, transport.
b) Public expenditure conferring a special benefit on certain people and at the same time common benefit on the entire community, e.g. administration of justice etc.
c) Public expenditure directly benefiting particular group of persons and indirectly the entire society, e.g. social

security, public welfare, pension, unemployment relief etc.
d) Public expenditure conferring a special benefit on some individuals, e.g., subsidy granted to a particular industry.

2. Classification on the Basis of Function:

Adam Smith classified public expenditure on the basis of functions of government in the following main groups:

a) Protection Functions: This group includes public expenditure incurred on the security of the citizens, to protect from external invasion and internal disorder, e.g., defence, police, courts etc.

b) Commercial Functions: This group includes public expenditure incurred on the development of trade and commerce, e.g., development of means of transport and communication etc.

c) Development Functions: This group includes public expenditure incurred for the development infrastructure and industry.

Causes for the Increase in Government Expenditure

The modern state is a welfare state. In a welfare state, the government has to perform several functions viz Social, economic and political. These activities are the cause for increasing public expenditure.

1. Population Growth

During the past 67 years of planning, the population of India has increased from 36.1 crore in 1951, to 121 crore in 2011. The growth in population requires massive investment in health and education, law and order, etc. Young population requires increasing expenditure on education & youth services, whereas the aging population requires transfer payments like old age pension, social security & health facilities.

2. Defence Expenditure

There has been enormous increase in defence expenditure in India during planning period. The defence expenditure has been increasing tremendously due to modernisation of defence equipment. The defence expenditure of the government was ₹ 10,874 crores in 1990-91 which increased significantly to ₹ 2,95,511crores in 2018-19.

3. Government Subsidies

The Government of India has been providing subsidies on a number of items such as food, fertilizers, interest on priority sector lending, exports, education, etc. Because of the massive amounts of subsidies, the public expenditure has increased manifold.

The expenditure on subsidies by central government in 1990-91 was ₹ 9581 crores which increased significantly to ₹ 2, 29,715.67 crores in 2018-19. Besides this, the corporate sectors also receive subsidies (incentives) of more than ₹ 5 lakh crores.

4. Debt Servicing

The government has been borrowing heavily both from the internal and external sources, As a result, the government has to make huge amounts of repayment towards debt servicing.

The interest payment of the central government has increased from ₹ 21,500 crores in 1990-91 to ₹5, 75,794crores in 2018-19.

5. Development Projects

The government has been undertaking various development projects such as irrigation, iron and steel, heavy machinery, power, telecommunications, etc. The development projects involve huge investment.

6. Urbanisation

There has been an increase in urbanization. In 1950-51 about 17% of the population was urban based. Now the urban population has increased to about 43%. There are more than 54 cities above one million population. The increase in urbanization requires heavy expenditure on law and order, education and civic amenities.

7. Industrialisation

Setting up of basic and heavy industries involves a huge capital and long gestation period. It is the government which starts such industries in a planned economy. The under developed countries need a strong of infrastructure like transport, communication, power, fuel, etc.

8. Increase in grants in aid to state and union territories

There has been tremendous increase in grant-in-aid to state and union territories to meet natural disasters.

Public Revenue

Public revenue occupies an important place in the study of public finance. The Government has to perform several functions for the welfare of the people. They involve substantial amount of public expenditure which can be financed only through public revenue. The amount of public revenue to be raised depends on the necessity of public expenditure and the people's ability to pay.

Meaning

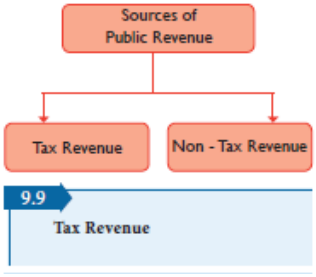
The income of the government through all sources is called public income or public revenue.

According to Dalton, the term "Public Income" has two senses — wide and narrow. In its wider sense it includes all the incomes or receipts which a public authority may secure during any period of time. In its narrow sense, it includes only those sources of income of the public authority which are ordinarily known as "revenue resources." To avoid ambiguity, the former is termed "public receipts" and the latter "public revenue."

In a narrow sense, it includes only those sources of income of the Government which are described as "revenue resources". In broad sense, it includes loans raised by the Government also.

Classification of Public Revenue.

Public revenue can be classified into two types.



Meaning

Tax is a compulsory payment by the citizens to the government to meet the public expenditure. It is legally imposed by the government on the tax payer and in no case taxpayer can refuse to pay taxes to the government.

Definitions

"A Tax is a compulsory payment made by a person or a firm to a government without reference to any benefit the payer may derive from the government."
-Anatol Murad

"A Tax is a compulsory contribution imposed by public authority, irrespective of the exact amount of service rendered to the tax payer in return and not imposed as a penalty for any legal offence."
- Dalton

Characteristics of Tax

1. A tax is a compulsory payment made to the government. People on whom a tax is imposed must pay the tax. Refusal to pay the tax is a punishable offence.
2. There is no quid pro quo between a taxpayer and public authorities. This means that the tax payer cannot claim any specific benefit against the payment of a tax.
3. Every tax involves some sacrifice on part of the tax payer.
4. A tax is not levied as a fine or penalty for breaking law.

Some of the tax revenue sources are

- ❖ Income tax
- ❖ Corporate tax
- ❖ Sales tax

- ❖ Surcharge and
- ❖ Cess

Non-Tax Revenue

The revenue obtained by the government from sources other than tax is called Non-Tax Revenue. The sources of non-tax revenue are

1. Fees

Fees are another important source of revenue for the government. A fee is charged by public authorities for rendering a service to the citizens. Unlike tax, there is no compulsion involved in case of fees. The government provides certain services and charges certain fees for them. For example, feesa re charged for issuing of passports, driving licenses, etc.

2. Fine

A fine is a penalty imposed on an individual for violation of law. For example, violation of traffic rules, payment of income tax after the stipulated time etc.

3. Earnings from Public Enterprises

The Government also gets revenue by way of surplus from public enterprises. Some of the public sector enterprises do make a good amount of profits. The profits or dividends which the government gets can be utilized for public expenditure.

4. Special assessment of betterment levy

It is a kind of special charge levied on certain members of the community who are beneficiaries of certain government activities or public projects. For example, due to a public park or due to the construction of a road, people in that locality may experience an appreciation in the value of their property or land.

5. Gifts, Grants and Aids

- ◆ A grant from one government to another is an important source of revenue in the modern days. The government at the Centre provides grants to State governments and the State governments provide grants to the local government to carry out their functions.

- ◆ Grants from foreign countries are known as Foreign Aid. Developing countries receive military aid, food aid, technological aid, etc. from other countries.

6. Escheats

It refers to the claim of the state to the property of persons who die without legal heirs or documented will.

Canons of Taxation:

The characteristics or qualities which a good tax should possess are described as canons of taxation. It must be noted that canons refer to the qualities of an isolated tax and not to the tax system as a whole. A good tax system should have a proper combination of all kinds of taxes having different canons. According to Adam Smith, there are four canons or maxims of taxation. They are as follows:

1.Canon of Ability

The Government should impose tax in such a way that the people have to pay taxes according to their ability. In such case a rich person should pay more tax compared to a middle class person or a poor person.

2.Canon of Certainty

The Government must ensure that there is no uncertainty regarding the rate of tax or the time of payment. If the Government collects taxes arbitrarily, then these will adversely affect the efficiency of the people and their working ability too.

3.Canon of Convenience

The method of tax collection and the timing of the tax payment should suit the convenience of the people. The Government should make convenient arrangement for all the tax payers to pay the taxes without difficulty.

4.Canon of Economy

The Government has to spend money for collecting taxes, for example, salaries are given to the persons who are responsible for collecting taxes. The taxes, where collection costs are more are considered as bad taxes. Hence, according to Smith, the Government should impose only those taxes whose collection costs are very less and cheap

Direct Tax and Indirect Tax

Direct Tax

A direct tax is referred to as a tax levied on person's income and wealth and is paid directly to the government; the burden of such tax cannot be shifted. The tax is progressive in nature. It is levied according to the paying capacity of the person, i.e. the tax is collected more from the rich and less from the poor people.

The plans and policies of the Direct Taxes are being recommended by the Central Board of Direct Taxes (CBDT) which is under the Ministry of Finance, Government of India

Merits of Direct Taxes

1.Equity

Direct taxes are progressive i.e. rate of tax varies according to tax base. For example, income tax satisfies the canon of equity.

2.Certainity

Canon of certainty can be ensured by direct taxes. For example, an income tax payer knows when and at what rate he has to pay income tax.

3. Elasticity

Direct taxes also satisfy the canon of elasticity. Income tax is income elastic in nature. As income level increases, the tax revenue to the Government also increases automatically.

4. Economy

The cost of collection of direct taxes is relatively low. The tax payers pay the tax directly to the state.

Demerits of Direct Taxes

1.Unpopular

Direct taxes are generally unpopular. It is inconvenient and less flexible.

2. Productivity affected

According to many economists direct tax may adversely affect productivity. Citizens are not willing to earn more income because in that case they have to pay more taxes.

3. Inconvenient

The tax payers find it inconvenient to maintain accounts, submit returns and pay tax in lump sum.

4. Tax Evasion

The burden of direct tax is so heavy that tax-payers always try to evade taxes. This ultimately leads to the generation of black money, which is harmful to the economy.

Indirect Tax

Indirect Tax is referred to as a tax charged on a person who purchases the goods and services and it is paid indirectly to the government. The burden of tax can be easily shifted to the another person. It is levied on all persons equally whether rich or poor.

There are several types of Indirect Taxes, such as:

Excise Duty: Payable by the manufacturer who shifts the tax burden to retailers and wholesalers.

Sales Tax: Paid by a shopkeeper or retailer, who then shifts the tax burden to customers by charging sales tax on goods and services.

Custom Duty: Import duties levied on goods from outside the country, ultimately paid for by consumers and retailers.

Entertainment Tax: Liability is on the cinema theatre owners, who transfer the burden to cinema goers.

Service Tax: Charged on services like telephone bill, insurance premium such as food bill in a restaurant etc.

Merits of Indirect Taxes

(1) Wider Coverage

All the consumers, whether they are rich or poor, have to pay indirect taxes. For this reason, it is said that indirect taxes can cover more people than direct taxes. For example, in India everybody pays indirect tax as against just 2 percent paying income tax.

(2) Equitable

The indirect tax satisfies the canon of equity when higher tax is imposed on luxuries used by rich people.

(3) Economical

Cost of collection is less as producers and retailers collect tax and pay to the Government. The traders act as honorary tax collectors.

(4) Checks harmful consumption

The Government imposes indirect taxes on those commodities which are harmful to health e.g. tobacco, liquor etc. They are known as sin taxes.

(5) Convenient

Indirect taxes are levied on commodities and services. Whenever consumers make purchase, they pay tax along with the price. They do not feel the pinch of paying tax.

Demerits of Indirect Taxes

(1) Higher Cost of Collection

The cost of collection of indirect taxes is higher than the direct taxes. The Government has to spend huge money to collect indirect taxes.

(2) Inelastic

Indirect taxes are less elastic compared to direct taxes. As indirect taxes are generally proportional.

(3) Regressive

Indirect taxes are sometimes unjust and regressive in nature since both rich and poor persons have to pay same amount as taxes irrespective of their income level.

(4) Uncertainity

The rise in indirect taxes increase the price and reduces the demand for goods. Therefore, the Government is uncertain about the expected revenue collection. So Dalton says under indirect taxes 2+2 is not 4 but 3 or even less than 3.

(5) No civic Consciousness

As the tax is hidden in price, the consumers are not aware of paying tax.

Basis For Comparison	Direct Tax	Indirect Tax
Meaning	Direct tax is referred to as thetax, levied on person's incomeand wealth and is paid directlyto the government.	Indirect Tax is referred to as the tax, levied on a person whoconsumes the goods and servicesand is paid indirectly to thegovernment.
Nature	Progressive	Regressive
Incidence and Impact	Falls on the same person.	Falls on different persons.
Tax base	Income or wealth of the assesse	Purchase/sale/manufacture ofgoods and provision of services
Evasion	Tax evasion is possible.	Tax evasion is hardly possiblebecause it is included in the priceof the goods and services.
Inflation	Direct tax helps in controllingthe inflation.	Indirect taxes push up price inflation.
Imposition and collection	Imposed on and collectedfrom assesses, i.e. Individual,HUF	Imposed on and collected fromconsumers of goods and

	(Hindu UndividedFamily), Company, Firm etc.	servicesbut paid and deposited by theassesse.
Burden	Cannot be shifted.	Can be shifted

GST (Goods and Service Tax)

- GST is an Indirect Tax which has replaced many Indirect Taxes in India. The Goods and Service Tax Act was passed in the Parliament on 29th March 2017. The Act came into effect on 1st July 2017; Goods & Services Tax in India is a comprehensive, multi-stage, destination-based tax that is levied on every value addition.

- In simple words, Goods and Service Tax (GST) is an indirect tax levied on the supply of goods and services. This law has replaced many indirect tax laws that previously existed in India.

- GST is one indirect tax for the entire country.

- Under the GST regime, the tax will be levied at the final point of sale. In case of intra-state sales, Central GST and State GST will be charged. Inter-state sales will be chargeable to Integrated GST.

Destination Based

Consider goods manufactured in Tamil Nadu and are sold to the final consumer in Karnataka. Since Goods & Service Tax is levied at the point of consumption, in this case, Karnataka, the entire tax revenue will go to Karnataka and not Tamil Nadu.

Components of GST

The component of GST are of 3 types. They are: CGST, SGST & IGST.

- **CGST:** Collected by the Central Government on an intra-state sale (Eg: Within state/ union territory)
- **SGST:**Collected by the State Government on an intra-state sale (Eg: Within state/ union territory)
- **IGST:** Collected by the Central Government for inter-state sale (Eg: Maharashtra to Tamil Nadu)

In most cases, the tax structure under the new regime will be as follows:

Transaction	New Regime	Old Regime	
Sale within the State	CGST + SGST	VAT + Central Excise/Service tax	Revenue will be shared equally between the entre and the State
Sale to another State	IGST	Central Sales Tax	There will only be one

		+ Excise/Service Tax	type of tax (central) in case of inter-state sales. The Center will then share the IGST revenue based on the destination of goods.

Nature of Sales tax, VAT and GST

1. Sales tax was multipoint tax with cascading effect.
2. VAT was multipoint tax without cascading effect.
3. GST is one point tax without cascading effect.

Advantages of GST

1. GST will mainly remove the cascading effect on the sale of goods and services. Removal of cascading effect will directly impact the cost of goods. Since tax on tax is eliminated in this regime, the cost of goods decreases.
2. GST is also mainly technologically driven. All activities like registration, return filing, application for refund and response to notice need to be done online on the GST Portal. This will speed up the processes.

Public Debt

In the 18th and 19th centuries, the role of the state was minimum. But since 20th century there has been enormous increase in the r e sponsibi l i t i e s of the state. Hence the state has to supplement the traditional revenue sources with borrowing from individuals, and institutions within and outside the country. The amount of borrowing is huge in the under developed countries to finance development activities. The debt burden is a big problem and most of the countries are in debt trap.

Definitions

"The debt is the form of promises by the Treasury to pay to the holders of these promises a principal sum and in most instances interest on the principal. Borrowing is resorted to in order to provide funds for financing a current deficit."

– Philip E.Taylor

"The receipt from the sale of financial instruments by the government to individuals or firms in the private sector, to induce the private sector to release manpower and real resources and to finance the purchase of these resources or to make welfare payments or subsidies".

– Carl S.Shoup

Types of Public Debt
i)Internal public debt

An internal public debt is a loan taken by the Government from the citizens or from different institutions within the country. An internal public debt only involves transfer of wealth.

The main sources of internal public debt are as follows:

- Individuals, who purchase government bonds and securities;
- Banks, both private and public, buy bonds from the Government.
- Non-financial institutions like UTI, LIC, GIC etc. also buy the Government bonds.
- Central Bank can lend the Government in the form of money supply. The Central Bank can also issue money to meet the expenditures of the Government.

ii) External public debt

When a loan is taken from abroad or from an international organisation it is called external public debt. The main sources of External public debt are IMF, World Bank, IDA and ADB etc. Loan from other countries and the Governments.

Causes for the Increase in Public debt

The causes for enormous growth of public debt may be studied under the following sub-headings:

1. War and Preparation of war

Waging war has become one of the important causes for incurring debts by the governments. In modern times, the preparation for war and nuclear defence programmes take away the major share of the government's revenue and so it incurs debt.

2. Social obligations

Modern states are considered to be 'Welfare States' and they have to undertake many social obligations like public health, sanitation, education, insurance, transport and communications, etc., besides providing the minimum necessaries of life to the citizens of the country. To finance these, the State has to incur a heavy public debt.

3. Economic Development and Deficit

The government has to undertake many projects for economic development of the country. Construction of railways, power projects, irrigation projects, heavy industries, etc., could be thought of only by means of mobilising resources in the form of public debt. Due to heavy public expenditure, the governments always face deficit budget. Such deficits have to be financed only through borrowings.

4.Employment

Most of the governments of modern days face the problem of unemployment and it has become the duty to solve this by making huge public expenditure. To solve the unemployment problem, and to fight recession, the government has to make huge expenditures. For this the States have to resort to public debt.

5.Controlling inflation

The Government can withdraw excess money from circulation, by raising public debt and thus prevent prices from rising.

6.Fighting depression

During the depression phase, private investment is lacking. The Government applies compensatory public spending by borrowing from internal and external sources.

Methods of Redemption of Public Debt

The process of repaying a public debt is called redemption. The Government sells securities to the public and at the time of maturity, the person who holds the security surrenders it to the Government. The following methods are adopted for debt redemption.

(1) Sinking Fund

Under this method, the Government establishes a separate fund known as "Sinking Fund". The Government credits every year a fixed amount of money to this fund. By the time the debt matures, the fund accumulates enough amount to pay off the principal along with interest. This method was first introduced in England by Walpol.

(2) Conversion

Conversion of loans is another method of redemption of public debt. It means that an old loan is converted into a new loan. Under this system a high interest public debt is converted into a low interest public debt. Dalton felt that debt conversion actually relaxes the debt burden.

(3) Budgetary Surplus

When the Government presents surplus budget, it can be utilised for repaying the debt. Surplus occurs when public revenue exceeds the public expenditure. However, this method is rarely possible.

(4) Terminal Annuity

In this method, Government pays off the public debt on the basis of terminal annuity in equal annual instalments. This is the easiest way of paying off the public debt.

(5) Repudiation

It is the easiest way for the Government to get rid of the burden of payment of a loan. In such cases, the Government does not recognise its obligation to repay the loan. It is certainly not paying off a loan but destroying it. However, in normal case the Government does not do so; if done it will lose its credibility.

(6) Reduction in Rate of Interest

Another method of debt redemption is the compulsory reduction in the rate of interest, during the time of financial crisis.

(7) Capital Levy

When the Government imposes levy on the capital assets owned by an individual or any institution, it is called capital levy. This levy is imposed on capital assets above a minimum limit on a progressive scale. The fund so collected can be used by the Government for paying off war time debt obligations. This is the most controversial method of debt repayment.

Budget

The word 'budget' is said to have its origin from the French word "Bougett" which refers to 'a small leather bag'.The budget is an annual financial statement which shows the estimated income and expenditure of the Government for the forthcoming financial year.

Definitions

"It is a document containing a preliminary approved plan of public revenue and expenditure".
-ReneyStourn.

"The budget has come to mean the financial arrangements of a given period, with the usual implication that they have been submitted to the legislature for approval".
- Bastabale

Union Budget and State Budget

India is a federal economy,hence public budget is divided into two layers of the Government. According to the Indian Constitution, the Central Government has to submit annual financial statement, i.e., Union Budget under Article 112 to the Parliament and each State Government has to submit the same for the State in the Legislative Assembly under Article 202.

Types of Budget

Revenue and Capital Budget

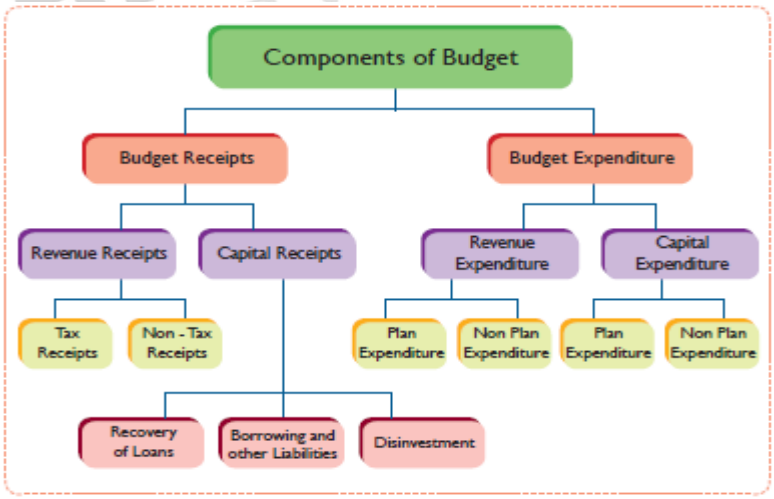
On the basis of expenditure on revenue account and other accounts, a budget can be presented in two ways:

i) Revenue Budget: It consists of revenue receipts and revenue expenditure. Moreover, the revenue receipts can be categorised into tax revenue and non-tax revenue. Revenue expenditure can also be categorised into plan revenue expenditure and non-plan revenue expenditure.

ii) Capital Budget: It consists of capital receipts and capital expenditure. In this case, the main sources of capital receipts are loans, advances etc. On the other side capital expenditure can be categorised into plan capital expenditure and non-plan capital expenditure.

iii) Supplementary Budget: During the time of war emergencies and natural calamities like tsunami, flood etc, the expenditures allotted in the budget provisions are not always enough. Under these circumstances, a supplementary budget can be presented by the Government to tackle these unforeseen events.

iv) Vote - on - Account: Under Article 116 of the Indian Constitution, the budget can be presented in the middle of the year. The reason may be political in nature. The existing Government may or may not continue for the year, on account of the fact that elections are due, then the Government places a 'lame duck budget'. This is also called 'Vote-on-account Budget'.



The vote on account budget is a special provision by which the Government gets permission from the parliament to incur expenditures on necessary items till the budget is finally passed in the parliament. The legal permission of both the Houses of the parliament for the withdrawal of money from the Consolidated Fund of India to meet the requisite expenses till the budget is finally approved is known as vote-on - account budget. This type of budget is generally sanctioned for not more than two months.

v) Zero Base Budget: The Government of India presented Zero-Base-Budgeting (ZBB first) in 1987-88. It involves fresh evaluation of expenditure in the Government budget, assuming it as a new item. The review has been made to provide justification or otherwise for the project as a whole in the light of the socio-economic objectives which have been already set up for this project and as well as in view of the priorities of the society.

vi) Performance Budget: When the outcome of any activity is taken as the base of any budget, such budget is known as 'Performance Budget'. For the first time in the world, the performance budget was made in USA. The Administrative Reforms Commission was set up in 1949 in America under Sir Hooper. This commission recommended making of a 'Performance Budget' in USA. In the Performance Budget, it is the compulsion of the government to tell 'what is done', 'how much done' for the betterment of the people. In India, the Performance Budget is also known as 'Outcome Budget'.

vii) Balanced Budget Vs. Unbalanced Budget

A. Balanced Budget

Balanced budget is a situation, in which estimated revenue of the government during the year is equal to its anticipated expenditure.

Government's estimated Revenue = Government's Proposed Expenditure

B. Unbalanced Budget

The budget in which Revenue & Expenditure are not equal to each other is known as Unbalanced Budget.

Unbalanced budget is of two types:

1. Surplus Budget
2. Deficit Budget

1. Surplus Budget

The budget is a surplus budget when the estimated revenues of the year are greater than anticipated expenditures.

Government Estimated Revenue > Estimated Government Expenditure

2. Deficit Budget

Deficit budget is one where the estimated government expenditure is more than expected revenue.

Government's estimated Revenue < Government's proposed Expenditure

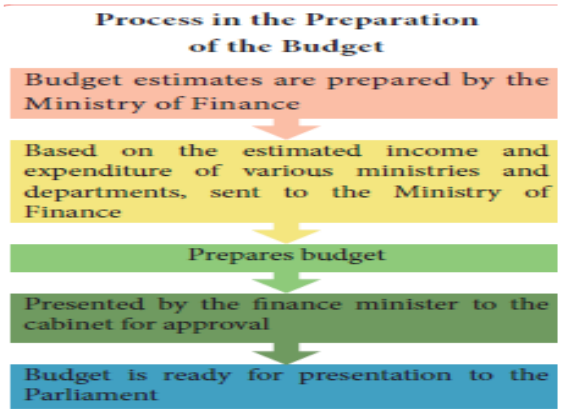
Budgetary Procedure

Budgetary procedure refers to the system through which the budget is prepared, enacted and executed.

(A) Preparation of the Budget

The Ministry of Finance prepares the Central Budget every year. At the state level the finance department is responsible for the Annual State Budget. While preparing the budget, the following factors are taken into account:

- The macro economic targets to be achieved within a plan period;
- The basic strategy of the budget;
- The financial requirements of different projects;
- Estimates of the revenue expenditures (includes defence expenditure, subsidy, interest payment on debt etc.);
- Estimates of the capital expenditures (includes development of railways, roadways, irrigations etc.);
- Estimates of revenue receipts from tax and non-tax revenues;
- Estimates of capital receipts from the recovery of loans, disinvestment of public sector units, market borrowings etc.
- Estimates of the gap between revenue receipts and revenue expenditure; and
- Estimates of fiscal deficit, primary deficit, and revenue deficit.



(B) Presentation of the Budget

The hon'ble Minister of Finance, on behalf of the Central Government, places the Union Budget before Parliament on the eve of a new financial year. Similarly at state levels, the

Hon'ble Finance Minister of the respective State Government places the State Budget before the State Legislature.

According to the Indian Constitution, all money bills must be initiated in the Lower House. All the money bills are first placed before the LokSabha at the Centre, and before the VidhanSabha at the State level. The demands of various tax proposals are included in the budget. After the finance bill is passed, an appropriation bill is presented to give legal effect to the voted demands, and to authorise the expenditure as per the budget. In this way, the budgets are enacted in India.

(c) Execution of the Budget

The budget is mainly executed by different departments of the Government. Proper execution of the budgetary provisions is important for the efficient utilisation of the allocated funds.

Parliamentary Control over the Budget

In India,the Government Accounts are maintained in three parts:

(i) Consolidated Fund
(ii) Contingency Fund
(iii) Public Accounts

There are also two committees of parliament, viz,

(i) The Public Accounts Committee, and
(ii)The Estimates Committee.

These committees keep a constant vigil on the expenditure so that no Ministry or Department exceeds the amount sanctioned to it.

Budgetary Deficits

Budget deficit is a situation where budget receipts are less than budget expenditures. This situation is also known as government deficit.

In reference to the Indian Government budget, budget deficit is of four major types.

(a) Revenue Deficit
(b) Budget Deficit
(c) Fiscal Deficit, and
(d) Primary Deficit

(A) Revenue Deficit

It refers to the excess of the government revenue expenditure over revenue receipts. It does not consider capital receipts and capital expenditure. Revenue deficit implies that the government is living beyond its means to conduct day-to-day operations.

Revenue Deficit (RD) = Total Revenue Expenditure (RE) - Total Revenue Receipts (RR),

When RE - RR > 0

(B) Budget Deficit

Budget deficit is the difference between total receipts and total expenditure (both revenue and capital)

Budget Deficit = Total Expenditure – Total Revenue

(C) Fiscal Deficit

Fiscal deficit (FD) = Budget deficit + Government's market borrowings and liabilities

(D) Primary Deficit

Primary deficit is equal to fiscal deficit minus interest payments. It shows the real burden of the government and it does not include the interest burden on loans taken in the past. Thus, primary deficit reflects borrowing requirement of the government exclusive of interest payments.

Primary Deficit (PD) = Fiscal deficit (PD) - Interest Payment (IP)

Federal Finance

Federal finance refers to the system of assigning the source of revenue to the Central as well as State Governments for the efficient discharge of their respective functions i.e. clear-cut division is made regarding the allocation of resources of revenue between the central and state authorities.

- **Division of Powers:** In our Constitution, there is a clear division of powers so that none violates its limits and tries to encroach upon the functions of the other and functions within own sphere of responsibilities. There are three lists enumerated in the Seventh Schedule of constitution. They are: the Union list, the State list and the Concurrent List.

- **The Union List** consists of 100 subjects of national importance such as Defence, Railways, Post and Telegraph, etc.
- **The State List** consists of 61 subjects of local interest such as Public Health, Police etc.
- **The Concurrent List** has 52 subjects important to both the Union and the State, such as Electricity, Trade Union, Economic and Social Planning, etc.

Central State Financial Relationship

(I) Union Sources

1. Corporation tax
2. Currency, coinage and legal tender, foreign exchange.
3. Duties of customs including export duties.
4. Duties of excise on tobacco and certain goods manufactured or produced in India.
5. Estate duty in respect of property other than agricultural land.
6. Fees in respect of any of the matters in the Union List, but not including any fees taken in any Court.
7. Foreign Loans.
8. Lotteries organized by the Government of India or the Government of a State.
9. Post Office Savings Bank.
10. Posts and Telegraphs, telephones, wireless, Broadcasting and other forms of communication.
11. Property of the Union.
12. Public Debt of the Union.
13. Railways.
14. Rates of stamp duty in respect of Bills of Exchange, Cheques, Promissory Notes, etc.
15. Reserve Bank of India.
16. Taxes on income other than agricultural income.
17. Taxes on the capital value of the assets, exclusive of agricultural land of individuals and companies.
18. Taxes other than stamp duties on transactions in stock exchanges and future markets.
19. Taxes on the sale or purchase of newspapers and on advertisements published therein.
20. Terminal taxes on goods or passengers, carried by railways, sea or air.

(II) State Sources

1. Capitation tax
2. Duties in respect of succession to agricultural land.
3. Duties of excise on certain goods produced or manufactured in the State, such as alcoholic liquids, opium, etc.
4. Estate duty in respect of agricultural land.
5. Fees in respect of any of the matters in the State List, but not including fees taken in any Court.
6. Land Revenue.

7. Rates of stamp duty in respect of documents other than those specified in the Union List.
8. Taxes on agricultural income.
9. Taxes on land and buildings.
10. Taxes on mineral rights, subject to limitations impose by Parliament relating to mineral development.
11. Taxes on the consumption or sale of electricity.
12. Taxes on the entry of goods into a local area for consumption, use or sale therein.
13. Taxes on the sale and purchase of goods other than newspapers.
14. Taxes on the advertisements other than those published in newspapers.
15. Taxes on goods and passengers carried by road or on inland waterways.
16. Taxes on vehicles.
17. Taxes on animals and boats.
18. Taxes on professions, trades, callings and employments.
19. Taxes on luxuries, including taxes on entertainments, amusements, betting and gambling.
20. Tolls.

(III) Taxes Levied and Collected by the union but Assigned to the States (Art.269)

1. Duties in respect of succession to property other than agricultural **land.**
2. Estate duty in respect of property other than agricultural land.
3. Taxes on railway fares and freights.
4. Taxes other than stamp duties on transactions in stock exchanges and future markets.
5. Taxes on the sale or purchase of newspapers and on advertisements published therein
6. Terminal taxes on goods or passengers carried by railways, sea or air.
7. Taxes on the sale or purchase of goods other than newspapers where such sale or purchase taxes place in the course of inter-State trade or commerce.

(IV) Duties levied by the Union but collected and Appropriated by the states (Art.268)

Stamp duties and duties of excise on medicinal and toilet preparation (those mentioned in the Union List) shall be levied by the Government of India but shall be collected.

(i) In the case where such duties are liveable within any Union territory, by the Government of India.

(ii) In other cases, by the States within which such duties are respectively liveable.

(v) Taxes which are Levied and Collected by the Union but which may be Distributed between the Union and the States (Arts.270 and 272)

1. Taxes on income other than agricultural income.
2. Union duties of excise other than such duties of excise on medicinal and toilet preparations as are mentioned in the Union List and collected by the Government of India.

"Taxes on income" does not include corporation tax. The distribution of income-tax proceeds between the Union and the States is made on the recommendations of the Finance Commission.

Principles of Federal Finance

In the case of federal system of finance, the following main principles must be applied:

1. Principle of Independence.
2. Principle of Equity.
3. Principle of Uniformity.
4. Principle of Adequacy.
5. Principle of Fiscal Access.
6. Principle of Integration and coordination.
7. Principle of Efficiency.
8. Principle of Administrative Economy.
9. Principle of Accountability.

1. Principle of Independence

Under the system of federal finance, a Government should be autonomous and free about the internal financial matters concerned. It means each Government should have separate sources of revenue, authority to levy taxes, to borrow money and to meet the expenditure. The Government should normally enjoy autonomy in fiscal matters.

2. Principle of Equity

From the point of view of equity, the resources should be distributed among the different states so that each state receives a fair share of revenue.

3. Principle of Uniformity

In a federal system, each state should contribute equal tax payments for federal finance. But this principle cannot be followed in practice because the taxable capacity of each unit is not of the same.

4. Principle of Adequacy of Resources

The principle of adequacy means that the resources of each Government i.e. Central and State should be adequate to carry out its functions effectively. Here adequacy must be decided with reference to both current as well as future needs. Besides, the resources should be elastic in order to meet the growing needs and unforeseen expenditure like war, floods etc.

5. Principle of Fiscal Access

In a federal system, there should be possibility for the Central and State Governments to develop new source of revenue within their prescribed fields to meet the growing financial

needs. In nutshell, the resources should grow with the increase in the responsibilities of the Government.

6. Principle of Integration and coordination

The financial system as a whole should be well integrated. There should be perfect coordination among different layers of the financial system of the country. Then only the federal system will survive. This should be done in such a way to promote the overall economic development of the country.

7. Principle of Efficiency

The financial system should be well organized and efficiently administered. There should be no scope for evasion and fraud. No one should be taxed more than once in a year. Double taxation should be avoided.

8. Principle of Administrative Economy

Economy is the important criterion of any federal financial system. That is, the cost of collection should be at the minimum level and the major portion of revenue should be made available for the other expenditure outlays of the Governments.

9. Principle of Accountability

Each Government should be accountable to its own legislature for its financial decisions i.e the Central to the Parliament and the State to the Assembly.

History of Finance Commission

- Finance commission is a quasi-judicial body set up under Article 280 of the Indian Constitution. It was established in the year 1951, to define the fiscal relationship framework between the Centre and the state.
- Finance Commission aims to reduce the fiscal imbalances between the centre and the states (Vertical imbalance) and also between the states (horizontal imbalance). It promotes inclusiveness.
- A Finance Commission is set up once in every 5 years. It is normally constituted two years before the period. It is a temporary Body.
- The 14th Finance Commission was set up in 2013. Its recommendations were valid for the period from 1st April 2015 to 31st March 2020.
- The 15th Finance Commission has been set up in November 2017. Its recommendations will be implemented starting 1 April 2020.

Finance Commission	Year of establishment	Chairman	Operational duration
First	1951	K. C. Neogy	1952-57
Second	1956	K. Santhanam	1957–62
Third	1960	A. K. Chanda	1962–66
Fourth	1964	P. V. Rajamannar	1966–69
Fifth	1968	MahaveerTyagi	1969–74
Sixth	1972	K. Brahmananda Reddy	1974–79
Seventh	1977	J. M. Shelat	1979–84
Eighth	1983	Y. B. Chavan	1984-89
Ninth	1987	N. K. P. Salve	1989-95
Tenth	1992	K. C. Pant	1995-2000
Eleventh	1998	A. M. Khusro	2000-05
Twelfth	2002	C. Rangarajan	2005-10
Thirteenth	2007	Dr. Vijay L. Kelkar	2010-15
Fourteenth	2013	Dr. Y. V Reddy	2015-20
Fifteenth	2017	N. K. Singh	2020-25

Functions of Finance Commission of India

Article 280 (3) speaks about the functions of the Finance Commission. The Article states that it shall be the duty of the Commission to make the recommendations to the President as to:

The distribution between the Union and the States of the net proceeds of taxes, which may be divided between them and the allocation among the states of the respective shares of such proceeds;

To determine the quantum of grants-in-aid to be given by the Centre to states [Article 275 (1)] and to evolve the principles governing the eligibility of the state for such grant-in-aid;

Article 280 of the Constitution mandates the finance commission to recommend the distribution of the net proceeds of taxes between the Centre and the states every five years.

15th Finance Commission's recommendations on tax sharing between Centre and States are to kick in form April 2020

Any other matter referred to the Commission by the President of India in the interest of sound finance. Several issues like debt relief, financing of calamity relief of states, additional excise duties, etc. have been referred to the Commission invoking this clause.

Local Finance

Local finance refers to the finance of local bodies in India. There is a large variety of local bodies in India. We have the following main four local bodies which are functioning today in our country:

Types of Local Bodies

1. Village Panchayats
2. District Boards or ZilaParishads
3. Municipalities
4. Municipal Corporations

Village Panchayats:

- **Establishment:** The jurisdiction of a panchayat is usually confined to one revenue village. In some cases, though not very frequently, two or more small villages are grouped under one panchayat. The establishment of panchayat raj is the avowed policy of most states in India.

- **Functions**

a. The functions of panchayats range over a wide area including civil, economic and so on. Thus small disputes may be disposed of by panchayats on the spot.

b. Roads, primary schools, village dispensaries etc. are to be managed by panchayats.

c. The supply of water, both for drinking and irrigation, falls within their field of responsibility, and in some cases farming, marketing, storage, etc. are entrusted to them.

Sources of revenue of Village Panchayats

The following are the sources of revenue of village panchayats.
(i) general property tax,
(ii) taxes on land,
(iii) profession tax, and
(iv) tax on animals and vehicles.

Other taxes include service tax, octroi, theatre tax, pilgrim tax, tax on marriage, tax on birth and deaths, and labour tax. As a matter of fact, taxes are levied by the panchayats only with the sanction of the state government, and there are certain limits in respect of tax rates which have to be observed.

2. District Boards Or ZilaParishads:

- **Establishment**: In rural areas, district boards or ZilaParishads are established at district level. The territorial jurisdiction of a district board is generally a revenue district.

- **Functions**

In Tamil Nadu, the ZilaParishad is a co-ordinating body which exercises general supervision over the working of Panchayat Samitis and advises them on implementation of Development Schemes.

Sources of revenue of District Boards

i. Grants-in-aid from the state government.
ii. Land Cesses.
iii. Toll, fees etc.
iv. Income from the property and loans from the state governments.
v. Grants for the centrally sponsored schemes relating to development work.
vi. Income from fairs and exhibitions.
vii. Property tax and other taxes which the state governments may authorise the district boards.

3. Municipalities

Establishment and Functions: The municipalities are bodies or institutions which are established in urban areas for looking after local affairs, such as, sanitation, public health, local roads, lighting, water supply, cleaning of streets, maintenance of parks and gardens, maintenance of hospitals, dispensaries and veterinary hospitals, provision of drainage, provision of primary education, organising of fairs and exhibitions etc. However, all these functions are performed subject to the control of the state government.

Sources of revenue of municipalities

(i) taxes on property
(ii) taxes on goods, particularly octroi and terminal tax
(iii) personal taxes, taxes on profession, trades and employment
(iv) taxes on vehicles and animals
(v) theatre or show tax, and
(vi) grants-in-aid from state government.

4. Municipal Corporations

Establishment and Functions:

The municipal corporations have wide powers and enjoy greater freedom as compared to municipalities. The municipal corporations are usually entrusted with the functions, such as, water supply and drainage, lighting, roads, slum clearance, housing and town planning etc. The rapid increase in the population of cities has definitely added to the functions of municipal corporations.

Sources of revenue of Corporations

(i) tax on property,
(ii) tax on vehicles and animals,
(iii) tax on trades, calling and employment,
(iv) theatre and show tax,
(v) taxes on goods brought into the cities for sale,
(vi) taxes on advertisements,

(vii) octroi and terminal tax etc.

The corporations have a fair degree of freedom in respect of their choice and modification of these taxes, subject to the maximum and minimum rates laid down by the law.

Fiscal policy

As an instrument of macro-economic policy, fiscal policy has been very popular among modern governments. The growing importance of fiscal policy was due to the Great Depression and the development of 'New Economics' by Keynes.

Meaning of Fiscal Policy

In common parlance fiscal policy means the budgetary manipulations affecting the macro economic variables – output, employment, saving, investment etc.

Definitions

"The term fiscal policy refers to a policy under which the Government uses its expenditure and revenue programmes to produce desirable effects and avoid undesirable effects on the national income, production and employment"

– Arthur Smithies

"By fiscal policy is meant the use of public finance or expenditure, taxes, borrowing and financial administration to further our national economic objectives"

– Buehler

Fiscal Instruments

Fiscal Policy is implemented through fiscal instruments also called 'fiscal tools' or fiscal levers: Government expenditure, taxation and borrowing are the fiscal tools.

i) **Taxation**: Taxes transfer income from the people to the Government. Taxes are either direct or indirect. An increase in tax reduces disposable income. So taxation should be raised to control inflation. During depression, taxes are to be reduced.

ii) **Public Expenditure**: Public expenditure raises wages and salaries of the employees and thereby the aggregate demand for goods and services. Hence public expenditure is raised to fight recession and reduced to control inflation.

iii) Public debt: When Government borrows by floating a loan, there is transfer of funds from the public to the Government. At the time of interest payment and repayment of public debt, funds are transferred from Government to public.

Objectives of Fiscal Policy:

1. Full Employment
2. Price Stability
3. Economic Growth
4. Equitable Distribution
5. External Stability
6. Capital Formation
7. Regional Balance

The Fiscal Policy is useful to achieve the following objectives:

1. Full Employment

Full Employment is the common objective of fiscal policy in both developed and developing countries. Public expenditure on social overheads help to create employment opportunities. In India, public expenditure on rural employment programmes like MGNREGS is aimed at employment generation.

2. Price Stability

Price instability is caused by mismatch between aggregate demand and aggregate supply. Inflation is due to excess demand for goods. If excess demand is caused by Government expenditure in excess of real output, the most effective measure is to cut down public expenditure. Taxation of income is the best measure if excess demand is due to private spending. Taxation reduces disposable income and so aggregate demand.

To fight depression, the Government needs to increase its spending and reduce taxation.

3. Economic Growth

Fiscal Policy is used to increase the productive capacity of the economy. Tax is to be used as an instrument for encouraging investment. Tax holidays and tax rebates for new industries stimulate investment. Public sector investments are to be increased to fill the gap left by private investment. When resource mobilization through tax measures is inadequate, the Government resorts to borrowing both from internal and external sources to finance growth projects.

4. Equitable distribution

Progressive rates in taxation help to reduce the gap between rich and poor. Similarly progressive rates in public expenditure through welfare schemes such as free education, noon meal for school children and subsidies promote the living standard of poor people.

5. Exchange Stability

Fluctuations in international trade cause movements in exchange rate. Tax concessions and subsidy to export oriented units help to boost exports. Customs duties on import of non-essential items help to cut import bill. The reduction in import duty on import of raw material and machinery enables reduction in cost and make the exports competitive.

6. Capital formation

Capital formation is essential for rapid economic development. Tax relief helps to increase disposable income, savings and thereby capital formation. Government expenditure on infrastructure development like power and transport encourages private investment.

7. Regional balance

Fiscal incentives for industries in the backward regions help to narrow down regional imbalances. Public expenditure may be used to start industrial estates so that industrial activity is stimulated in backward regions.