

# APPOLO STUDY CENTRE

## LAND REFORMS 9<sup>TH</sup> BOOK

### Unit-2- Employment in India and Tamil Nadu

#### Introduction

- You know the basic needs of every human being are food, clothes and shelter. In the present world, one more essential need has to be added in this list. That is employment. To survive in the world, we all need employment to earn money. Those who are engaged in economic activities, in whatever capacity- high or low - are called employees. People who employ these workers and pay rewards for their work are called the employers.
- Labour force of the economy is the number of people in the country who work and also capable of working. We take the age group of 15-60 years for the computation of workforce. Persons who are less than 15 years are considered as children, and person who have crossed 60 years of age are excluded as they are not physically fit to undertake productive occupation. If larger percentage of population is accounted by children and old-age persons, then the progress of the country would be very slow as the working force is very small. Besides, the small working force will have to maintain larger non-working force for feeding out of the small national product.

#### Employment Structure in India

- The nature of employment in India is multi-dimensional. Some get employment throughout the year; some others get employed for only a few months in a year. The economy is classified into three sectors: primary or agriculture sector, secondary or industrial sector and

tertiary or service sector. The structure of employment denotes the number of workers engaged in different sectors of the economy. Though the occupational pattern varies from one country to another, one can find in Developing countries like India that a large work force will be engaged in primary sector, while a small proportion in secondary and tertiary sectors. Whereas, in well-developed countries, the proportion of workforce engaged in agriculture will be very small and a majority of labour force will be in the industrial and tertiary sectors. Employment has always featured as an important element of development policy in India. Employment growth has increased at an average rate of 2% during the past four decades since 1972-73.

- ✓ **Primary sector:** Agriculture, forestry animal husbandry, poultry, dairy farming, fishing etc.
- ✓ **Secondary sector:** Manufacturing, small and large-scale industries and constructional activities.
- ✓ **Tertiary sector:** Transport, insurance, banking, trade, communication, real estate, government and non-government services.

## **Types of Employment: Organised and Unorganised Sectors**

### **Organised Sector**

- The organised sector is one that is incorporated with the appropriate authority or government and follows its rules and regulations. In India employees of central and state governments, banks, railways, insurance, industry and so on can be called as organised sector. This sector works according to certain rules and regulations given in the law. Organised sector has some formal processes and procedures. The employees in this sector are provided with job security and receive higher wages than those of the unorganised sectors. Organised sector gives good salary, fixed working hours, paid holidays and provides medical allowance and insurance also.

### **Unorganised Sector**

- The unorganised sector of the economy characterised by the household manufacturing activity and small-scale industry. Jobs here

are low paid and often not regular, mostly, they do not have paid leave, holiday, leave due to sickness and so on. Employment is not secure. When there is no work, people are asked to leave the job. This sector includes a large number of people who are employed on their own doing small jobs such as selling on the street, doing repair work and so on. In the unorganised sector, the employment terms are not fixed and regular. They do not enjoy any special benefits or job security. These enterprises are not registered with the government.

**Public Sector**

- NLC
- SAIL
- BSNL

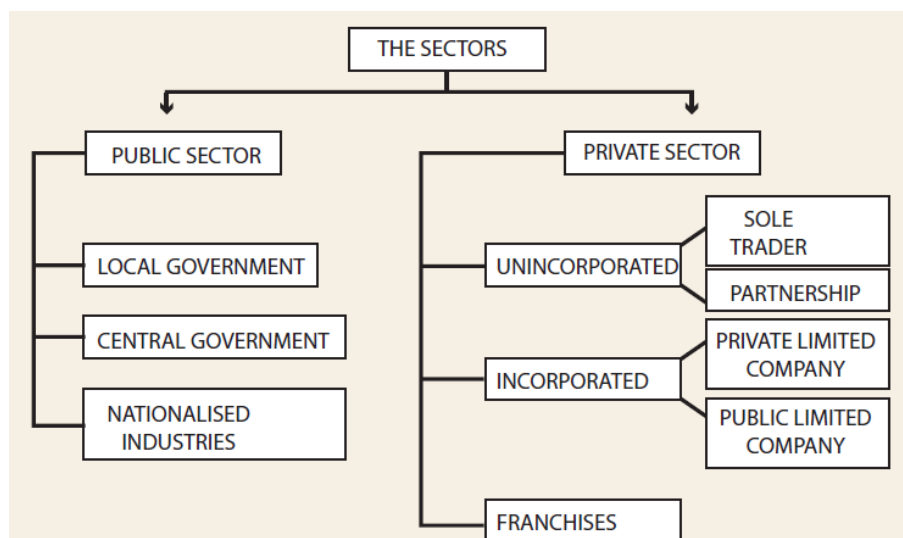
**Private Sector**

- TVS Motors
- Ashok Leyland
- TATA Steel

**Public Sector vs Private Sector**

- Economic activities are classified into public and private sector based on who owns assets and is responsible for the delivery of services.

<b>Differences between the Public Sector and Private Sector</b>	
<b>Public Sector</b>	<b>Private Sector</b>
• Service motive	• Profit motive
• Government owns the assets	• Private individuals own the assets
• Wages are paid by the government	• Wages are paid by the owner of private enterprises.



**Employment Pattern**

- In recent years, there has been a change in the employment pattern and this has helped the employers to develop more flexible working patterns among their employees. The trends are (a) increasing self-employment (b) firms using fewer full-time employees and tending to offer more short-term contracts (c) there has been a growth in part-time employment. This may be due to lifestyle of the people.

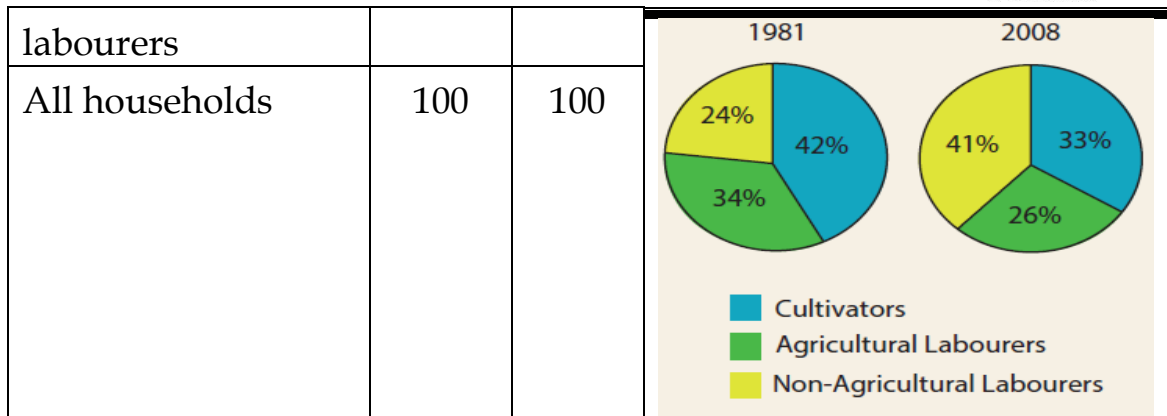
### Employment in Iruvelpattu: A case study

What is happening in the employment scenario can be understood not only from national or state level, but also from the study of the village economy. Iruvelpattu is one such village in Villupuram district in Tamil Nadu. This village has been studied for more than 100 years by many scholars. This village is also called Slater village as Gilbert Slater was the first scholar working in the University of Madras to go with his students to study this village in 1916. Over the years, many scholars surveyed the occupation of villagers and collected many more details of each person in the village.

It was clearly observed that the government brought social security awareness among the people of the village through primary health care, provision of schools and maintenance of public distribution system. Though this village underwent many changes, it is still dependent on agriculture as the main occupation. Look at the following table or chart. You will notice that during 1981, out of 100 families, 24 were engaged in non-agriculture employment. In 2008, the number of families engaged in such employment increased to 41. During 1981-2008, the proportion of families engaged in agriculture has declined- both as agriculture labourers and as cultivators.

Employment details of households in Iruvelpattu (in%)

Occupation	% of Households	
	1981	2008
Cultivators	42	33
Agricultural labourers	34	26
Non-agricultural	24	41



### Employment Trends in Tamil Nadu

- Agriculture, despite a sharp decline in gross domestic product, continues to be the largest employer in Tamil Nadu. This is because the non-agriculture sectors are yet to generate enough employment to affect a shift of labour force. Most of the employment growth in Tamil Nadu has been contributed by the unorganised and informal sectors.

### NOTE

- ❖ In the medieval period, Feroz Shah Th uqlaq, the Sultan of Delhi, had set up an 'Employment Bureau' to solve the unemployment problem.

## 10<sup>th</sup> Volume I

### Unit 2 - Globalization and Trade

#### Introduction

- Liberalization, Privatization and Globalization (LPG) have become a much talked of subjects among politicians, economists and businessmen in modern days. These three expressions are the supporting pillars of which the edifice of new economic policy of our Government has been erected and implemented since 1991.

#### Globalization

- Globalization is the process of integrating various economies of the world without creating any barriers in the free flow of goods and services, technology, capital and even labour or human capital. Under globalization, the international markets for goods and services are integrated.
- Globalization is the integration of a country with the world economy. Basically, globalization signifies a process of internationalization plus liberalization.

#### History of Globalization

- The term of 'Globalization' was introduced by Pro. Theodore Levitt. The historical background of globalization can be discussed on three stages.

#### Archaic Globalization

- Andre Gunder Frank argued that a form of globalization has been in existence since the rise of trade links between Sumer and Indus valley civilization in the third millennium BC (BCE). An early form of globalized economics and culture, known as Archaic globalization existed during the Hellenistic Age. When commercialized urban centers were focused around the axis of Greek culture over a wide

range that stretched from India to Spain with such cities as Alexandria, Athens, and Antioch, as its center. An early form of globalization in the trade link between the Roman Empire, Parthian Empire and the Han Dynasty made the commercial links between these powers inspired the development of the Silk Road.

- The Islamic Golden Age was also an important early stage of globalization. The advent of the Mongol Empire, though destabilizing to the commercial centers of the Middle East and China, greatly facilitated travel along the Silk Road. These Pre-modern phase of global exchange are sometimes known as archaic globalization.

### **Proto Globalization**

- The next phase is known as proto - globalization. It was characterized by the rise of maritime European empires, in the 16th and 17th centuries, first the Portuguese and Spanish Empires, and Dutch and British empires. In the 17th century, globalization became private business phenomenon like British East India Company [founded in 1600] described as the first multinational company, and the first Dutch East India Company [found in 1602] were established. In 16th century, Portuguese started establishing trading posts [factories] from Africa to Asia and Brazil.

### **Modern Globalization**

- The 19th century witnessed the advent of globalization approaching its modern form. Between the globalization in the 19th and in the 20th century there are significant differences. There are two main points one is the global trade in his centuries as well as the capital, investment and the economy and another one is the global trade in the 20th century shows a higher share of trade in merchant production, a growth of the trade in services and the rise of production and trade by multinational firms.
- Multinational trade contracts and agreements have been signed, like the General Agreement on Tariffs and Trade [GATT] and World Trade Organization [WTO]. From 1890 and up to World War 1 instability trade was a problem, but in the post war period there has mostly been economic expansion which leads to stability.

Technological changes have caused lower transporting costs, it takes just a few hours to transport goods between continents today.

## **Trade and Traders in South India historical perspective**

- Southern Indian trade guilds were formed by merchants in order to organize and expand their trading activities. Trade guilds become channels through which Indian culture was exported to other lands. South India trade was dominated by the Cholas, and it replaced the Pallavas.

### **Early Traders**

- In the year 1053 AD (CE) the Kalinga traders (Modern Orissa) brought red colored stone decorative objects for trade and also cotton textile to Southeast Asia at an early date. Several trade guilds operated in medieval Southern India such as the Gatrigas, Nakaras, Mummuridandas, Ayyavole -500 Settis, Birudas, Gavaras, etc.. Some trade guilds, such as the Nakaras and Gavares, met only in the temple premises.

### **European Traders in South India**

- This was due to the trading activities of the various European companies which came to India during this period. The discovery of a new all-sea route from Europe to India via Cape of Good Hope by Vasco da Gama had far-reaching repercussions on the civilized world. India's coastal and maritime trade was monopolized by the Europeans.

### **The Portuguese**

- The Portuguese under the leadership of Vasco da Gama landed at Calicut on the 17th May, 1498. Profits of goods brought by Vasco da Gama to Portugal were 60 times cost of the entire expedition to India. The arrival of Pedro Alvarez Cabral in India in 1500AD (CE) and the second trip of Vasco da Gama in 1502 led to the establishment of trading stations at Calicut, Cochin and Cannanore. Cochin was the early capital of the Portuguese in India.



## **The Dutch in South India**

- Dutch undertook several voyages from 1596 and formed the Dutch East India company (VOC) in 1602. In 1605, Admiral van der Hagen established Dutch Factory at Masulipatnam and Pettapoli (Nizamapatanam), Devanampatinam. In 1610, upon negotiating with the king of Chandragiri, found another factory at Pulicut. Other commodities exported by the Dutch were indigo, saltpeter and Bengal raw silk. Pulicut was the headquarters of the Dutch in India. Nagapatnam on the Tanjore coast acquired from the Portuguese in 1659.

## **The British Company (UK)**

- On 31st December, 1600, Queen Elizabeth granted charter to The East India Company. On the south-eastern coast, the English established at Masulipatnam in 1611 and near Pulical in 1626. The Sultan of Golconda granted the English the "Golden Fireman" in 1632 by which they were allowed to trade freely in their "Kingdom Ports". In 1639, built a fortified factory in Madras which known as Fort St. George, which soon displaced Masulipatnam as headquarters of the English settlement on the coromandel coast.

## **The Danes**

- The Danes formed an East India company and arrive in India in 1616. The Danish settlements were established at Tranguabar ( in Tamil nadu) in 1620 which was the headquarters of Danes in India. They failed to strengthen themselves, in India and in 1845 were forced to sell all their India settlements to the British.

## **The French**

- The first French factory in India was established in 1668 by obtaining permission from the Sultan of Golconda. In 1693, the Dutch captured Pondicherry but was handed back to the French. In 1701, Pondicherry was the headquarters of the French. Settlements in the East after 1742 Political motives began to overshadow the desire for commercial gain.

- Recently, the Government of India has set up Special Economic Zones in Southern States especially in Tamilnadu, Andhra, Karnataka and Kerala with a view to boost exports. Nanguneri Sez, Ennore Sez, Coimbatore Sez are some in Tamilnadu.

### **Globalization in India**

- In India the period after 1980-81 was marked by severe balance of payment difficulties mainly due to hike in oil price and Gulf war in 1990-91 and hostilities in West Asia.
- When the new government took over in June 1991. India had unprecedented balance of payment crisis. The finances of the central, and state Government had reached a situation of near bankruptcy.
- With the downgrading of India's credit rating by some international agencies, there was heavy flight of capital out of India.
- Since India lost its credit worthiness in the international market, the government mortgaged 40 tons of gold to the Bank of England. Under these circumstances, the government for 1991-92 presented its budget in July 1991 with a series of policy changes which underlined globalization, liberalization and privatization. This has come to be called as India's new economic policy. These policies were strengthened when India signed the Dunkel Draft in 1994.

### **Reforms made to adopt Globalization:- (New Economic policy in India)**

- Abolition of Industrial licensing, except for a few industries.
- Reduction in the number of industries reserved for public sector.
- Fixation of a realistic exchange rate of rupee to exchange exports of Indian goods.
- Foreign private sector by making rupee convertible on trade, on current account and by reducing import duties.
- Foreign exchanges regulations were suitably amended
- The Statutory Liquidity Ratio (SLR) was reduced to increase lending by RBI.

## **Multi National Corporation (MNC)**

- Multi National Corporation is a Corporate organization which owns or controls production of goods or services in at least one country other than its home country. Otherwise called Multinational Corporations (MNCs) or Transnational Corporation (TNC) or Multinational Enterprise (MNE).

## **Evolution of MNC**

- Like, the East India Company, which came to India as a trading company and then its net throughout the country to become politically dominant, these multinationals first start their activities in extractive industries or control raw materials in the host countries during 1920s and then slowly entered. The manufacturing and service sectors after 1950s. Most of the MNC's at present belong to the four major exporting countries viz., USA, UK, France, Germany. However, the largest is American.
- 11 of the 15 largest multinationals are American, In 1971, the American Corporations held 52 percent of the total world stock of foreign direct Investment. Great Britain held 14.5 percent followed by France 5 percent and Federal Republic of Germany 4.4 percent and Japan 2.7 percent. In 1969 the American Multinationals alone produced approximately 140 billion dollars worth of goods.

The American multinationals realize quite substantial returns to the extent of 34 percent in Asiatic countries and 22 percent in African countries. They then acquire enormous powers in those countries, which smoothens the free flow of fund across international boundaries. They purchase the best brains in these countries and resort to unfair practices. With their huge resources, the MNCs are able to invest in research and development and exploit technological developments to manufacture new products, and discover new process.

## **Growth of MNCs in India**

- A common form of MNC Participation in Indian industry is through entering into cooperation with Indian industrialist. Trends of liberalization in the 1980s gave a substantial spurt to foreign

collaborations. This would be clear from the fact that of the total 12,760 foreign collaboration agreements in 40 years between 1948-1988. As a result of liberalized foreign investment policy (FIP) announced in July-Aug 1991 there has a further spurt of foreign collaborations and increase flow of foreign direct investment.

### **Reasons for the growth MNC**

#### ➤ **Expansion of Market territory.**

As the operations of large sized firm expand, it seeks more and more extension of its activities beyond the physical boundaries of the country in which it is incorporated.

#### ➤ **Marketing superiorities:**

A multinational firm enjoys a number of marketing superiorities over the national firms. It enjoys market reputation and faces less difficulty in selling its products it adopts more effective advertising and sales promotion techniques.

#### ➤ **Financial Superiorities**

It has financial resources and a high level of funds utilization. It has easier access of external capital markets. Because of its international reputation it is able to raise more international resources.

#### **Technological superiorities:**

- The main reason why MNCs have been encouraged by the underdeveloped countries to participate in their industrial development is on account of the technological superiorities which these firms possess as compared to national companies.

#### **Product innovations:**

- MNCs have research and development engaged in the task of developing new products and superior designs of existing products.

#### **Advantages of MNC**

- Producing the same quality of goods at lower cost and without transaction cost

- MNC reduce prices and increase the Purchasing power of consumers world wide
- A MNCs is able to take advantage of tax variation.
- Spurring job growth in the local economies

### **Disadvantages of MNC**

- They are a way for the corporations to develop a monopoly (for certain products)
- They are also a detrimental effect on the environment.
- The introduction of MNC in to a host country's economy may also lead to the downfall of smaller, local business.
- MNC breach ethical standards, accusing them of evading ethical laws and leveraging their business agenda with capital

### **Top 10 Largest Multinational Companies in India 2018**

1. Sony Corporation
2. Hew left Packard (HP)
3. Tata Group
4. Microsoft Corporation
5. IBM
6. Nettle
7. Procter & Gamble
8. City Group
9. Pepsi Company
10. The Coca-Cola Company

Company	Head Quarter	Type of Industry	Countries of operating
Hero Motocorp	New Delhi	Automobile	Columbia, Bangladesh, Africa
Bajaj	Pune	Automobile	Unoted Arab Emirates (UAE), Bangladesh
TVS	Chennai	Automobile	Brazil, Chile, Colombia, Mexico, Peru
State Bank of India	Mumbai	Banking	Australia, Bangladesh, Belgium
Bharti Airtel	New Delhi	Communication	South Asia, Africa
Micromax Informatics	Gurgaon	Electronics	Nepal, Srilanka, Bangladesh
Amul	Anand (Gujarat)	Food Product	US, Thailand, Malaysia, Hong Kong, Japan
ONGC	Delhi	Fuel	Brazil, Colombia, Iran
Dr. Reddy's Laboratories	Hyderabad	Medical Laboratory	Brazil, Mexico, Jamaica
Infosys	Bengaluru	Software	America, Europa, Africa

### **FERA (Foreign Exchange Regulation Act 1974)**

This Act referred directly to the operations of MNCs in India

### **FEMA (Foreign Exchange Management Act 1999)**

Under FEMA the emphasis is on 'Management' rather than 'regulation'

### **Foreign Contribution (regulation) Act, 2010**

FCRA, 2010 has been enacted by the Parliament to consolidate the law to regulate the acceptance and utilization of foreign contribution or foreign hospitality by certain individuals or associations or companies and to prohibit acceptance and utilization of foreign contribution or foreign hospitality for any activities detrimental to national interest and

for matters connected therewith or incidental thereto.

The flow of foreign contribution to India is regulated under

- Foreign Contribution (Regulation) Act, 2010
- Foreign Contribution (Regulation) Rules, 2011

### **Fair Trade Practices and World Trade Organization**

- Fair Trade is a way of doing business that ultimately aims to keep small farmers an active part of the world Market place, and aims to empower consumer to make purchases that support their values. Fair Trade is a set of business practices voluntarily adopted by the producers and buyers of agricultural commodities and hand-made crafts that are designed to advance many economic, social and environmental goals, including,
  - Raising and stabilizing the incomes of small- Scale farmers, farm workers and artisans.
  - More equitably distributing the economic gains, opportunities and risks associated with the production and sale of these goods.
  - Increasing the organizational and commercial capacities of producer groups.
  - Promoting labor rights and the right workers to organize.
  - Promoting safe and sustainable farming Methods and working conditions.
- Fair trade is about better prices, decent working conditions and fair terms of trade for farmers and workers. It's about supporting the development of thriving farming and worker communities that have more central over their futures and protecting the environment in which they live and work.

### **Beneficiaries of Fair trade practices:**

#### **Consumer:**

- Consumer support enables Fair Trade Organisation to be advocates and comparing for wider reform of International trading rules. They can choose from an even growing range of great products. By buying Fair trade labeled products consumers support producers who are struggling to improve their lives.

### **Trader/companies:**

- Since, it launch in 2002 the Fair trade mark has become the most widely, recognized social and development label in the world. Fair trade offers companies a credible way to ensure that their trade has a positive impact.

### **Producers:**

- Stable prices that cover the costs of sustainable production. Market access that enable buyers to trade with producers who would otherwise be excluded from market. Partnership (Producers are involved in decisions their future). The Empowerment of farmers and workers.

### **Principles of Fair trade Organization**

- Creating Opportunities for Economically Disadvantaged producers.
- Transparency and Accountability .
- Fair Trading Practices and Payment of a Fair Price.
- Ensuring no child Labour and Forced Labour.
- Commitment to Non Discrimination, Gender Equity and freedom of association.
- Providing Capacity Building and Promoting Fair Building.
- Respect for the Environment.

Fair trade food product such as coffee, tea, cocoa, honey and bananas. Non-food commodities include crafts, textile and flowers

### **GATT: (General Agreement of Trade and Tariffs)**

- GATT was signed by 23 countries in 1947. India was one of the founder members of GATT. In the seventh Round 99 countries participated. In the Eighth Round of 1986, (Uruguay Round), 117 countries participated. The Director General of GATT Arthur Dunkel came up with a Draft Final Act, known as Dunkel Draft and on April 15, 1994 the Final Act was ultimately approved and signed. GATT's primary purpose was to increase International Trade by



reducing various tariffs, quotas and subsidies while maintaining meaningful regulations.

## **Rounds of GATT**

- First in Geneva (Switzerland) (1947)
- Second in Annecy (France) in 1949
- Third in Torquay (UK) in 1950 - 51
- Fourth, fifth, and Sixth in Geneva (Switzerland) in 1956, 1960-61, 1964 -67.
- Seventh in Tokyo (Japan) in 1973 - 79
- Eighth and final round at Punta del Este (Uruguay) in 1986 - 1994, known as 'Uruguay Round'.

## **World Trade Organization (WTO)**

The signing of the Final Act of the Uruguay Round by member nations of GATT in April 1994 paved the way for setting up of the WTO. An agreement to this effect was signed by 104 members. The WTO Agreement came into force from January 1, 1995 (the present membership of WTO is 164 countries)

World Trade Organization(WTO):

**Head Quarter:** Geneva, Switzerland

**Purpose:** Regulation, International trade

**Members of WTO:** Director General, Four Deputy Director General, and other 600 Official Staff from around 80 member countries.

## **The WTO mentions five types of Subsidies:**

- Cash subsidies, such as the grants mentioned above.
- Tax Concessions, such as exemptions, credits, or deferrals
- Assumption of risk, such as loan guarantees.
- Government procurement policies that pay more than the free - market price.
- Stock purchases that keep a company's stock price higher than market levels.
- These are all considered subsidies because they reduce the cost of doing business.

## Objectives of W.T.O

- To set and enforce rules for international trade.
- To provide a forum for negotiating and monitoring further trade liberalization.
- To resolve trade disputes.
- Introduction the sustainable development and environment can go together.
- To ensure that developing countries, secure a better share of growth in world Trade.
- To resolve trade disputes.
- To increase the transparency of decision making processes.
- Introduction sustainable development the development and environment can go together.
- To ensure full employment and broad increase in effective demand.

## Trade Related aspects of Intellectual Property Rights (TRIPs)

- Intellectual Property Right may be defined as “Information with a commercial Value” Under TRIPs Patent shall be available for any invention whether product or process in all fields of industrial technologies. Trips agreement covers seven areas of intellectual’s property rights i.e. Copy rights, Trade Market, Trade Secrets, Industrial Design, Geographical appellations Integrated circuits and Patents.

## Trade Related Investment Measures (TRIMs)

- The Uruguay Round Agreement on TRIMs refers to certain conditions (or) restrictions imposed by a government in respect of foreign investment in the country in order to give adequate provisions for the home industries to develop.

## Impact and Challenges of Globalization

### Positive Impact

- A better economy introduces rapid development of the capital market.

- Standard of living has increased.
- Globalization rapidly increase better trade so that more people are employed.
- Introduced new technologies and new scientific research patterns.
- Globalization increasing the GDP of a country.
- It helps to increase in free flow of goods and also to increase Foreign Direct Investment.

### **Negative Impact**

- Too much flow of capital amongst countries, Introduces unfair and immoral distributors of Income.
- Another fear is losing national integrity. Because of too much exchange of trade, independent domestic policies are lost.
- Rapid growth of the economy has required a major infrastructure and resource extraction. This increase negative ecological and Social costs.
- Rapid increases in exploitation of natural resources to earn foreign exchange.
- Environmental standards and regulations have been relaxed.

### **Challenges of Globalization**

- The benefits of globalization extend to all countries that will not happen automatically.
- The fear that globalization leads to instability in the developing world.
- The industrial world that increased global competition will lead in race to the bottom in wages, labour right, and employment practice.
- It leads to global inbalance.
- Globalization has resulted with the embarrassment.
- Globalization has led to an increase in activities such as child labor and slavery.
- People started consuming more junk food. This caused, the degradation of health and spread of diseases.
- Globalization has led to environmental degradation.

## 10<sup>th</sup> vol II

# Unit 3 – Food Security

### Introduction

- Food is defined as any substance that people eat and drink to maintain life and growth. Food security would denote a person's ability to eat enough, stay active and lead a healthy life.

### Food Security

- The United Nation's Food and Agriculture Organisation defines food security as follows:
- "Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life." (FAO, 2009)
- While this comprehensive definition highlights the need for food to be nutritious, in addition to that there are certain other aspects that are required to achieve nutrition security.
- According to eminent agricultural scientist M.S.Swaminathan, nutrition security is: "physical, economic and social access to a balanced diet, safe drinking water, environmental hygiene, primary health care and primary education".
- The concept of food security has continuously evolved over the last five decades or so. Initially it referred to the overall food supply for a global, regional or national context. From this idea of food security, which means food supply/food production that addressed the overall adequacy, it became clear that the term had to be relevant at the community, household and individual level.

## Basic components of food and nutrition security

- The term was broadened to include the three basic components of food and nutrition security. They are availability, access and absorption:
  - Availability of food is physical availability of food stocks in desired quantities, which is a function of domestic production, changes in stocks and imports;
  - Access to food is primarily a matter of purchasing power and is therefore closely linked with the capabilities and employment opportunities to earn. Capabilities and opportunities in turn are related to one's access to assets and education.
  - Absorption of food is the ability to biologically utilise the food consumed. Several factors such as nutrition, knowledge and practices, safe and hygienic environmental conditions allow for effective biological absorption of food and health status.

## Availability and Access to Food Grains

- Thus food security for people in a country is not only dependent on the quantum of food available but also on the ability of people to purchase/access food and to stay in appropriate healthy environment. Just as other developmental issues, food security of people is also related to a country's overall development process. After Independence, India chose to adopt a planned developmental model.
- After an initial focus on agriculture, industrialisation was given priority. The recurrent droughts experienced by India pushed her to be dependent on imports of food grains. However, the available foreign exchange reserve could not permit open market purchases and import of grains. India had to plead for food grains from richer countries at concessional rates. United States of America extended assistance through its Public Law 480 (PL 480) scheme to India during early 1960s. This situation was popularly known as 'Ship to Mouth' existence.

- A country with a massive population growing hungry was perceived to be a potential candidate for revolution. The American administration and philanthropic organisations like Ford Foundation formulated a plan to increase food production in the country by introducing High Yielding Varieties (HYV) of wheat and rice. This programme was implemented in select districts where irrigation was assured. The results were promising and the programme was extended to cover a larger number of districts.
- Thus, Green Revolution was born in the country paving way for self-sufficiency in food grain production. Increased food grain production was made possible by an increase area cultivated with HYV of rice and wheat as also an increase in the yield of these major cereal crops. Area under food grains was a little more than 98 million hectares during early 1950s. The country was producing just 54 million tonnes of food grains then with an average yield of food grains of 547 kg per hectare. The food situation has steadily improved over a period of 65 years. Area under foodgrain cultivation has grown to 122 million hectares, with an increase of five-fold increase in food grain production. Yield of food grains has increased four-fold between the time of independence and at present.

This growth in food grain production was made possible by the HYV programme, which was implemented as a package. Apart from introducing fertiliser-responsive high-yielding varieties of rice and wheat, it ensured the availability of subsidised chemical fertilisers for the farmers. Cheaper farm credit was disbursed to farmers through co-operative banks and societies. Minimum support price (MSP) for the crops were announced at the beginning of the season and the state procured the harvested grains through the Food Corporation of India (FCI). The FCI had built huge storage godowns and built buffer stocks of food grain during the harvest season to be distributed all through the year.

#### **Area, Production and Yield of Foodgrain in India from 1951-52 to 2017-18**

<b>Triennium average centered around</b>	<b>Area (Million ha)</b>	<b>Production (Million tonnes)</b>	<b>Yield (Kg/ha)</b>
1951-52	98.79	54.00	546.65

1971-72	122.07	103.54	848.18
1991-92	124.29	174.75	1406.02
2013-14	122.63	258.27	2106.00
2017-18	126.98	279.51	2201.00

### Minimum Support Price

Minimum Support Price is a price fixed by an expert group for a particular crop by considering various costs involved in the cultivation of that crop. After announcing the MSP, the State will open procurement centres in places where these crops are widely grown. However, the farmers are free to sell in the open market if they get a better price for their crop produce. On the other hand, if the open market price is lower than the MSP, the farmers would get an assured price (the MSP) by selling their produce to the FCI. Thus, with the implementation of MSP farmers are certain about the price they would get at the end of the crop season. Further, farmers also get insulated against any price crash during the harvest season

- The rapid increase in food grain production was accompanied by appropriate technological interventions in the dairy, poultry and fisheries sectors. As a result, the milk production in the country witnessed an eight-fold increase, egg production grew 40-fold and fish production by 13-fold between the time of Independence and mid-2000s. However, India could not succeed in attaining self-sufficiency in the production of pulses and oil seeds. Therefore, India depends on imports to meet the requirements of people.

### Public Distribution System

- The increase in food grain production need not result in increase in access to food for all. Given the unequal distribution of income and the level of poverty that persists in Indian economy, the government took steps to distribute food grains at subsidised rates through the Public Distribution System (PDS). The nature, scope and functioning of PDS varies from state to state.

- While Tamil Nadu has adopted an 'Universal' PDS, the rest of the states in India had a 'Targeted' PDS. Under universal PDS all the family ration card holders are entitled to the supplies from PDS. In the targeted PDS, the beneficiaries are identified based on certain criteria and given their entitlements, leaving out the rest. Both the Union and the State governments subsidised the supplies distributed through PDS. The level and quantum of subsidy also varied across states.
- Subsequently, the National Food Security Act (NFSA) was passed by the Indian parliament in 2013. The NFSA covers 50% of urban households and 75% of the rural households. These households are known as priority households identified based on a set of criteria. Priority households of this country now have the right to food supplied through PDS. The Union government supplies rice at the rate of ` 3 per kg, wheat at the rate of ` 2 per kg, and millets at the rate of ` 1 per kg under NFSA. Tamil Nadu continues to have the universal system of PDS and supplies rice at free of cost to all card holders.

### **Bio Metric Smart Family Cards**

The Government of Tamil Nadu has declared that SMART family cards will be issued in lieu of existing family cards. It has also been mentioned that the Director of Census Operations under the National Population Registry is conducting bio-metric capturing of 10 fingerprints, two iris and face scan of citizens to issue Unique Identification Number. After completion of this process of bio-metric capturing, it has been proposed to adopt this data to issue bio-metric SMART family cards. The advantage is that since it is based on unique identity, the data duplication of members and bogus cards can be eliminated.

### **National Food Security Act in Tamil Nadu**

On 1 November 2016, Tamil Nadu became the last state in the country to implement the National Food Security Act after holding out for three years. In a government order issued on 27 October, the state specified that while it was enforcing the law, it would be modifying its provisions



## Role of Consumer Cooperatives in Food Security

- Consumer cooperatives play an important role in the supply of quality goods at responsible rates to common people. There is a three-tier structure of consumer cooperative societies in India. They are primary consumer cooperative societies. Central consumer cooperative stores and state level consumer federations. More than 50,000 village level societies are engaged in the distribution of consumer goods in rural areas. There are many benefits to consumer cooperatives such as health care, insurance, housing etc.. This scheme is playing an important role in food security in India. For example out of all fair price shops running in Tamil Nadu, around 94% are being run by cooperatives.

### Buffer Stock

Buffer stock is the stock of food grains, namely wheat and rice, procured by the government through the Food Corporation of India (FCI). The FCI purchases wheat and rice from the farmers in states where there is surplus production. The farmers are paid a pre-announced price for their crops. This price is called Minimum Support Price (MSP). The MSP is declared by the government every year before the sowing season to provide incentives to farmers for raising the production of these crops. The purchased foodgrains are stored in granaries.

Buffer stock is done to distribute foodgrains in the deficit areas and among the poorer strata of the society at a price lower than the market price also known as the Issue Price. This also helps resolve the problem of shortage of food during adverse weather conditions or during the periods of calamity.

### Fair Price Shops

At present, 33,222 Fair Price Shops are serving 1.98 crore families. Out of 33,222 Fair Price shops, 31,232 are run by the cooperative societies, 1,394 are run by the Tamil Nadu Civil Supplies Corporation and 596 are run by women self-help groups. To improve accessibility to PDS, it is necessary that they are located in close proximity to habitations. Accordingly, it has been proposed to open new fair price shops so that,

no card holder walks more than 1.5 km.

## **Purchasing Power**

- Purchasing power is the value of a currency expressed in terms of the amount of goods or services that one unit of money can buy. Price increases purchasing power declines and vice versa.

## **Factors affecting Purchasing Power**

### **Over population**

- The population growth rate in India is high as 1.7 per 1000. Large population leads to increasing demand, but supply was not equal to the demand. So, the normal price level will be going an higher. So it affect purchasing power, especially in rural population.

### **Increasing prices of essential goods**

- Even though there has been a constant growth in the GDP and growth opportunities in the Indian economy, there have been steady increase in the prices of essential goods. The continuous rise in the prices erodes the purchasing power and adversely affect the poor people. During 2015-16 an average rate of 2% flood inflation, the prices of pulses rose by about 40%.

### **Demand for goods**

- When demand for goods increases, the price of goods increases then the purchasing power is affected.

### **Price of goods affect the value of currency**

- When the price increases the purchasing power decreases and finally the value of currency decreases and vice versa.

### **Production and supply of goods**

- The production and supply of goods decline, the price of goods increases, then the purchasing power is affected.

### **Poverty and inequality**

There exists a huge economic disparity in the Indian economy.

- The proportion of income and assets owned by top 10% of Indian goes on increasing. This has led to an increase in the poverty level in the society. Generally purchasing power is affected by poverty and unequal distribution of wealth also.
- Purchasing power affects every aspect of economics, from consumers buying goods to investors and stock prices to a country's economic prosperity. As such, a country's government institutes policies and regulations to protect a currency's purchasing power and keep an economy healthy. One method to monitor purchasing power is through the Consumer Price Index.

### **Purchasing Power Parity (PPP)**

A concept related to purchasing power is purchasing price parity (PPP). PPP is an economic theory that estimates the amount that needs to be adjusted to the price of an item, given exchange rates of the two countries, in order for the exchange to match each currency's purchasing power.

PPP can be used to compare countries income levels and other relevant economic data concerning the cost of living, or possible rates of inflation and deflation. Recently, India became the third largest economy in terms of PPP. China became the largest economy, pushing the US to the second position.

### **Agricultural Policy in India**

- The new agricultural policy based on export of agricultural goods was announced by the Central government in 2018. This policy states that the government has decided to remove export restrictions on most organic and processed agricultural products.

- The main reason is to give an assurance that organic or processed agricultural products will not be under any export restrictions such as export duty, export bans and quota restriction.
- Agricultural policy of a country is mostly designed by the Government for raising agricultural production and productivity and also for raising the level of income and standard of living of farmers within a definite time frame .This policy is formulated for all round and comprehensive development of the agricultural sector.
- The following are some of the important objectives of india's agricultural policy:

#### **Raising the productivity of inputs**

- One of the important objectives of India's agricultural policy is to improve the productivity of inputs so purchased like, HYV seeds, fertilisers, pesticides, irrigation projects etc.

#### **Raising value-added per hectare**

- Agricultural policy is to increase per hectare value-added rather than raising physical output by raising the productivity of agriculture in general and productivity of small and marginal holding in particular.

#### **Protecting the interests of poor farmers**

- Agricultural policy is proposed to protect the interests of poor and marginal farmers by abolishing intermediaries through land reforms, expanding institutional credit support to poor farmers etc.

#### **Modernising agricultural sector**

- Here the policy support includes the introduction of modern technology in agricultural operations and application of improved agricultural inputs like HYV seeds, fertilizers etc.

## **Environmental degradation**

- Agricultural policy of India has set another objective to check environmental degradation of natural base of Indian agriculture.

## **Removing bureaucratic obstacles**

- The policy has set another objective to remove bureaucratic obstacles on the farmers' co-operative societies and self-help institutions so that they can work independently.

## **Multi-dimensional Nature of Poverty**

- Multi-dimensional poverty measures can be used to create a more comprehensive picture. They reveal who is poor, how they are poor and the range of disadvantages they experience. As well as providing a headline measure of poverty, multi-dimensional measures can be broken down to reveal the poverty level in different areas of a country, and among different subgroups of people.
- The Multi-dimensional Poverty Index (MPI) was launched by the United Nations Development Programme (UNDP) and the Oxford Poverty Human Development Initiative (OPHI) in 2010. The basic philosophy and significance of MPI is that it is based on the idea that poverty is not unidimensional, and that it is rather multi-dimensional.
- Multi-dimensional poverty is made up of several factors that constitute poor people's experience of deprivation such as health, education, living standards, income, disempowerment, quality of work and threat from violence.

## **Multi-dimensional Poverty Index 2018 in India**

- Multi-dimensional Poverty Index 2018 report prepared by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative makes the following observations about India.

- India has reduced its poverty rate drastically from 55% to 28% in 10 years, with 271 million people moving out of poverty between 2005-06 and 2015-16.
- India still had 364 million poor people in 2015-16, the largest for any country, although it is down from 635 million in 2005-06.
- Of the 364 million people who were MPI poor in 2015-16, 156 million were children whereas in 2005-06 there were 292 million poor children in India. This represents a 47% decrease or 136 million fewer children growing up in multi-dimensional poverty.
- 80% of people belonging to ST were poor in 2005-06 and 50% of them were still poor in 2015-16.
- Bihar with more than half its population in poverty was the poorest state in 2015-16.
- The four poorest states Bihar, Jharkhand, Uttar Pradesh and Madhya Pradesh were still home to 196 million MPI poor people, which was over half of all the MPI poor people in India.
- Kerala, one of the least poor regions in 2006, reduced its MPI by around 92%.

### **Multi-dimensional Poverty Index 2018 Report in Tamil Nadu**

- Over the last decades, Tamil Nadu has made a significant progress in poverty reduction. The districts in Tamil Nadu are classified into three categories, namely high-poverty districts (more than 40% of the population living below poverty line), moderately poor districts (30% to 40%) and low level poverty districts (below 30%).
- After 1994, poverty has declined steadily in both rural and urban areas of Tamil Nadu and the state has a smaller share of India's poor relative to its population. After 2005, the poverty reduction in this state has been faster than in many other states in India. Tamil Nadu leads in the poverty alleviation programmes during 2014-2017. Government of India is implementing many policies and programmes to eradicate poverty.
- These policies and programmes, if continued, will completely eradicate the poverty in the state. In future, Tamil Nadu can become a model of development in India.

## Top and Bottom MPI districts in Tamil Nadu

S.No	Top 5 Districts	Rank	Bottom Districts	5 Rank
1	Kancheepuram	1	Dharmapuri	32
2	Chennai	2	Perambalur	31
3	Cuddalore	3	Ramanathapuram	30
4	Coimbatore	4	Virudhunagar	29
5	Nagapattinam	5	Ariyalur	28

## Nutrition and Health Status

### Status of Nutrition

- We noted earlier that food security includes nutrition security too. Though our country has reached self-sufficiency in food production, the nutrition status of the population has not seen corresponding levels of improvement. In 2015-16, 27% of the rural women and 16% of the urban women (in the age group of 15- 49 years) were counted as undernourished or chronically energy deficient by the National Family Health Survey.
- More than half of the women in the reproductive age group (15-49 years) in both rural and urban India were anaemic in 2015- 16. As regards children, about 60% of the rural and 56% of the urban children (in the age group of 6-59 months) are counted to be anaemic, in 2015- 16. About 41% of the rural and 31% of urban children are stunted, that is, they are not of the required height in correspondence to their age. Another indicator of nutrition deficiency among children is “underweight”, which is weight in relation to age. In India, in 2015-16, about 20% of children(in the age group of 6-59 months) in rural and urban India are estimated to be underweight.
- Thus, though our country has reached self-sufficiency in food production, we are yet to attain food security for all.

### TN commitment on Nutrition

Amartya Sen, Noble Prize winning Economist, has observed that in

India, hunger is not enough of a political priority. The public expenditure on health is very low and funds allocated to programmes like child nutrition remain unspent. It is only in States like Tamil Nadu that he sees a political will and commitment to tackle these issues by setting goals like achieving the status of a “Malnutrition Free State”.

### **Nutrition and Health Status in Tamil Nadu**

- Nutrition plays a crucial role in human health and well-being. At the national level, despite higher economic growth, improvements in human development indicators like nutrition levels of the population have been unacceptably slow. A large number of Indian children are stunted. A substantial number of Indian children and women are underweight, anaemic and suffer from micronutrient deficiencies. To address these concerns, the Central and state governments have been channelling substantial resources into various health and nutrition schemes and programmes like Integrated Child Development Services (ICDS), mid-day meals, Reproductive and Child Health Programmes (RCH) and National Rural Health Mission (NRHM). However, an effective scaling up of these efforts is required to mitigate the incidence of under-nutrition in the country.
- Tamil Nadu has played a pioneering role in bringing about significant changes in the health and nutrition status of children under six years of age, pregnant women, lactating mothers and adolescent girls. The Government of Tamil Nadu’s successive budget outlays for nutrition and health are the highest in the country. The performance of the ICDS scheme and the Puratchi Thalaivar MGR Nutritious Meal Programme (PTMGRNMP) in Tamil Nadu are considered one of the best in the country.
- The Government of Tamil Nadu’s policy for “A Malnutrition Free Tamil Nadu” guides the state’s long-term multi-sectoral strategy for eliminating malnutrition. The goal is “reducing human malnutrition of all types to the levels of best performing countries”. In Tamil Nadu, ICDS is being implemented through 54,439 Child Centres (comprising 49,499 Anganwadi Centres and 4,940 Mini Anganwadi Centres) in 434 Child Development Blocks (385 rural, 47 urban and 2 tribal).



- With steady expansion into unreached areas, increasing coverage of marginalised groups, enhanced allocations and enlarged scope of services, ICDS is now considered to be one of the world's largest programmes of its kind and a model for the holistic development of the child. To ensure that services reach the intended beneficiaries, the programme has been universalised and convergence promoted with allied departments dealing with health, education, drinking water, sanitation etc.
- The PTMGRNMP is considered to be the largest noon meal programme in the country for combating malnutrition among children, increasing primary school enrolment and reducing dropout rates. Other states in the country have modelled their noon meal programmes along the lines of Tamil Nadu's pioneering efforts.

### **Important ongoing Schemes in Tamil Nadu**

- Under Dr. Muthulakshmi Reddy Maternity Benefit Scheme, financial assistance to the tune of 12,000 is being disbursed to poor pregnant women with the aim of meeting expenses on nutritious diet, to compensate for loss of income during the delivery period and to avoid low birth weight of new born babies in three installments to those availing antenatal care, delivering and immunising the babies born in government institutions.
- The Chief Minister's Comprehensive Health Insurance Scheme was launched in the state in 2011-12 with the aim to provide Universal Healthcare to All by providing free medical and surgical treatment in Government and private hospitals to any family whose annual income is less than ` 72,000 by meeting all expenses relating to the hospitalisation of the beneficiary.
- Tamil Nadu Health Systems Projects (TNHSP) has launched ambulance services free of cost (The 108 Emergency Ambulance Service).
- The School Health Programme mainly emphasises on providing comprehensive healthcare services to all students studying in Government and Government-aided schools.

- The National Leprosy Eradication programme is being implemented in the state with the aim to detect and to provide sustained regular treatment to all leprosy patients

### **Boosting peer group engagement**

- Efforts will be made to strengthen the 'Padhumaiyar Kuzhu' for empowering girls and making them persuasive catalysts of change.
- Innovative approaches will be considered for drawing adolescent girls into the programme, connecting them with various services and encouraging their participation in activities. A mobile centre was rolled for widening the reach of services in nine districts.
- Distribution and monitoring of the 'Padhumaiyar card' will be further strengthened.

### **Some Nutrition Programmes in Tamil Nadu**

#### **➤ Purachi Thalaivar M.G.R. Nutrition Meal Programme:**

It is being implemented in the rural areas from 1 July 1982 and in urban areas for the school students from 1984, old age pensioners from 1983 and for pregnant women from 1995.

- **National Programme of Nutritional Support to Primary Education**
- **General ICDS Projects and World Bank Assisted Integrated Child Development Services:** The services started in 1991 in 318 blocks covering 24 districts. In 1999 this extended to 318 rural blocks and 19,500 centres.
- **Pradhan Manthri Gramodaya Yojana Scheme (PMGYS):** In this scheme, nutrition supplementation in the form of weaning food is given to children in the age group of 6 months to 36 months in the unreached hamlets.
- **Tamil Nadu Integrated Nutrition Programme:** This project was started in 1980 targeting at 6 to 36 months old children and pregnant and lactating women.
- **Mid-Day Meal Programme:** This programme has been introduced for children between ages 2 and 14 attending balwadis or schools at the expense of ` 0.90 per beneficiary. This programme covered 5.57 crore children in 4,426 blocks.

## 9. Development Experiences in India

### Introduction

- At the time of Independence in 1947, India was a typically backward economy. Owing to poor technological and scientific capabilities, industrialization was limited and lop-sided. Agricultural sector exhibited features of feudal and semi-feudal institutions, resulting into low productivity. Means of transport and communications were underdeveloped. Educational and health facilities were grossly inadequate and social security measures were virtually non-existent. In brief, the country suffered from the twin problems of rampant poverty and widespread unemployment, both resulting in low standard of living.
- The year 1991 is an important landmark in the economic history of post-independent India. The country went through a severe economic crisis in the form of serious Balance of Payments problem. Indian economy responded to the crisis by introducing a set of policies known as Structural Reforms. These policies were aimed at correcting the weaknesses and rigidities in the various sectors of the economy such as Industry, Trade, Fiscal and Agriculture.

### Meaning of Liberalization, Privatization and Globalization (LPG)

- The triple pillars of New Economic Policy are Liberalization, Privatization and Globalization (LPG)

#### Impacts of Liberalisation

##### Positive Effects

Increase In Foreign investment  
Increase In production  
Technological advancement  
Increase in GDP growth rate

##### Negative Effects

Increase in Unemployment  
Decrease in Tax Receipt

### **Liberalization:**

- Liberalization refers to removal of relaxation of governmental restrictions in all stages in industry. Delicensing, decontrol, deregulation, subsidies (incentives) and greater role for financial institutions are the various facets of liberalization.

### **Privatization:**

- Privatization means transfer of ownership and management of enterprises from public sector to private sector. Denationalization, disinvestment and opening exclusive public sector enterprises to private sector are the gateways to privatization.

### **Globalization:**

#### **Impacts of Globalisation**

##### **Positive Effects**

Expansion of market  
Development of infrastructure  
Higher living Standards  
International Co-operations

##### **Negative Effects**

But thought Completion  
Rise in Monopoly  
Discourage Domestic Forms  
Increase in inequality

- Globalization refers to the integration of the domestic (Indian) economy with the rest of the world. Import liberalization through reduction of tariff and non-tariff barriers, opening the doors to Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) are some of the measures towards globalization.

### **Arguments in favour of LPG**

- a. Liberalization was necessitated because various licensing policies were said to be deterring the growth of the economy.
- b. Privatization was necessitated because of the belief that the private sector was not given enough opportunities to earn more money.
- c. Globalization was necessitated because today a developed country can grow without the help of the under developed countries. Natural and human resources of the developing

countries are exploited by the developed countries and the developing economies are used as market for the finished goods of the developed countries. The surplus capital of the developed countries are invested in backward economies. Obsolete and out dated technologies of the developed countries can be easily sold to poor under developed countries. Ultimately, the rich countries can grow further at the cost of developing economies.

### **Arguments against LPG**

- a. Liberalization measures, when effectively enforced, favour an unrestricted entry of foreign companies in the domestic economy. Such an entry prevents the growth of the local manufacturers.
- b. Privatization measures favour the continuance of the monopoly power. Only the powerful people can sustain in business markets. Social justice cannot be easily established and maintained. As a result, the disparities tend to widen among people and among regions.
- c. As globalization measures tend to integrate all economies of the world and bringing them all under one umbrella; they pave the way for redistribution of economic power at the world level. Only the already well-developed countries are favoured in this process and the welfare of the less-developed countries will be neglected. The economic crises of the developed countries are easily spread to the developing economies through trade.

### **The following are the major changes after 1991:**

1. Foreign exchange reserves started rising.
  2. There was a rapid industrialization.
  3. The pattern of consumption started improving (or deteriorating).
  4. Infrastructure facilities such as express highways, metro rails, flyovers and airports started expanding (but the local people were thrown away).
- The benefits of this growth in some sectors have not reached the marginalized sections of the community. Moreover, the process of development has generated serious social, economic, political, demographic and ecological issues and challenges. Development

brings benefits, but which section gets this benefit depends on socio-economic structure of the society

- Despite all these initiatives in the Indian economy, a large section of the people of India continue to face basic economic problems such as poverty, unemployment, discrimination, social exclusion, deprivation, poor healthcare, rising inflation, agricultural stagnation, food insecurity and labour migration. However, for these problems, Government policies alone cannot be blamed. As new institutional economists suggest, the values, beliefs, norms etc. of the individuals also matter.

### Disinvestment

Disinvestment means selling of government securities of Public Sector Undertakings (PSUs) to other PSUs or private sectors or banks. This process has not been fully implemented.

### Relative Position of on Indian Economy

- (This discussion is suitable for a particular period only, there may be changes afterwards)



- According to International Monetary Fund, World Economic Outlook (October-2016), GDP (nominal) of India in 2016 at current prices was 42,251 billion. India contributed 2.99% of total world's GDP in exchange rate basis. India shared 17.5 percent of the total world population and 2.4 percent of the world surface area. India was now 7th largest economy of the world in 2016.
- India was at 3rd position after China and Japan among Asian countries. India shared 8.50% of total Asia's GDP (nominal) in 2016.

## Industrial Sector Reforms

- The Prime Minister of India announced the new industrial policy on July 24, 1991. The new policy radically liberalized the industrial policy itself and de-regulated the industrial sector substantially. The primary objectives of the industrial policy were to promote major industries from the clutches of bureaucrats, to abolish restrictions on foreign direct investment, to liberate the indigenous enterprise from the restrictions of MRTP Act, to maintain a sustained growth in productivity and employment and also to achieve international competitiveness.

## Important Initiatives by the Government towards Industrial Policy

The policy has brought changes in the following aspects of industrial regulation:

1. Industrial Delicensing
2. De reservation of the industrial sector
3. Public sector policy (de reservation and reform of PSEs)
4. Abolition of MRTP Act
5. Foreign investment policy and foreign technology policy.

### Industrial De regulation

#### Before 1991

#### After 1991

Industrial licensing for all commodities	Licensing restricted to alcohol, drugs etc.,
Private Sector not allowed in many industries	Only defence, energy, railway for public sector large scale privatization, disinvestment
Controls on price fixation and distribution	Market allowed to determine prices

1. **Industrial Delicensing policy:** the most important objective of the new industrial policy of 1991 was the end of the industrial licensing or the license raj or red tapism. Under the industrial licensing policies, private sector firms had to secure licenses to start an industry.

2. **De reservation of the industrial sector:** Previously, the public sector was given reservation especially in the capital goods and key industries. Under industrial deregulation, most of the industrial sectors were opened to the private sector as well. Under the new industrial policy, only three sectors viz., atomic energy, mining and railways will continue as reserved for public sector. All other sectors have been opened for private sector participation.
3. **Reforms related to the Public sector enterprises:** Reforms in the public sector were aimed at enhancing efficiency and competitiveness of the sector. The government identified strategic and priority areas for the public sector to concentrate. Loss making PSUs were sold to the private sector.
4. **Abolition of MRTP Act:** The New Industrial Policy of 1991 has abolished the Monopoly and Restrictive Trade Practices Act 1969. In 2010, the Competition Commission has emerged as the watchdog in monitoring competitive practices in the economy. The policy caused big changes including emergence of a strong and competitive private sector and a sizable number of foreign companies in India.
5. **Foreign investment policy:** Another major feature of the economic reform was red carpet welcome to foreign investment and foreign technology. This measure has enhanced the industrial competition and improved business environment in the country. Foreign investment including FDI and FPI were allowed. In 1991, the government announced a specified list of high-technology and high-investment priority industries wherein automatic permission was granted for foreign direct investment (FDI) up to 51 % foreign equity. The limit was raised to 74 percent and subsequently to 100 percent for many of these industries. Moreover, many new industries have been added to the list over the years. Foreign Investment Promotion Board (FIPB) has been set up to negotiate with international firms and approve foreign direct investment in select areas.



## Impact of LPG on Agricultural Sector Reforms

- Since the inception of economic reforms, Indian economy has achieved a remarkable rate of growth in industry and service sector. However, this growth process bypassed the agricultural sector, which showed sharp deceleration in the growth rate (3.62 % during 1984/85 - 1995/96 to 1.97 percent in 1995/96 - 2004/05). The sector has recorded wide variations in yield and productivity and there was a shift towards cash crop cultivation. Moreover, agricultural indebtedness pushed several farming households into poverty and some of them resorted to extreme measures like suicides.

## Crop Insurance

- Agriculture in India is highly prone to risks like droughts and floods. It is necessary to protect the farmers from natural calamities and ensure their credit eligibility for the next season. For this purpose, the Government of India introduced many agricultural schemes throughout the country. The Pradhan Mantri Fasal Bima Yojana (Prime Minister's Crop Insurance Scheme) was launched on **18 February 2016**. It envisages a uniform premium of only 2 % to be paid by farmers for Kharif crops and 1.5 % for Rabi crops. The premium for (annual) commercial and horticultural crops will be 5 %

## Cold Storage

- India is the largest producer of fruits and second largest producer of vegetables in the world. In spite of that per capita availability of fruits and vegetables is quite low because of post-harvest losses which account for about 25% to 30% of production. Besides, quality of a sizable quantity of produce also deteriorates by the time it reaches the consumer. Most of the problems relating to the marketing of fruits and vegetables can be traced to their perishability. Perishability is responsible for high marketing costs, market gluts, price fluctuations and other similar problems. In order to overcome this constraint, the Government of India and the Ministry of Agriculture promulgated an order known as "Cold Storage Order, 1964" under Section 3 of the Essential Commodities Act, 1955. However, the cold storage facility is still very poor and highly inadequate.

## Post Harvest measures

- The annual value of harvest and post-harvest losses of major agricultural produce at national level was of the order of Rs.92,651 crores, calculated using production data of 2012-13 at 2014 and wholesale prices, estimated by the Indian Council of Agricultural Research (ICAR).

Food Items Waste (%)	
Crops	Cumulative wastages (%)
Cereals	5-6
Pulses	6 - 8
Oil seeds	3-10
Fruits &Vegetables	5-16
Milk	1
Fisheries (in land)	5
Fisheries (Marine)	10
Meat	3
Poultry	7

Source: Ministry of Food Processing Industries, GoI, 2016

## Kisan Credit Card Scheme

A Kisan Credit Card (KCC) is a credit delivery mechanism that is aimed at enabling farmers to have quick and timely access to affordable credit. It was launched in 1998 by the Reserve Bank of India and NABARD. The scheme aims to reduce farmer dependence on the informal banking sector for credit - which can be very expensive and suck them into a debt spiral. The card is offered by cooperative banks, regional rural banks and public sector banks. Based on a review of the working of the KCC, the government has advised banks to convert the KCC into a smart card cum debit card.

- In order to reduce wastage of agricultural produce and minimize post-harvest losses, the Ministry of Food Processing Industries (MoFPI) has implemented various components of Central Sector Schemes, namely:
- Mega Food Parks; Integrated Cold Chain; Value Addition Preservation Infrastructure; Modernization of Slaughter house

Scheme for Quality Assurance; Codex Standards; Research and Development and Other promotional activities.

- Further, the GoI extended support to arrest post harvest losses of horticulture and non-horticulture produce and to provide integrated cold chain and preservation infrastructure facilities from the farm gate to the consumer or from the production site to the market since 2008-09. However, the improvement is not visible for it is not substantial.

### **Agricultural Produce Market Committee**

- Agricultural Produce Market Committee (APMC) is a statutory body constituted by state government in order to trade in agricultural or horticultural or livestock products.

### **Functions of APMC**

1. To promote public private partnership in the ambit of agricultural markets.
2. To provide market led extension services to farmer.
3. To bring transparency in pricing system and transactions taking place in market in a transparent manner.
4. To ensure payments to the farmers for the sale of agricultural produce on the same day.
5. To promote agricultural activities.
6. To display data on arrivals and rates of agricultural produce from time to time into the market.

### **Agrarian Crisis after Reforms**

- a. High input Costs: The biggest input for farmers is seeds. Before liberalisation, farmers across the country had access to seeds from state government institutions. The institutions produced own seeds and were responsible for their quality and price. With liberalization, India's seed market was opened up to global agribusinesses. Also, following the deregulation many state government institutions were closed down in 2003. These hit farmers doubly hard: seed prices shot up, and fake seeds made an appearance in a big way.

- b. Cutback in agricultural subsidies: Farmers were encouraged to shift from growing a mixture of traditional crops to export oriented 'cash crops' like chill, cotton and tobacco. Liberalisation policies reduced the subsidies on pesticide, fertilizer and elasticity. As a result prices have increased by 300%. However, the prices of agricultural goods have not increased to that extent.
- c. Reduction of import duties: With a view to open India's markets, the liberalization reforms also withdrew tariffs and duties on imports. By 2001, India completely removed restrictions on imports of almost 1,500 items including food. As a result, cheap imports flooded the market, pushing prices of crops like cotton and pepper down.
- d. Paucity of credit facilities: After 1991 the lending pattern of commercial banks, including nationalised bank drastically changed. As a result, loan was not easily adequate. This has forced the farmers to rely on moneylenders who charge exorbitant rate of interest.

### Trade Reforms:

- Trade Policy Reforms: The main features of the new trade policy as it has evolved over the years since 1991 are as follows:
  - Free imports and exports: Prior to 1991, in India imports were regulated. From 1992, imports were regulated by a limited negative list. For instance, the trade policy of 1 April 1992 freed imports of almost all intermediate and capital goods. Only 71 items remained restricted. This would affect the domestic industries.
  - Rationalization of tariff structure and removal of quantitative restrictions: The Chelliah Committees Report had suggested drastic reduction in import duties. It had suggested a peak rate of 50 percent. As a first step towards a gradual reduction in the tariffs, the 1991-92 budget had reduced the peak rate of import duty from more than 300 percent to 150 percent. The process of lowering the customs

tariffs was carried further in successive budgets. This also affected the domestic industries.

### 9.8.1 Export and Import Policy

- The Government of India, Ministry of Commerce and Industry announced New Foreign Trade Policy on 01st April 2015 for the period of 2015-2020.

#### Salient Features of “EXIM POLICY (2015-2020)”

- The new EXIM policy has been formulated focusing on increasing in exports scenario, boosting production and supporting the concepts like Make in India and Digital India.
  - Reduce export obligations by 25% and give boost to domestic manufacturing supporting the “Make in India” concept.
  - As a step to Digital India concept, online procedure to upload digitally signed document by CA/CS/Cost Accountant are developed and further mobile app for filing tax, stamp duty has been developed.
  - Repeated submission of physical copies of documents available on Exporter Importer Profile is not required.
  - Export obligation period for export items related to defence, military store, aerospace and nuclear energy to be 24 months.
  - EXIM Policy 2015-2020 is expected to double the share of India in World Trade from present level of 3% by the year 2020. This appears to be too ambitious.

#### Special Economic Zones

- With a view to overcome the shortcomings experienced on account of the multiplicity of controls and clearances, absence of world-class infrastructure, and an unstable fiscal regime and with a view to attract larger foreign investments in India, the Special Economic Zones (SEZs) Policy was announced in April 2000.
- As part of the economic reforms, the system of taking over land by the government for commercial and industrial purposes was introduced in the country. As per the Special Economic Zones Act of

2005, the government has so far notified about 400 such zones in the country. Since the SEZ deprives the farmers of their land and livelihood, it is harmful to agriculture. In order to promote export and industrial growth in line with globalisation the SEZ was introduced in many countries

### History of SEZ in India

<p>First ever export processing zone (EPZ) in Asia was set up by government of India in Kandla in 1965.</p>	<p style="margin-left: 20px;">Based on the success of Kandle EPZ in the beginning of eighties, seven more EPZs were set up in Bombay, Noida Surat, Madras, Falta, Visakapattinam</p> <p style="margin-left: 20px;">To invite larger foreign investments in India, these EPZs were converted into special Economic Zones (SEZs) in the year 2000 under a new policy announced by the Government of India.</p>
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- India was one of the first in Asia to recognize the effectiveness of the Export Processing Zone (EPZ) model in promoting exports, with Asia's first EPZ set up in Kandla in 1965. The broad range of SEZ covers free trade zones, export processing zones, industrial parks, economic and technology development zones, high-tech zones, science and innovation parks, free ports, enterprise zones, and others.

### Major Objectives of SEZs

1. To enhance foreign investment, especially to attract foreign direct investment (FDI) and thereby increasing GDP.
2. To increase shares in Global Export (International Business).
3. To generate additional economic activity.
4. To create employment opportunities.
5. To develop infrastructure facilities.
6. To exchange technology in the global market.

### Main Characteristics of SEZ

- a. Geographically demarked area with physical security
- b. Administrated by single body/ authority
- c. Streamlined procedures
- d. Having separate custom area

- e. Governed by more liberal economic laws.
- f. Greater freedom to the firms located in SEZs. As a result, they need not respect the Government's rules and regulations. The social and environmental impacts were disastrous.

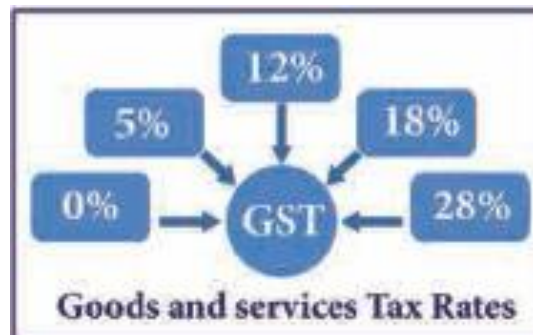
### **Fiscal Reforms**

- A key element in the stabilization effort was to restore fiscal discipline. It means reduction of fiscal deficit to the extent of just 3% of GDP, as suggested by Fund Bank Policies. In this way, the budget aimed at containing government expenditure and augmenting revenues; reversing the downtrend in the share of direct taxes to total tax revenues and curbing conspicuous consumption. Some of the important policy initiatives introduced for correcting the fiscal imbalance were: reduction in fertilizer subsidy, abolition of subsidy on sugar and disinvestment of a part of the government's equity holdings in select public sector undertakings. Gradually expenditures on welfare measures were reduced; taxes on corporate sectors were reduced; and taxes on poor people were increased.

### **Goods and Services Tax (GST)**

- Goods and Services Tax (GST) is defined as the tax levied when a consumer buys a good or service. It is proposed to be a comprehensive indirect tax levied on manufacture, sale and consumption of goods as well as services. GST aims to replace all indirect taxes levied on goods and services by the Indian Central and State governments. GST would eliminate the cascading effect of taxes on the production and distribution of goods and services. It is also a "one-point tax" Unlike VAT which was a multipoint tax.
- The Goods and Service Tax Act was passed in the Parliament on 29th March 2017. The Act came into effect on 1st July 2017. The motto is one nation, one market, one tax.

## Current GST Rates in India



## Advantages of GST

- Removing cascading tax effect
- Single point tax
- Higher threshold for registration
- Composition scheme for small business
- Online simpler procedure under GST
- Defined treatment for e-commerce
- Increased efficiency in logistics
- Regulating the unorganized sector

## Monetary and Financial Sector Reforms

- Monetary reforms aimed at doing away with interest rate distortions and rationalizing the structure of lending rates. The new policy tried in many ways to make the banking system more efficient. Some of the measures undertaken were:
  - a. **Reserve Requirements:** Reduction in statutory liquidity ratio (SLR) and the cash reserve ratio (CRR) were recommended by the Narasimham Committee Report, 1991. It was proposed to cut down the SLR from 38.5 percent to 25 percent within a time span of three years. Similarly it was proposed that the CRR be brought down to 3 to 5% over a period of four years.
  - b. **Interest Rate Liberalisation:** Earlier, RBI controlled (i) the interest rates payable on deposits, (ii) the interest rates which could be charged for bank loans.



- c. Greater competition among public sector, private sector and foreign banks and elimination of administrative constraints.
- d. Liberalisation of bank branch licensing policy in order to rationalize the existing branch network.
- e. Banks were given freedom to relocate branches and open specialized branches
- f. Guidelines for opening new private sector banks.
- g. New accounting norms regarding classification of assets and provisions of bad debt were introduced in tune with the Narasimham Committee Report.

## Conclusion

- There is no doubt that the Indian economy recorded ample achievements in some sectors after new economic policy. If the size of an economy provides the first impression of a country's political and economic strength, then India has indeed grown since 1991. In dollar terms, India's GDP crossed the \$2-trillion mark in 2015-16. Currently, the country is ranked ninth in the world in terms of nominal GDP. Once India was rebuked for its "Hindu rate of growth", a term used by Raj Krishna to refer to low rate of economic growth. The GDP growth rate of India is very much appreciated. This growth is also due to changes in accounting system. That is why the increased GDP growth rate has failed to alleviate the miseries of the common people and to reduce the socio, economic and environmental imbalances. The basic problems of unemployment, poverty ill-health and inequalities remain unsolved.

## Glossary

**Liberalization** - Liberalization refers to the relaxation of the government restriction usually in the area of social and economic policies.

**Privatization** - It refers to the participation of private entities in businesses and services and transfer of ownership from public sector to private sector as well.

- Globalization various - Globalization stands for the consolidation of the economies of the world.
- Disinvestment public - The action of a government selling or liquidating asset.
- Industrial removing - Abolishing Delicensing government control by the earlier restriction and licenses.
- Foreign Direct Investment - It comprises Foreign Direct Investment and Foreign Portfolio Investment.
- Cold Storage place - A storage of agricultural commodities in in a cold for preservation.
- SEZ different trade, - It is an area in which business and trade laws are from rest of the country mainly aiming at increasing investment and job creation.
- SLR cash - Statutory Liquidity ratio refers to the amount that the commercial banks require to maintain in the form of or gold or government approved securities before providing credit to the customers.

## 10. Rural Economics

### Introduction

- Rural Economics deals with the application of economic principles in understanding and developing rural areas. In general, rural areas are geographical areas located outside towns and cities. According to the Census of India, the basic unit for rural areas is the revenue village. Rural economy refers to villages, and rural community refers to people living in villages. Rural areas have problems like backwardness of agriculture, low income, low employment opportunities, poverty, low infrastructural development, low illiteracy, low labour productivity, lower prices of agricultural products, surplus labour force, larger population, high level of migration and high dependency on natural resources and nature. According to the 2011 Population Census, there are 6,40,867 villages in India and 68.84 percent of the 121 crore total population live in rural areas.

### Features of Rural Economy

Main characteristics of rural economy are:

1. **Village is an Institution:** The Village is a primary institution and it satisfies almost all the needs of the rural community. The rural people have a feeling of belongingness and a sense of unity towards each other.
2. **Dependence on Agriculture:** The rural economy depends much on nature and agricultural activities. Agriculture and allied activities are the main occupation in rural areas.
3. **Life of Rural People:** Lifestyles in villages are very simple. Public services like education, housing, health and sanitation, transport and communication, banking, roads and markets are limited and unavailable. Rural people rely much on faith, superstitions and traditional cultural practices. The standards of living of majority of rural people are poor and pitiable. In terms of methods of production, social organization and political mobilization, rural sector is extremely backward and weak. In recent years, the incidence of alcohol drinking has gone up.

4. **Population Density:** Population density, measured by number of persons living per sq. km is very low and houses are scattered in the entire villages.
5. **Employment:** There exists unemployment, seasonal unemployment and underemployment in rural areas. Unemployment refers to the situation of people with willingness and ability to work but is not getting employed. Underemployment also called disguised unemployment is the situation of people employed in excess, over and above the requirement. Disguised unemployment is a situation Where people work but no increase in production. Both the situations are common in rural areas.
6. **Poverty:** Poverty is a condition where the basic needs of the people like food, clothing and shelter are not being met. According to the 2011-12 estimates, About 22 crores of people in rural areas are poor and live below the poverty line.
7. **Indebtedness:** People in rural areas are highly indebted owing to poverty and underemployment, lack of farm and non-farm employment opportunities, low wage employment, seasonality in production, poor marketing network etc. A famous British writer Sir Malcolm Darling (1925) stated that 'A n Indian farmer is born in debt, lives in debt, dies in debt and bequeaths debt'. Since formal loan facilities are not available to the villagers, they depend on local money lenders who, like a parasite, squeeze the villagers. Hence the villagers commit suicide frequently.
8. **Rural Income:** The income of the rural people is constrained as the rural economy is not sufficiently vibrant to provide them with jobs or self - employment opportunities. Large proportion of labourers and skilled persons are underemployed and the scope for increasing their income is limited.
9. **Dependency:** Rural households are largely dependent on social grants and remittances from family members working in urban areas and cities.
10. **Dualism:** Dualism means the co existence of two exteremely different features like developed and underdeveloped, organised and unorganised, traditional and modern, regulated and unregulated, poor and rich, skilled and unskilled and similar contradicting situations in a region. These characteristics are very common in rural areas.

11. **Inequality:** The distributions of income, wealth and assets are highly skewed among rural people. There are number of historical, social, economic and political reasons behind the existence of inequality. Landlords and landowners dominate the rural activities. Land, livestock and other assets are owned by a few people
12. **Migration:** Rural people are forced to migrate from villages to urban areas in order to seek gainful employment for their livelihood. This character of the development gives rise to the formation of cities. Enmity and Lack of basic amenities in rural areas also push the people to migrate to urban areas. This is called 'double poisoning' by Schumacher, one side villages are empty, on the other side towns are congested. His book is "Small is Beautiful" describes the dangers of the present kind of development.

### Meaning of Rural Development

- Rural Development is defined as an overall improvement in the economies and social well-being of villagers and the institutional and physical environments in which they live. According to the World Bank, 'Rural Development is a strategy designed to improve the economic and social life of a specific group of people - rural poor'. In short, rural development is a process of improving the rural areas, rural people and rural living.

### Need for Rural Development

- Rural development is very urgent in the context of the overall growth and development of Indian economy due to the following reasons.
  1. A major share of population lives in rural areas, and their development and contributions are very much supportive for the nation building activities. India cannot be developed by retaining rural as backward.
  2. The rural economy supports the urban sectors by way of supplying drinking water, milk, food and raw materials. Hence, the backwardness of the rural sector would be a major impediment to the overall progress of the economy.

3. Improvements in education, health and sanitation in villages can help avoid many urban problems namely, begging, rack picking and road side slumming.
4. Development of agriculture and allied activities are necessary for providing gainful employment in rural areas and improving overall food production.
5. The evils of brain-drain and rural-urban migration can be reduced if rural areas are developed.
6. In order to better utilise the unused and under-utilised resources, there is a need to develop the rural economy.
7. Rural development should minimise the gap between rural and urban areas in terms of the provision of infrastructural facilities. It was called as PURA by former President Abdul Kalam.
8. In order to improve the nation's status in the global arena in terms of the economic indicators like Human Development Index (HDI), Women Empowerment Index (WEI), Gender Disparity Index (GDI), Physical Quality of Life Index (PQLI) and Gross National Happiness Index (GNHI) should be given due attention.

### **Problems of Rural Economy**

- Rural areas are facing number of problems relating to, 1) People, 2) Agriculture, 3) Infrastructure, 4) Economy, 5) Society and Culture, 6) Leadership and 7) Administration.

The problems of rural economy are discussed below.

1. **People Related Problems:** The problems related to individuals and their standard of living consist of illiteracy, lack of technical knowhow, low level of confidence, dependence on sentiments and beliefs etc.
2. **Agriculture Related Problems:** The problems related to agriculture include 1.Lack of expected awareness, knowledge, skill and attitude, 2.Unavailability of inputs, 3.Poor marketing facility, 4.Insufficient extension staff and services, 5.Multidimensional tasks to extension personnel, 6.Small size of land holding, 7.Sub-division and fragmentation of landholdings, 8.Absence of infrastructure to work and stay in rural areas, 9.Primitive technology and low adoption of modern technologies 10. Reduced

public investment and absence of role for farmers in fixing the prices for their own products.

3. **Infrastructural Related Problems:** Poor infrastructure facilities like, water, electricity, transport, educational institutions, communication, health, employment, storage facility, banking and insurance are found in rural areas.
  4. **Economics related Problems:** The economic problems related to rural areas are: inability to adopt high cost technology, high cost of inputs, under privileged rural industries, low income, indebtedness and existence of inequality in land holdings and assets. In fertile areas, a few absentee landlords own large area and they do not evince greater Interest in improving the performance of agriculture.
  5. **Leadership Related Problems:** The specific leadership related problems found in rural areas are: Leadership among the hands of inactive and incompetent people, self-interest of leaders, biased political will, less bargaining power and negation skills and dominance of political leaders.
  6. **Administrative Problems:** The rural administrative problems consist of political interference, lack of motivation and interest, low wages in villages, improper utilization of budget, and absence of monitoring and implementation of rural development programme.
- Rural poverty, rural unemployment, rural industries, micro finance, rural health and sanitation and rural infrastructures are the issues that are considered for detailed discussion.

## Rural Poverty

- Rural poverty refers to the existence of poverty in rural areas. Poverty in India has been defined as the situation in which an individual fails to earn sufficient income to buy the basic minimum of subsistence. Poverty line is a hypothetical line based on income or consumption levels that divides the population as people below poverty line and above poverty line. On the basis of recommended nutritional intake, persons consuming less than 2,400 calories per day in rural areas are treated as they are under rural poverty.

- As per the Planning Commission estimates, the percentage of people living below poverty in rural areas was 54.10 which accounted for 33.80 per cent during 2009-10. Poverty is deepest among members of scheduled castes and tribes in the rural areas. In 2005 these groups accounted for 80 per cent of rural poor, although their share in the total rural population is much smaller. In 2015, more than 80 crores of India's people lived in villages. One quarter of village population (22 crores people) list below the poverty line. India is the home to 22 per cent of the world's poor. It is needless to state that the country has been successful in reducing the proportion of poor people, in spite of increasing of population.

### Causes for Rural Poverty

Various forces responsible for rural poverty are highlighted below:

1. The distribution of land is highly skewed in rural areas. Therefore, majority of rural people work as hired labour to support their families.
2. **Lack of Non-farm Employment:** Non-farm employment opportunities do not match the increasing labour force. The excess supply of labour in rural areas reduces the wages and increases the incidence of poverty.
3. **Lack of Public Sector Investment:** The root cause of rural poverty in our country is lack of public sector investment on human resource development.
4. **Inflation:** Steady increase in prices affects the purchasing power of the rural poor leading to rural poverty.
5. **Low Productivity:** Low productivity of rural labour and farm activities is a cause as well as the effect of poverty.
6. **Unequal Benefit of Growth:** Major gains of economic development are enjoyed by the urban rich people leading to concentration of wealth. Due to defective economic structure and policies, gains of growth are not reaching the poor and the contributions of poor people are not accounted properly.
7. **Low Rate of Economic Growth:** The rate of growth of India is always below the target and it has benefited the rich. The poor are always denied of the benefits of the achieved growth and development of the country.



8. **More Emphasis on Large Industries:** Huge investment in large industries catering to the needs of middle and upper classes in urban areas are made in India. Such industries are capital-intensive and do not generate more employment opportunities. Therefore, poor are not in a position to get employed and to come out from the poverty in villages.
9. **Social Evils:** Social evils prevalent in the society like custom, believes etc. increase unproductive expenditure.

### Remedial Measures to Rural Poverty

- Since rural unemployment and rural poverty are interrelated, creation of employment opportunities would support elimination of poverty. Poverty alleviation schemes and programmes have been implemented, modified, consolidated, expanded and improved over time. However, unemployment, begging, rag picking and slumming continues. Unless employment is given to all the people poverty cannot be eliminated. Who will bell the cat?

#### Poverty Eradication Schemes

Schemes	Year of launch
20 Point Programme	1975
Integrated Rural development Programme(IRDP)	1976
Training Rural Youths for Self- Employment (TRYSEM)	1979
Food for Work Programme (FWP)	1977
National Rural Employment Programme (NREP)	1980
Rural Landless Employment Guarantee Programme(RLEGP)	1983
Jawahar Rozgar Yojana(JRY)	1989
Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)	2006

#### Development Schemes

Pradhan Mantri Adarsh Gram Sadak Yojana (PMAGSY)	2010
Bharat Nirman Yojana	2005
Indira Awas Yojana	1985
Jawaharlal Nehru National Urban Renewal Mission (JNNURM)	2005
Rajiv Awas Yojan (RAY)	2009
National Rural Health Mission	2005
National Rural Livelihood Mission	2011

## Rural Unemployment

- Unemployment is a situation in which a person is actively searching for employment but unable to find work at the prevailing wage rate. It is a tragic waste of manpower and underutilisation of human resources. As long as there is unemployment, social problems cannot be stopped; and, economy cannot achieve development.

Peter Diamond, Dale Mortensen and Christopher Pissarides shared 2010 Economics Nobel prize for jobs study. Their model, called DMP model, helps us understand how regulation and economic policies affect unemployment, job vacancies and wages.

- As on 4th October 2016, rural unemployment was 7.8 per cent which is less than urban unemployment (10.1 per cent) and all India unemployment rate (8.5 per cent). Rural unemployment in India are categorised into three classes: (i) Open Unemployment (ii) Concealed Unemployment or Under employment and (iii) Seasonal Unemployment. In **Open Unemployment**, unemployed persons are identified as they remain without work. This type of unemployment is found among agricultural labourers, rural artisans and literate persons. In **Concealed Unemployment**, it is difficult to identify who are under employed; for many are employed below their productive capacity and even if they are withdrawn from work the output will not diminish. It is also called Disguised Unemployment or Under employment. This type of unemployment is found among small and marginal farmers, livestock rearers and rural artisans. This kind of unemployment situation is more serious in villages than in urban areas. Disguised unemployment in rural India is 25 per cent to 30 per cent. In **Seasonal Unemployment**, employment occurs only on a particular season supported by natural circumstances and the remaining period of a year the rural people are unemployed or partially employed. In seasons like ploughing, sowing, weeding and harvesting there is scarcity of labour and in the rest of the year there is unemployment. It is pathetic to note that a farmer who cultivates one crop in a year usually goes without a job for almost 5 to 7 months and ultimately commit suicide.

- According to the Agricultural Labour Enquiry Committee Report,  
“the extent of under employment is on the average, 82 days of unemployment in a year for 84 per cent of agricultural labours.”

### **Causes for Rural Unemployment**

- Causes for rural unemployment in India are discussed below:
  1. **Absence of skill development and employment generation:**  
Lack of Government initiatives to give required training and then to generate employment opportunities.
  2. **Seasonal Nature of Agriculture:** Agricultural operations are seasonal in nature and depend much on nature and rainfall. Therefore, the demand for labour becomes negligible during off-season. So, non-farm employment opportunities must be created.
  3. **Lack of Subsidiary Occupation:** Rural people are not able to start subsidiary occupations such as poultry, rope making, piggery etc. due to shortages of funds for investment and lack of proper marketing arrangements. This restricts the employment opportunity and rural family incomes. Government must arrange funds for these people. However, as now they pay huge interest to the local money lenders, for they are unable to get loans from formal sources.
  4. **Mechanization of Agriculture:** The landlords are the principal source of employment to the farm labour. Mechanization of agricultural operations like ploughing, irrigation, harvesting, threshing etc. reduces employment opportunities for the farm labour.
  5. **Capital-Intensive Technology:** The expanding private industrial sector is largely found in urban areas and not creating additional employment opportunities due to the application of capital intensive technologies. Government must establish firms to absorb surplus labour power.
  6. **Defective System of Education:** The present system of education has also aggravated the rural unemployment problem. Large number of degree-producing institutions has come in the recent years. Students also want to get degrees only, not any skill. Degrees should be awarded only on the basis of skills acquired. The unemployed youth should get sufficient facilities to update their skills.

## Remedies for Rural Unemployment

- In order to reduce rural unemployment in the country there is a need to take integrated and coordinated efforts from various levels. A few remedial measures are listed below:
  1. **Subsidiary Occupation:** To reduce the seasonal unemployment rural people should be encouraged to adopt subsidiary occupations. Loans should be granted and proper arrangements should be made for marketing their products.
  2. **Rural Works Programme:** Rural Works Programme such as construction and maintenance of roads, digging of drains, canals, etc should be planned during off-season to provide gainful employment to the unemployed.
  3. **Irrigation Facilities:** Since rainfall is uncertain irrigation facilities should be expanded to enable the farmers to adopt multiple cropping. The increased cropping intensity creates additional demand for labour.
  4. **Rural Industrialization:** To provide employment new industries should be set up in rural areas. This will open new fields of employment and also change the attitude of rural people towards work. For this, government has to do something. Private sector would not take up this responsibility.
  5. **Technical Education:** Employment oriented courses should be introduced in schools and colleges to enable the literate youth to start their own units.

## Rural Industries

- Rural industries embrace all industries which are run by rural people in rural areas. These industries are based primarily on the utilization of locally available raw materials, skills and small amount of capital. The rural industries can be broadly classified into a) cottage industries, b) village industries, c) small industries, d) tiny industries and e) agro-based industries.

**Cottage Industries:** Cottage industries are generally associated with agriculture and provide both part-time and full-time jobs in rural

areas. The important characteristics of this type of industries are as follows:

1. These industries are carried out by artisans in their own homes at their own risk and for their own benefit. Artisans may combine this work with another regular job.
  2. No or little outside labour is employed. Normally, the members of the household provide the necessary labour.
  3. These industries are generally hereditary and traditional in character.
  4. No or little power is used.
  5. These industries usually serve the local market and generally work on the orders placed by other industries.
- Examples of cottage industries are mat, coir and basket making industries. The principal cottage industries of India are hand-loom weaving (cotton, silk, jute, etc.) pottery, washing soap making, conch shell, handmade paper, horn button, mother-of-pearl button, cutlery, lock and key making industries.

**Village Industries:** Village industries are traditional in nature and depend on local raw-material. They cater to the needs of local population. Examples of village industries are gur and khandsari, cane and bamboo basket, shoe making, pottery and leather tanning. These are almost similar to the cottage industries.

**Small Scale Industries (SSIs):** Most small scale industries are located near urban centres. They produce goods for local as well as foreign markets. Examples of such small scale industries are manufacture of sports goods, soaps, electric fans, foot wear, sewing machines and handloom weaving.

- SSIs are also known as Micro, Small & Medium Enterprises (MSMEs). They are defined and categorized by the Micro, Small & Medium Enterprises Development Act, 2006. The Act categorizes different scale of industries on the basis of investment in plant and machinery in case of manufacturing industries and on the basis of investment in equipment in case of service sector industries.

- **Agro-based Industries:** These industries are based on the processing of agricultural produce. Agro-based industries may be organised on a cottage-scale, small-scale and large-scale. These industries tend to develop household settlements around them as they employ more labour on a regular basis. Examples are textile, sugar, paper, vegetable oil, and tea and coffee industries.

### **Rural Indebtedness**

- Rural indebtedness refers to the situation of the rural people unable to repay the loan accumulated over a period. Existence of the rural indebtedness indicates the weak financial infrastructure of our country, in reaching the needy farmers, landless people and the agricultural labourers.
- The farmers borrow loan for various purposes like agricultural operations, supporting the family in the lean season or purchase of equipment's in the recent years, expenses on celebrations, liquor consumption and medicines go on increasing without any limit. Due to lower income, the villagers are unable to repay the loans or pay the pending interest on the principal amount.

According to the Government of India's Socio Economic and Caste Census (SECC), 2015, around 73 per cent of households in India are rural. Of these, 18.5 per cent are scheduled caste households and 11 per cent belong to the scheduled tribe category.

- The data of the National Sample Survey Organisation (NSSO, 2002-03) reveals that only about 30 per cent of the poor borrowers get credit from the formal banks. According to the All India Debt and Investment Survey (AIDIS) 2002, the share of institutional credit has declined from 66.3 per cent in 1991 to 57.1 percent in 2002, with a corresponding increase in informal channels of credit (RBI, 2006).

### **Features of Rural Indebtedness**

- Nearly three fourth of rural families in the country are in debt. The amount of debt is heavier in the case of small farmers. Cultivators are more indebted than the non-cultivators. Most of the debts taken are

short term and of unproductive nature. The proportion of debts having higher rates of interest is relatively high. Most of the villagers are indebted to private agencies particularly money lenders.

### **Causes for Rural Indebtedness**

The causes for rural indebtedness may be summarized as below:

1. **Poverty of Farmers:** The vicious circle of poverty forces the farmers to borrow for consumption, cultivation and celebrations. Thus, poverty, debt and high rates of interest hold the farmer in the grip of money lenders.
2. **Failure of Monsoon:** Frequent failure of monsoon is a curse to the farmers and they have to suffer due to the failure of nature. Therefore, farmers find it difficult to identify good years to repay their debts.
3. **Litigation:** Due to land disputes litigation in the court compels them to borrow heavily. Being uneducated and ignorant they are caught in the litigation process and dry away their savings and resources.
4. **Money Lenders and High Rate of Interest:** The rate of interest charged by the local money lenders is very high and the compounding of interest leads to perpetuate indebtedness of the farmer.

### **Measures to Remove Rural Indebtedness**

- Several remedial measures have been introduced to reduce rural indebtedness. It includes regulation of money lenders, development of rural banks, Regional Rural Banks (RRBs), Micro Finance, formation of Self Help Groups (SHGs), Primary Cooperative Banks and Land Development Banks, Crop Loan Schemes, Lead Bank Schemes, Micro Units Development and Refinance Agency Bank (MUDRA), promotion of subsidiary occupation, of farm employment opportunities, skill development programmes and so on. However, the interest rate charged plus transaction cost for poor people and Self-Help Groups are much higher as compared to that for rich people. For instance, education loan is costlier than car loans.

## **Regional Rural Banks (RRBs)**

- Regional Rural Banks came into existence based on the recommendation made by a working group on rural banks appointed by the Government of India in 1975. RRBs are recommended with a view to developing rural economy by providing credit and other facilities particularly to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs. RRBs are set up by the joint efforts of the Centre and State Governments and commercial banks. At present, there are 64 Regional Rural Banks in India. The RRBs confine their lending's only to the weaker sections and their lending rates are at par with the prevailing rate of cooperative societies.

## **Micro Finance**

- Micro finance, also known as micro credit, is a financial service that offers loans, savings and insurance to entrepreneurs and small business owners who do not have access to traditional sources of capital, like banks or investors. The goal of micro financing is to provide individuals with money to invest in themselves or their business. Microfinance is available through micro finance institutions, which range from small non-profit organizations to larger banks. In India, Non-Government Organizations (NGOs) play a pivotal role in the development of micro finance service. Microfinance industries in India have grown vastly in the last two decades. In 2009, the total number of micro finance institutions in India was around 150 (Tripathi, 2014).

## **Self-Help Groups (SHGs)**

- Self Help Groups are informal voluntary association of poor people, from the similar socio-economic background, up to 20 women (average size is 14). They come together for the purpose of solving their common problems through self-help and mutual help. The SHG promotes small savings among its members. They save small amounts Rs.10 to Rs.50 a month. The savings are kept with a bank. After saving regularly for a minimum of 6 months, they lend small amounts to their members for interest. Based on their performance,



they are linked with the bank for further assistance under SHG Bank Linked Programme (SBLP) started in 1992. It is a holistic programme of micro-enterprises covering all aspects of self-employment, organization of the rural poor into self Help groups and their capacity building, planning of activity clusters, infrastructure build up, technology, credit and marketing.

In 2009-10, the number of new SHGs having credit-linked with banks was 1.59 million and a bank loan of Rs.14,453 Crores was disbursed to these SHGs. Further, the number of SHGs which maintained savings accounts with banks at the end of March 2010 was 6.95 million.

- The main objective of this programme is to bring the beneficiaries above the poverty line by providing income generating assets to them through bank credit and government subsidy. NABARD estimates that there are 2.2 million SHGs in India, representing 33 million members that have taken loans from banks under its linkage program to date. The SHG Banking Linkage Programme since its beginning has been predominant in certain states, showing spatial preferences especially for the southern regions like Andhra Pradesh, Tamil Nadu, Kerala and Karnataka. These SHGs have helped the Banks to accumulate more funds. Actually the banks charge higher interest for the SHGs than car owners.

Under NABARD SHG Linkage Programme, SHGs can borrow credit from bank on showing their successful track record of regular repayments of their borrowers. It has been successful in the states like Andhra Pradesh, Tamil Nadu, Kerala and Karnataka during 2005-06. These States received approximately 60 per cent of SHG linkage credit (Taruna and Yadav, 2016).

### **Major Features of SHGs are**

1. SHG is generally an economically homogeneous group formed through a process of self-selection based upon the affinity of its members.
2. Most SHGs are women's groups with membership ranging between 10 and 20.
3. SHGs have well-defined rules and by-laws, hold regular meetings and maintain records and savings and credit discipline.

4. SHGs are self-managed institutions characterized by participatory and collective decision making.

### **Micro Units Development and Refinance Agency Bank (MUDRA Bank)**

- It is a public sector financial institution which provides loans at low rates to micro-finance institutions and non-banking financial institutions which then provide credit to Micro, Small and Medium Enterprises (MSMEs). It was launched on 8th April 2015.

Mudra Bank

Micro Units Development and Refinance Agency

Regulate and Refinance and Micro finance Institutions

### **The principal objectives of the MUDRA Bank are the following**

1. Regulate the lender and the borrower of microfinance and bring stability to the microfinance system.
2. Extend finance and credit support to Microfinance Institutions (MFI) and agencies that lend money to small businesses, retailers, self-help groups and individuals.
3. Register all MFIs and introduce a system of performance rating and accreditation for the first time.
4. Offer a Credit Guarantee scheme for providing guarantees to loans being offered to micro businesses.
5. Introduce appropriate technologies to assist in the process of efficient lending, borrowing and monitoring of distributed capital.

### **Rural Health, Nutrition and Sanitation**

- Health is an important component for ensuring better quality of life. Large masses of the Indian poor continue to fight hopeless and constantly losing the battle for survival and health. Indian rural people are suffering with various epidemics such as small pox, cholera, malaria, typhoid, dengue, chicken guniya, etc. This is mainly due to lack of medical facilities, deep ignorance and poverty. Indian Constitution clearly lays down that "States shall regard the rising of the level of nutrition and standard of living of its people and improvement of public health as among its primary duties". To meet

this constitutional directive. Several programmes for nutrition have been implemented. These include Supplementary Feeding Programmes including Mid Term Meal Programme, Nutrition Education through Printed Media and Television and Compulsory Fortification of Common Salt with Iodine. Still in terms of health standard, Sri Lanka is better than India, and in India, Kerala is better than Tamil Nadu.

### **National Rural Health Mission**

- The National Rural Health Mission (NRHM) was launched on 12th April 2005, to provide accessible, affordable and quality health care to the rural population, especially the vulnerable groups. NRHM seeks to provide equitable, affordable and quality health care to the rural population, especially the vulnerable groups.
- NRHM focuses on Reproductive, Maternal, New-born, Child Health and Adolescent (RMNCH+A) Services. The emphasis here is on strategies for improving maternal and child health through a continuum of care and the life cycle approach.

### **Rural Infrastructure**

#### **Rural Housing**

- House is one of the basic needs of every family. Provision of better housing facilities increases the productivity of labour. The housing problem is getting aggravated due to rapid adaptation of nuclear families. Housing does not mean provision of house alone but also proper water supply, good sanitation, proper disposal of sewage etc. The problem of housing can be tackled by the development of low cost technology in house construction, provision of adequate housing finance and provision of land sites to landless workers in rural areas. As per the NSSO data, 38 per cent of the households lived in with one room while another 36 per cent lived with two rooms.

### **Rural Market**

- Road Market refers to the infrastructure created to buy and sell the products produced in rural areas and also to purchase the needed

products and farm inputs produced in urban and other regions. The rural marketing is still defective as farmers lack bargaining power, long chain of middlemen, lack of organisation, insufficient storage facilities, poor transport facilities, absence of grading, inadequate information and poor marketing arrangements.

Rural roads in India constitute 26.50 lakh kms, of which 13.5 percent of the roads are surfaced.

India's road network is one of the world's largest. The road length of India increased from about 4 lakh kms in 1950-51 to 34 lakh kms at present (2018).

### **Rural Roads**

- Road transport is an important constituent of the transport system. Rural roads constitute the very life line of rural economy. A well-constructed road network in rural area would bring several benefits including the linking of remote villages with urban centres, reduction in cost of transportation of agricultural inputs and promotion of marketing for rural produces. It helps the farmers to bring their produce to the urban markets and to have access to distant markets and other services.

### **Rural Electrification**

- Rural Electrification refers to providing electrical power to rural areas. The main aims of rural electrification are to provide electricity to agricultural operations and to enhance agricultural productivity, to increase cropped area, to promote rural industries and to lighting the villages. In order to improve this facility the supply of electricity is almost free for agricultural purpose in many states and the electricity tariff charged in rural areas is kept very low. In India 99.25% of villages were electrified at the end of March 2017. As on 31.03.2017, 100 percent electrification was achieved in villages of 20 States/UTs namely, Chandigarh, Delhi, Haryana, Himachal Pradesh, Punjab, Rajasthan, Daman & Diu, D & N Haveli, Goa, Gujarat, Maharashtra, Andhra Pradesh, Kerala, Lakshadweep, Puducherry, Tamil Nadu, Telangana, Andaman & Nicobar Island, Sikkim and Tripura.

The factors hindering the progress of rural electrification in India are:

1. Lack of Funds: The generation and transmission of power involves huge expenditure and the fund allocation is low.
2. Inter-state Disputes: As there are inter-state disputes in managing power projects, power distribution is affected.
3. Uneven Terrain: As rural topography is uneven without proper connection, developing new lines are costlier and difficult.
4. High Transmission Loss: Transmission loss in power distribution is almost 25 per cent in rural areas.
5. Power Theft: Unauthorized use and diversion of power are evil practices adopted by affluent people that hinder the rural electrification process.

### Requirements for Rural Development

- Slater Villages: Gilbert Slater, the first professor of economics at Madras University, published his book, Some South Indian Villages, in 1918 following a survey of some villages like Vadamalaipuram (Ramnad), Gangaikondan (Tirunelveli), Palakkuurichi (Tanjore) and Dusi (North Arcot) in Tamil Nadu by his students. It was subsequently done by different groups of researchers in the 1930s, 1950s, 1960s, and two of the villages only in the early 21st century. The resurveys became an important historical record. They provided a baseline for several later revisits to his villages, and have inspired many successors. Much of our knowledge of rural change depends on these studies.
1. Efforts need to be made to raise farm and non-farm rural real incomes.
  2. Investment in basic infra-structure and social services need to be increased.
  3. Coordinated and integrated programmes for solving the present problems and to achieve sustainable development need to be designed.
  4. Persons and leaders with an understanding of reality of rural problems and with the required foresight vision should be consulted while designing development programmes.

## Conclusion

- Crucial steps to strengthening the rural economy are already being taken through various policies. These steps include investments in areas ranging from health, information technology, education, infrastructure and small business. The Administration is committed to building on these unprecedented measures in the months and years to come. PURA (Provision of Urban facilities for Rural Areas) needs to be given due emphasis, without which Indian villages cannot prosper.

## Glossary

Rural Economics	Application of Economic Principles in rural areas.
Population Density	Number of persons living per sq.km or per sq. mile.
Unemployment	Situation of people with willingness and ability to work but not getting employed.
Open Unemployment	Unemployed persons are identified as they remain without work.
Seasonal Unemployment	Employment occurs only in a particular season and workers remain unemployed in the remaining period of a year.
Under employment	Situation where people employed in excess over and above the requirements.
Poverty	Condition where the basic needs of the people like food, clothing and shelter are not being met.
Dualism	Co-existence of two extremely different features.
Rural Development	Process of improving the rural areas, rural people and rural living.
Rural Electrification	Providing electrical power to rural areas.

## CHAPTER 3

### Theories of Employment and Income

#### Introduction

- The economic history has shown many countries facing economic problems. Out of these problems, unemployment is the most vexing. Both classical economists and Keynes have explained the relationship between employment and income. The classical economists had great faith in the law of markets articulated by J.B. Say, the French economist. J. M. Keynes is one of the greatest and most influential economists of the mid 20th century.

#### Meaning of Full Employment

- Full employment refers to a situation in which every able bodied person who is willing to work at the prevailing wage rate, is employed. In other words full employment means that persons who are willing to work and able to work must have employment or a job; Keynes defines full employment as the absence of involuntary unemployment.
- Lerner defines full employment as “that level of employment at which any further increase in spending would result in an inflationary spiral of wages and prices”.
- Every economy in the world aims at attaining the level of full employment equilibrium where all its available resources are fully and efficiently employed to achieve maximum level of output. But in reality, the concept of full employment generally refers to full employment of labour force of a country.

#### Unemployment and its types

- Unemployment is problem faced when there are people, who are willing to work and able to work but cannot find suitable jobs.
- While formulating policies to solve the problem of unemployment in India for instance, we need to distinguish between the nature of

unemployment in rural areas and in urban areas in India. India's rural economy has both unemployment and underemployment. The major feature of rural unemployment is the existence of unemployment in the form of disguised unemployment and seasonal unemployment. In India, frictional, structural and open unemployment exist in urban areas. Due to urbanization, a large number of people move from rural areas to urban areas. This migration from rural to urban areas increases the size of labour force in urban areas and adds to the already unemployed labour force.

### **Types of unemployment:**

- In developing countries like India, the nature of unemployment is different from that of developed countries. In developed countries, the unemployment is purely temporary or cyclical or frictional. But in the developing countries, it is largely structural unemployment which is due to slow rate of capital formation.

**The following are the types of unemployment.**

#### **1. Cyclical Unemployment**

- This unemployment exists during the downturn phase of trade cycle in the economy. In a business cycle during the period of recession and depression, income and output fall leading to widespread unemployment. It is caused by deficiency of effective demand. Cyclical unemployment can be cured by public investment or expansionary monetary policy.

#### **2. Seasonal Unemployment**

- This type of unemployment occurs during certain seasons of the year. In agriculture and agro based industries like sugar, production activities are carried out only in some seasons. These industries offer employment only during that season in a year. Therefore people may remain unemployed during the off season. Seasonal unemployment happens from demand side also; for example ice cream industry, holiday resorts etc.

#### **3. Frictional Unemployment (Temporary Unemployment)**



- Frictional unemployment arises due to imbalance between supply of labour and demand for labour. This is because of immobility of labour, lack of necessary skills, break down of machinery, shortage of raw materials etc. The persons who lose jobs and in search of jobs are also included under frictional unemployment.

#### **4. Educated Unemployment**

- Sometimes educated people are underemployed or unemployed when qualification does not match the job. Faulty education system, lack of employable skills, mass student turnout and preference for white collar jobs are highly responsible for educated unemployment in India.

#### **5. Technical Unemployment**

- Modern technology being capital intensive requires less labourers and contributes to technological unemployment. Now a days, invention and innovations lead to the adoption of new techniques there by the existing workers are retrenched. Labour saving devices are responsible for technological unemployment.

#### **6. Structural Unemployment**

- Structural unemployment is due to drastic change in the structure of the society. Lack of demand for the product or shift in demand to other products cause this type of unemployment. For example rise in demand for mobile phones has adversely affected the demand for cameras, tape recorders etc. So this kind of unemployment results from massive and deep rooted changes in economic structure.

#### **7. Disguised Unemployment**

- Disguised unemployment occurs when more people are there than what is actually required. Even if some workers are withdrawn, production does not suffer. This type of unemployment is found in agriculture. A person is said to be disguisedly by unemployed if his contribution to output is less than what he can produce by working

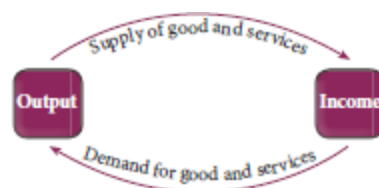
for normal hours per day. In this situation, marginal productivity of labour is zero or less or negative.

## Classical Theory of Employment

- There was no single theory which could be labeled as classical theory of employment. The classical theory of employment is composed of different views of classical economists on the issue of income and employment in the economy. Adam Smith wrote the book “An Enquiry into the Nature and Causes of the Wealth of Nations’ in 1776. Since the publication of this book, classical theory was developed by David Ricardo, J.S.Mill, J.B.Say and A.C.Pigou.
- Classical economists assumed that the economy operates at the level of full employment without inflation in the long period. They also assumed that wages and prices of goods were flexible and the competitive market existed in the economy (laissez-faire economy).

## Say’s Law of Market

- Say’s law of markets is the core of the classical theory of employment. J.B.Say (1776 – 1832) was a French Economist and an industrialist. He was influenced by the writings of Adam Smith and David Ricardo. J.B. Say enunciated the proposition that “Supply creates its own demand”. Hence there cannot be general over production or the problem of unemployment in the economy.
- According to Say, “When goods are produced by firms in the economy, they pay reward to the factors of production. The households after receiving rewards of the factors of production spend the amount on the purchase of goods and services produced by them. Therefore, each product produced in the economy creates demand equal to its value in the market.



- In short, this classical theory explains that “A person receives his income from production which is spent on the purchase of goods and services produced by others.
- For the economy as a whole, therefore, total production equals total income”

### **Ex ante and Expost in Says’ Law**

- The statement that supply creates own demand or equivalently that the aggregate investment equals the aggregate saving always holds good in the ex post sense since it is simply an accounting identity. Say’s law of markets, however, states that these two are equal in ex ante sense, i.e., the total quantity which people produce i.e., aggregate supply must be equal to the total quantity which they plan to buy i.e., aggregate demand.

### **Assumptions of the Say’s law of market**

The Say’s Law of market is based on the following assumptions:

1. No single buyer or seller of commodity or an input can affect price.
2. Full employment.
3. People are motivated by self interest and self - interest determines economic decisions.
4. The laissez faire policy is essential for an automatic and self adjusting process of full employment equilibrium. Market forces determine everything right.
5. There will be a perfect competition in labour and product market.
6. There is wage-price flexibility.
7. Money acts only as a medium of exchange.
8. Long - run analysis.
9. There is no possibility for over production or unemployment.
10. 10. Unutilized resources used until reaches full employment.
11. No Government intervention automatic Price adjustment mechanism operated.
12. Interest rate flexibility leads to saving - Investment equality

## Implications of Say's Law

1. There is no possibility for over production or unemployment.
2. If there exist unutilized resources in the economy, it is profitable to employ them up to the point of full employment. This is true under the condition that factors are willing to accept rewards on a par with their productivity.
3. As automatic price mechanism operates in the economy, there is no need for government intervention. (However, J.M. Keynes emphasized the role of the State)
4. Interest flexibility brings about equality between saving and investment.
5. Money performs only the medium of exchange function in the economy, as people will not hold idle money.

## Criticisms of Say's Law

The following are the criticisms against Say's law:

1. According to Keynes, supply does not create its demand. It is not applicable where demand does not increase as much as production increases.
2. Automatic adjustment process will not remove unemployment. Unemployment can be removed by increase in the rate of investment.
3. Money is not neutral. Individuals hold money for unforeseen contingencies while businessmen keep cash reserve for future activities.
4. Say's law is based on the proposition that supply creates its own demand and there is no over production. Keynes said that over production is possible.
5. Keynes regards full employment as a special case because there is under -employment in capitalist economies.

6. The need for state intervention arises in the case of general over production and mass unemployment.

### **Keynes' Theory of Employment and Income**

- Keynes' book, "The General Theory of Employment, Interest and Money" published in 1936 is a highly significant work that marked a turning point in the development of modern economic theory.
- The theory of Keynes was against the belief of classical economists that the market forces in capitalist economy adjust themselves to attain equilibrium. Keynes not only criticized classical economists but also advocated his own theory of employment.
- Keynes' theory was a general theory as it tried to explain all types of situations, i.e. not only equilibrium level of employment but also the concept of full employment as well as the possibility of underemployment.
- Keynes theory of employment was based on the view of the short run. According to him, the factors of production such as capital goods, supply of labour, technology and efficiency of labour remain unchanged while determining the level of employment.
- John Maynard Keynes was one of the most influential economists of the 20th century. He was born in Cambridge in 1883. In addition to his work as an economist he held position as civil servant a director of the Bank of England, and leader of British delegation of negotiators at the Bretton Woods conference at points in his career. Economic theory based on his idea is known as Keynesian economics, and remain highly influential today, particularly in the field of macroeconomics.

### **Effective Demand**

- The starting point of Keynes theory of employment and income is the principle of effective demand. Effective demand denotes money actually spent by the people on products of industry. The money which entrepreneurs receive is paid in the form of rent, wages,

interest and profit. Therefore effective demand equals national income.

- An increase in the aggregate effective demand would increase the level of employment. A decline in total effective demand would lead to unemployment. Therefore, total employment of a country can be determined with the help of total demand of a country.
- According to the Keynes theory of employment, “Effective demand signifies the money spent on consumption of goods and services and on investment. The total expenditure is equal to the national income, which is equivalent to the national output”. The relationship between employment and output of an economy depends upon the level of effective demand which is determined by the forces of aggregate supply and aggregate demand.

$$ED = Y = C + I = \text{Output} = \text{Employment}$$

- Effective demand determines the level of employment in the economy. When effective demand increases, employment will increase. When effective demand decreases, the level employment will decline. The effective demand will be determined by two determinants namely consumption and investment expenditures. The consumption function depends upon income of the people and marginal propensity to consume. According to Keynes, if income increases, consumption will also increase but by less than the increase in income.
- The rate of interest and marginal efficiency of capital determine the investment levels. Rate of interest depends on money supply and liquidity preference. Keynes has given importance to the concept of liquidity preference. Liquidity preference is based on three motives namely transaction motive, precautionary motive and speculative motive. MEC depends on two factors namely Prospective yield of capital asset and supply price of capital.

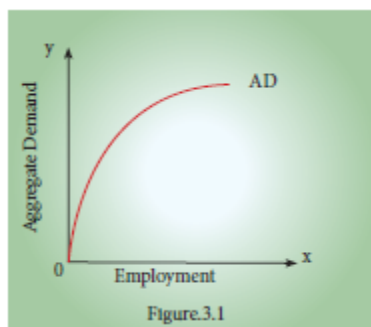
## Aggregate Demand Function (ADF)

- In the Keynesian model, output is determined mainly by aggregate demand. The aggregate demand is the amount of money which entrepreneurs expect to get by selling the output produced by the number of labourers employed. Therefore, it is the expected income or revenue from the sale of output at different levels of employment.

Aggregate demand has the following four components:

1. Consumption demand
  2. Investment demand
  3. Government expenditure and
  4. Net Export ( export - import )
- The desired or planned demand (spending) is the amount that households, firms, the governments and the foreign purchasers would like to spend on domestic output. In other words, desired demand in the economy is the sum total of desired private consumption expenditure, desired investment expenditure, desired government spending and desired net exports (difference between exports and imports). Thus, the desired spending is called aggregate spending (demand), and can be expressed as:

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



- Figure 3.1. explains that aggregate demand price increases or decreases with an increase or decrease in the volume of employment. Aggregate demand curve increases at an increasing rate in the beginning and then increases at a decreasing rate. This shows that as income increases owing to increase in

employment, expenditure of the economy increases at a decreasing rate.

### Aggregate Supply Function (ASF)

- Aggregate supply function is an increasing function of the level of employment. Aggregate supply refers to the value of total output of goods and services produced in an economy in a year. In other words, aggregate supply is equal to the value of national product, i.e., national income.
- In other words, the aggregate supply refers to the required amount of labourers and materials to produce the necessary output. Employers hire labourers, purchase various inputs and raw materials to produce goods. Thus, production involves cost. If revenue from the sale of output produced exceeds the cost of production at a given level of employment and output, the entrepreneur would be encouraged to employ more labour and other inputs to produce more.
- Aggregate supply price is the total amount of money that all entrepreneurs in an economy expect to receive from the sale of output produced by given number of labourers employed. The term 'price' refers to the amount of money received from the sale of output (sales proceeds). Hence, there are different aggregate prices for different levels of employment.

The components of aggregate supply are:

1. Aggregate (desired) consumption expenditure (C)
2. Aggregate (desired) private savings (S)
3. Net tax payments (T) (Total tax payment to be received by the government minus transfer payments, subsidy and interest payments to be incurred by the government) and
4. Personal (desired) transfer payments to the foreigners (Rf)(eg. Donations to international relief efforts)

$$\text{Aggregate Supply} = C + S + T + R_f =$$

Aggregate income generated in the  
economy



- The following figure 3.2 shows the shape of the two aggregate supply curves drawn for the assumption of fixed money wages and variable wages.

## AGGREGATE SUPPLY CURVE

- Z curve is linear where money wages remains fixed; Z1 curve is non-linear since wage rate increases with employment. When full employment level of  $N_f$  is reached it is impossible to increase output by employing more men. So aggregate supply curve becomes inelastic (Vertical straight line).
- The slope of the aggregate supply curve depends on the relation between the employment and productivity. The capital stock is often fixed and hence the law of diminishing marginal returns takes place as more workers are employed. Based upon this relation, the aggregate supply curve can be expected to slope upwards. In reality the aggregate supply curve will be like Z1 in figure 3.2. Therefore, the aggregate supply depends on the relationship between price and wages. If prices are high and wages low, the producers will try to employ labourers. If prices are low and wages high, investment will be curtailed, output will fall and there will be a reduction in the productive capacity. Thus aggregate supply is an important factor in determining the level of economic activity.

## Equilibrium between ADF and ASF

- Under the Keynes theory of employment, a simple two sector economy consisting of the household sector and the business sector is taken to understand the equilibrium between ADF and ASF. All the decisions concerning consumption expenditure are taken by the individual households, while the business firms take decisions concerning investment. It is also assumed that consumption function is linear and planned investment is autonomous.
- There are two approaches to determination of the equilibrium level of income in Keynesian theory. These are:

1. Aggregate demand – Aggregate supply approach
2. Saving – Investment approach

- In this chapter, out of these two, aggregate demand and aggregate supply approach is alone explained to understand the determination of equilibrium level of income and employment.
- The concept of effective demand is more clearly shown in the figure 3.3
- In the figure, the aggregate demand and aggregate supply reach equilibrium at point E. The employment level is  $N_o$  at that point.
- At  $ON_1$  employment, the aggregate supply is  $N_1 R_1$ . But they are able to produce  $M_1 N_1$ . The expected level of profit is  $M_1 R_1$ . To attain this level of profit, entrepreneurs will employ more labourers. The tendency to employ more labour will stop once they reach point E. At all levels of employment beyond,  $ON_o$ , the aggregate demand curve is below the aggregate supply curve indicating loss to the producers. Hence they will never employ more than  $ON_o$  labour. Thus effective demand concept becomes a crucial point in determining the equilibrium level of output in the capitalist economy or a free market economy in the Keynesian system.
- It is important to note that the equilibrium level of employment need not be the full employment level ( $N_1$ ) from the Figure 3.3, it is understood that the difference between  $N_o - N_f$  is the level of unemployment. Thus the concept of effective demand becomes significant in explaining the under employment equilibrium.

S.No	Keynesianism	Classicism
1.	Short-run equilibrium	Long-run equilibrium
2.	Saving is a vice	Saving is a social virtue.
3.	The function of money is a medium of exchange on the one side and a store of value on the other side.	The function of money is to act as a medium of exchange

- |     |   |   |
|-----|---|---|
| 4.  | Macro approach to national problems   | Micro foundation to macro problems  |
| 5.  | State intervention is advocated.  | Champions of Laissez-fair policy  |
| 6.  | Applicable to all situations – full employment and less than full employment.     | Applicable only to the full employment situation.   |
| 7.  | Capitalism has inherent contradictions  | Capitalism is well and good.  |
| 8.  | Budgeting should be adjusted to the requirements of economy.                      | Balanced budget   |
| 9.  | The equality between saving and investment is advanced through changes in income. | The equality between saving and investment is achieved through changes of rate of interest. |
| 10. | Rate of interest is determined by the demand for and supply of money.             | Rate of interest is determined by saving and investment.                                    |
| 11. | Rate of interest is a flow.   | Rate of interest is a stock.  |
| 12. | Demand creates its own supply.  | Supply creates its own demand.  |
| 13. | Rate of interest is a reward for parting with liquidity.                          | Rate of interest is a reward for saving.  |

After learning so much about the theories of employment and income, it is pertinent to look at what is employment multiplier.

## CHAPTER - 10

### Environmental Economics

- “Environmental problems are really social problems...They begin with the people as the cause and end with people as victims”.  
-Sir Edmund Hillary

#### Introduction

- Environmental economics (EE) is the study of interactions between human economic activity and the natural environment. EE is the subset of economics that is concerned with the efficient allocation of environmental resources. The environment provides both a direct value as well as raw material intended for economic activity, thus making the environment and the economy interdependent.
- EE takes into consideration issues such as the conservation and valuation of natural resources, pollution control, waste management and recycling. Since resources – whether human, natural, or monetary – are finite, these public policies are most effective only when they achieve the maximum possible benefit in the most efficient way.
- The key objective of EE is to identify those particular tools or policy alternatives that will move the market towards the most efficient allocation of natural resources.

#### Meaning of Environment

- The term environment has been derived from a French word “Environia” means to surround. Environment means “all the conditions, circumstances, and influences surrounding and affecting the development of an organism or group of organisms”. It also means that the complex of physical, chemical and biotic factors that act upon an organism or an ecological community ultimately determine its form and survival.

## Meaning of Environmental Economics

- It is a different branch of economics that recognizes the value of both the environment and economic activity and makes choices based on those values. The goal is to balance the economic activity and the environmental impacts by taking into account all the costs and benefits. In short, Environmental Economics is an area of economics that studies the financial impact of environmental issues and policies.
- Environmental Economics involves theoretical and empirical studies of the economic effects of national or local environmental policies around the world.

## Eco System

- An ecosystem includes all living things (plants, animals and organisms) in a given area, interacting with each other, and also with their non-living environments (weather, earth, sun, soil, climate, atmosphere). Ecosystems are the foundations of the Biosphere and they determine the health of the entire earth system.

## Linkage between Economy and Environment

- Man's life is interconnected with various other living and non-living things. The life also depends on social, political, ethical, philosophical and other aspects of economic system. In fact, the life of human beings is shaped by his living environment. The relationship between the economy and the environment is generally explained in the form of a "Material Balance Model" developed by AlenKneese and R.V. Ayres. The model considers the total economic process as a physically balanced flow between inputs and outputs. Inputs are bestowed with physical property of energy which is received from the environment. The interdependence of economics and environment is given in the figure10.1 and flow diagram
- The first law of thermodynamics, i.e. the law of conservation of matter and energy, emphasizes that in any production system "what goes in must come out". This is known as the Material Balance Approach or Material Balance Principle. The material flow diagram implies that mass inputs must equal mass outputs for every process.

Moreover, all resources extracted from the environment eventually become unwanted wastes and pollutants. Production of output by firms from inputs resulting in discharge of solid, liquid and gaseous wastes. Similarly, waste results from consumption activities by households. In short, material and energy are drawn from environment, used for production and consumption activities and returned back to the environment as wastes. In its simple form the Material Balance Approach can be put in form equation.

- Is it alright? Environment is the supplier of all forms of resources like renewable and non-renewable, and it is also acting as a sink for cleaning up of wastes. Households and firms are connected to environment, and they are interconnected too. Households and firms depend on nature for resources. Both households and firms send out residuals of consumption and production respectively to nature. Nature has the power to assimilate all forms of waste. But this power is conditional. There is a limit for everything. The earth has reached the saturation point and it is unable to cleanup several forms of wastes. Remember, the earth can also non-cooperate.

### **Environmental Goods**

- Environmental goods are typically non-market goods, including clear air, clean water, landscape, green transport infrastructure (footpaths, cycle ways, greenways, etc.), public parks, urban parks, rivers, mountains, forests, and beaches. Concerns with environmental goods focus on the effects that the exploitation of ecological systems have on the economy, the well-being of humans and other species, and on the environment.

### **Environmental Quality**

- Environmental quality is a set of properties and characteristics of the environment either generalized or local, as they impinge on human beings and other organisms. It is a measure of the condition of an environment relative to the requirements of one or more species and to any human need. Environmental quality has been continuously declining due to capitalistic mode of functioning.

- Environment is a pure public good that can be consumed simultaneously by everyone and from which no one can be excluded. A pure public good is one for which consumption is non-rival and from which it is impossible to exclude a consumer. Pure public goods pose a free-rider problem. As a result, resources are depleted. The contribution of the nature to GDP as well as depletion of natural resources are not accounted in the present system of National Income Enumeration.

## **Externalities and the environment**

### **Introduction**

- In Environmental Economics, one of the most important market failures is caused by negative externalities arising from production and consumption of goods and services. Externalities are third party effects arising from production and consumption of goods and services for which no appropriate compensation is paid. Externalities occur outside of the market i.e. they affect people not directly involved in the production and consumption of a good or service. They are also known as spill-over effects.

### **Meaning of Externalities**

- Externalities refer to external effects or spillover effects resulting from the act of production or consumption on the third parties. Externalities arise due to interdependence between economic units.

### **Definitions**

- Externality may be defined as “the cost or benefit imposed by the consumption and production activities of the individuals on the rest of the society not directly involved in these activity and towards which no payment is made”.
- The externalities arise from both production and consumption activities and their impact could be beneficial or adverse. Beneficial externalities are called “positive externalities” and adverse ones are called “negative externalities”.

### **Positive Consumption Externality**

- When some residents of a locality hire a private security agency to patrol their area, the other residents of the area also benefit from better security without bearing cost.

### **Negative Consumption Externality**

- A person smoking cigarette gets may gives satisfaction to that person, but this act causes hardship (dissatisfaction) to the non-smokers who are driven to passive smoking.

### **Positive Production Externality**

- The ideal location for beehives is orchards (first growing fields). While bees make honey, they also help in the pollination of apple blossoms. The benefits accrue to both producers (honey as well as apple). This is called 'reciprocal untraded interdependency.
- Suppose training is given for the workers in a company. If those trained workers leave the company to join some other company, the later company gets the benefit of skilled workers without incurring the cost of training.

### **Negative Production Externality**

- The emissions and effluents of a factory cause air and water pollution. Water becomes contaminated and unfit for drinking e.g. Tanneries. The innocent community bears the external cost for which it is not compensated.

### **Pollution**

#### **Meaning**

- Pollution is the introduction of contaminants into the natural environment that causes adverse change, in the form of killing of life,



toxicity of environment, damage to ecosystem and aesthetics of our surrounding.

## Types of Pollution

1. Air pollution
2. Water pollution
3. Noise pollution
4. Land pollution

## Air Pollution

### Definition

“Air pollution is the presence of any solid, liquid, or gaseous substance in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment”.

-The Air (Prevention and Control of Pollution) Act, 1981

### Types of Air pollution

- ◆ **Indoor Air Pollution:** It refers to toxic contaminants that we encounter in our daily lives in our homes, schools and workplaces. For example, cooking and heating with solid fuels on open fires or traditional stoves results in high levels of indoor air pollution.
- ◆ **Outdoor Air Pollution:** It refers to ambient air. The common sources of outdoor air pollution are caused by combustion processes from motor vehicles, solid fuel burning and industry.

### Causes of Air Pollution

1. Vehicle exhaust smoke: Vehicles smoke happens to release high amounts of Carbon monoxide. Millions of vehicles are operated every day in cities, each one leaving behind its own carbon footprint on the environment.

2. Fossil fuel based power plants: Fossil fuels also present a wider scale problem when they are burned for energy in power plants. Chemicals like sulfur dioxide are released during the burning process, which travel straight into the atmosphere. These types of pollutants react with water molecules to yield something known as acid rain.
3. Exhaust from Industrial Plants and Factories: Heavy machineries located inside big factories and industrial plants also emit pollutants into the air.
4. Construction and Agricultural activities: Potential impacts arising from the construction debris would include dust particles and gaseous emissions from the construction sites. Likewise, using of ammonia for agriculture is a frequent byproduct that happens to be one of the most dangerous gases affecting air.
5. Natural Causes: Earth is one of the biggest polluters itself, through volcanoes, forest fires, and dust storms. They are nature-borne events that dump massive amounts of air pollution into the atmosphere.
6. Household activities: Household activities like cooking, heating and lighting, use of various forms of mosquito repellents, pesticides and chemicals for cleaning at home and use of artificial fragrances are some of the sources that contribute to air pollution.

### **Effects of Air Pollution**

1. Respiratory and heart problems: It creates several respiratory and heart ailments along with cancer. Children are highly vulnerable and exposed to air pollutants and commonly suffer from pneumonia and asthma.
2. Global warming: Increasing temperature in the atmosphere leads to global warming and thereby to increase sea level rise and melting of polar icebergs, displacement and loss of habitat.

3. Acid rain: Harmful gases like nitrogen oxides and sulfur oxides are released into the atmosphere during the burning of fossil fuels. Acid rain causes great damage to human beings, animals and crops.
4. Eutrophication: Eutrophication is a condition where high amount of nitrogen present in some pollutants which adversely affects fish, plants and animal species.
5. Effect on Wildlife: Toxic chemical present in the air can force wildlife species to move to new place and change their habitat.
6. Depletion of Ozone layer: Ozone exists in earth's atmosphere and is responsible for protecting humans from harmful ultraviolet (UV) rays. Earth's ozone layer is depleting due to presence of chlorofluorocarbons and hydro chlorofluorocarbons in the atmosphere.
7. Human Health: Outdoor air pollution is a major cause of death and disease globally. The health effects range from increased hospital admissions and emergency room visits, to increased risk of premature death. An estimated 4.2 billion premature deaths globally are linked to ambient air pollution.

Every day about 93% of the world's children under the age of 15 (1.8 billion children) breath polluted air that puts their health and development at serious risk – WHO

### **Remedial measures to control Air Pollution**

1. Establishment of industries away from the towns and cities
2. Increasing the length of the Chimneys in industries
3. Growing more plants and trees
4. Use of non-conventional fuels like Biogas, CNG and LPG.
5. Use of Mass Transit System (Public Transport)

### **Water Pollution**

#### **Definition**

- “The introduction (directly or indirectly) of substances or energy into the marine environment (including estuaries) results in deleterious effects to living resources, hazards to human health, hindrance to marine activities.  
- United Nations,  
1971

## Types of Water Pollution

- Surface water pollution:** Surface water includes natural water found on the earth’s surface, like rivers, lakes, lagoons and oceans. Hazardous substances coming into contact with this surface water, dissolving or mixing physically with the water can be called surface water pollution.
- Groundwater pollution:** Groundwater contamination occurs when man-made products such as gasoline, oil and chemicals get into the ground water. In addition, untreated waste from septic tanks, toxic chemicals from underground storage tanks and leaky landfills contaminate groundwater.
- Microbiological pollution:** In many communities around the world, people drink untreated water (straight from a pond, river or stream). Sometimes there is natural pollution caused by micro-organism like viruses and bacteria. This natural pollution causes both aquatic and human illness.
- Oxygen depletion pollution:** When oxygen levels in the water are depleted, relatively harmless aerobic micro-organisms die and anaerobic micro-organisms begin to thrive. Some anaerobic micro-organisms are harmful to people, animals and the environment as they produce harmful toxins such as ammonia and sulfides.

## Causes of Water Pollution

- Water pollution is caused due to several reasons. Here are the few major causes of water pollution:

### 1. Discharge of sewage and waste water:

- Sewage, garbage and liquid waste of households, agricultural runoff and effluents from factories are discharged into lakes and rivers. These wastes contain harmful chemicals and toxins which make the water poisonous for aquatic animals and plants.

## 2. Dumping of solid wastes:

- The dumping of solid wastes and litters in water bodies cause huge problems.

3. Discharge of industrial wastes: Industrial waste contains pollutants like asbestos, lead, mercury, grease oil and petrochemicals, which are extremely harmful to both people and environment.

4. Oil Spill: Sea water gets polluted due to oil spilled from ships and tankers while travelling. The spilled oil does not dissolve in water and forms a thick sludge polluting the water.

5. Acid rain: Acid rain is pollution of water caused by air pollution. When the acidic particles caused by air pollution in the atmosphere mix with water vapor, it results in acid rain.

6. Global warming: Due to global warming, there is an increase in water temperature as a result aquatic plants and animals are affected.

7. Eutrophication: Eutrophication is an increased level of nutrients in water bodies. This results in bloom of algae in water. It also depletes the oxygen in water which negatively affects fish and other aquatic animal population.

## Effects of Water Pollution

- Water pollution adversely affects the health and life of man, animals and plants alike. Polluted water is also harmful for agriculture as it adversely affects the crops and the soil fertility. Pollution of sea water damages the oceanic life. The effects can be catastrophic, depending on the kind of chemicals, concentrations of the pollutants. The effects of water pollution are varied and depend on what chemicals are dumped and in which locations. Many water bodies near urban areas are highly polluted. This is the result of both garbage dumped by individuals and dangerous chemicals legally or

illegally dumped by manufacturing industries, health centers and markets.

- i. **Death of aquatic animals:** The main problem caused by water pollution is that it kills organisms that depend on these water bodies. Dead fish, crabs, birds and sea gulls, dolphins, and many other animals often wind up on beaches, killed by pollutants in their habitat.
- ii. **Disruption of food-chains:** Pollution disrupts the natural food chain as well. Pollutants such as lead and cadmium are eaten by tiny animals. Later, these animals are consumed by fish and the food chain continues disrupted at all higher levels.
- iii. **Diseases:** The discharge of untreated and under-treated effluent contributes to severe ecological degradation. The indiscriminate human activities such as open defecation, solid waste dumping, discharge of drainage water are responsible for the pathogenic bacteria water-borne diseases like Hepatitis-A, Typhoid, Malaria, Dysentery, Jaundice, Dengue fever, Viral fever and Worm infections.
- iv. **Destruction of Ecosystems:** Ecosystems can be severely destroyed by water pollution. Many areas are now being affected by careless human pollution, and this pollution is coming back to hurt humans in many ways.

### **Remedial measures to control Water Pollution**

1. Comprehensive water management plan.
2. Construction of proper storm drains and settling ponds.
3. Maintenance of drain line.
4. Effluent and sewage treatment plant.
5. Regular monitoring of water and waste water.
6. Stringent actions towards illegal dumping of waste into the water bodies.

### **Noise Pollution**

#### **Definition**

- Noise pollution is unwanted or excessive sound that can have deleterious effects on human health and environmental quality. Noise pollution is commonly generated by many factories. It also comes from highway, railway and airplane traffic and from outdoor construction activities.

-Jerry A. Nathanson and Richard E. Berg,

2018

## Types of Noise Pollution

- i. Atmospheric Noise: Atmospheric noise or static is caused by lightning discharges in thunderstorms and other natural electrical disturbances occurring in the atmosphere.
- ii. Industrial Noise: Industrial noise refers to noise that is created in the factories. Sound becomes noise it becomes unwanted. Heavy industries like ship building, iron and steel have long been associated with Noise Induced Hearing Loss (NIHL).
- iii. Man made Noise: The main sources of man-made noise pollution are ships, aircraft, seismic exploration, marine construction, drilling and motor boats.

## Causes of Noise Pollution

- i. Poor urban planning: Improper urban planning will cause more nuisances among the city travelers.
- ii. Sounds from motor vehicles: Sounds from motor vehicles can cause temporary hearing loss.
- iii. Crackers: Enormous Crackers are used during some occasions. Such activities create a very louder noise to the level of harming the public. Sometimes, they may even cause deafness to children and aged.
- iv. Factory machinery: The industrial noise caused by continuous operation of mills, machines and pneumatic drills, is unbearable nuisance to the workers.

## Effects of Noise Pollution

- a. Hearing Loss: Chronic exposure to noise may cause noise-induced hearing loss. Older people are exposed to significant occupational noise and thereby reduced hearing sensitivity.
- b. Damage Physiological and Psychological health: Unwanted noise can damage physiological and psychological health. For example, annoyance and aggression, hypertension, and high stress levels.
- c. Cardiovascular effects: High noise levels can contribute to cardiovascular problems and exposure to blood pressure.
- d. Detrimental effect on animals and aquatic life: Noise can have a detrimental effect on animals, increasing the risk of death.
- e. Effects on wildlife and aquatic animals: It creates hormone imbalance, chronic stress, panic and escape behavior and injury.

## Remedial measures to control Noise Pollution

1. Use of noise barriers
2. Newer roadway for surface transport
3. Traffic control
4. Regulating times for heavy vehicles
5. Installations of noise barriers in the work place
6. Regulation of Loudspeakers

## Land Pollution

### Definition

- The land pollution is defined as, “the degradation of land because of the disposal of waste on the land”. Any substance (solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such a way that it alters the environment causes land pollution  
-Protection of the Environment Operations Act

1997

### Types of Land Pollution



- i. **Solid waste:** It includes all kinds of rubbish like paper, plastic containers, bottles, cans, food, used cars, broken electronic goods, municipal waste and hospital waste.
- ii. **Pesticides and Fertilizers:** Many farming activities engage in the application of fertilizers, pesticides and insecticides for higher crop yield which pollute land.
- iii. **Deforestation:** Humans depend on trees for many things including life. Trees absorb carbon dioxide from the air and release Oxygen, which is needed for life. Forest helps replenish soils and help retain nutrients being washed away. Deforestation is led to land pollution.

### **Causes of Land Pollution**

- i. **Deforestation and soil erosion:**
  - Deforestation carried out to create dry lands is one of the major concerns. Land that is once converted into a dry or barren land, can never be made fertile again, whatever the magnitude of measures to convert it.
- ii. **Agricultural activities:**
  - With growing human and pet animal population, demand for food has increased considerably. Farmers often use highly toxic fertilizers and pesticides to get rid off insects, fungi and bacteria from their crops. However the overuse of these chemicals, results in contamination and poisoning of land.
- iii. **Mining activities:** During extraction and mining activities, several land spaces are created beneath the surface.
- iv. **Landfills:** Each household produces tones of garbage each year due to changing economic lifestyle of the people. Garbage like plastic, paper, cloth, wood and hospital waste get accumulated. Items that cannot be recycled become a part of the landfills that cause land pollution.

- v. **Industrialization:** Due to increasing consumerism more industries were developed which led to deforestation. Research and development paved the way for modern fertilizers and chemicals that were highly toxic and led to soil contamination.
- vi. **Construction activities:** Due to urbanization, large amount of construction activities are taking place. This has resulted in large waste articles like wood, metal, bricks, plastic. These are dumped at the outskirts of urban areas that lead to land pollution.
- vii. **Nuclear waste:** The leftover radioactive materials, harmful and toxic chemicals affect human health. They are dumped beneath the earth to avoid any casualty.

### Effects of Land Pollution

1. **Soil pollution:** Soil pollution is another form of land pollution, where the upper layer of the soil is damaged. This is caused by the overuse of chemical fertilizers, and pesticides. This leads to loss of fertile land. Pesticides kill not only pests and also human beings.
2. **Health Impact:** The land when contaminated with toxic chemicals and pesticides lead to problem of skin cancer and human respiratory system. The toxic chemicals can reach our body through foods and vegetables.
3. **Cause for Air pollution:** Landfills and waste dumping lead to air pollution. The abnormal toxic substances spread in the atmosphere cause transmit respiratory diseases among the masses.
4. **Effect on wildlife:** The animal kingdom has suffered mostly in the past decades. They face a serious threat with regards to loss of habitat and natural environment. The constant human activity on land is leaving move farther away. Sometimes several species are pushed to the verge of extinction or disappear due to no conducive environment.

### Remedial measures to control Land Pollution

1. Making people aware about the concept of a Reduce, Recycle and Reuse
2. Buying biodegradable products
3. Minimizing the usage of pesticides
4. Shifting cultivation
5. Disposing unwanted garbage properly either by burning or by burying under the soil.
5. Minimizing the usage of plastics.

## Global Warming

- Global warming is the current increase in temperature of the Earth's surface (both land and water) as well as its atmosphere. Average temperatures around the world have risen by  $0.75^{\circ}\text{C}$  ( $1.4^{\circ}\text{F}$ ) over the last 100 years. About two thirds of this increase has occurred since 1975. Carbon dioxide, methane, Chlorofluoro Carbon, nitrous oxides are the green house gases warming the earth's surface. So it is also called green house effect. The  $\text{CO}_2$  is the most important of the green house gases contributing to 50% of global warming. The burning of fossil fuel, and other biomass, deforestation result in  $\text{CO}_2$ . In the past, when the Earth experienced increases in temperature it was the result of natural causes but today it is being caused by human activities.
- Global warming adversely affects agriculture, horticulture and eco system. Reduced rainfall, higher temperature and increased pest/weed growth hamper farming. Threats to health arise due to increase in disease carrying vectors such as mosquitoes resulting in malaria, dengue fever, encephalitis and yellow fever.
- An increase in the global average surface air temperature of such magnitude will bring about alarming changes in rainfall patterns and other climatic conditions, resulting in serious ecological disequilibrium.

## Climate Change

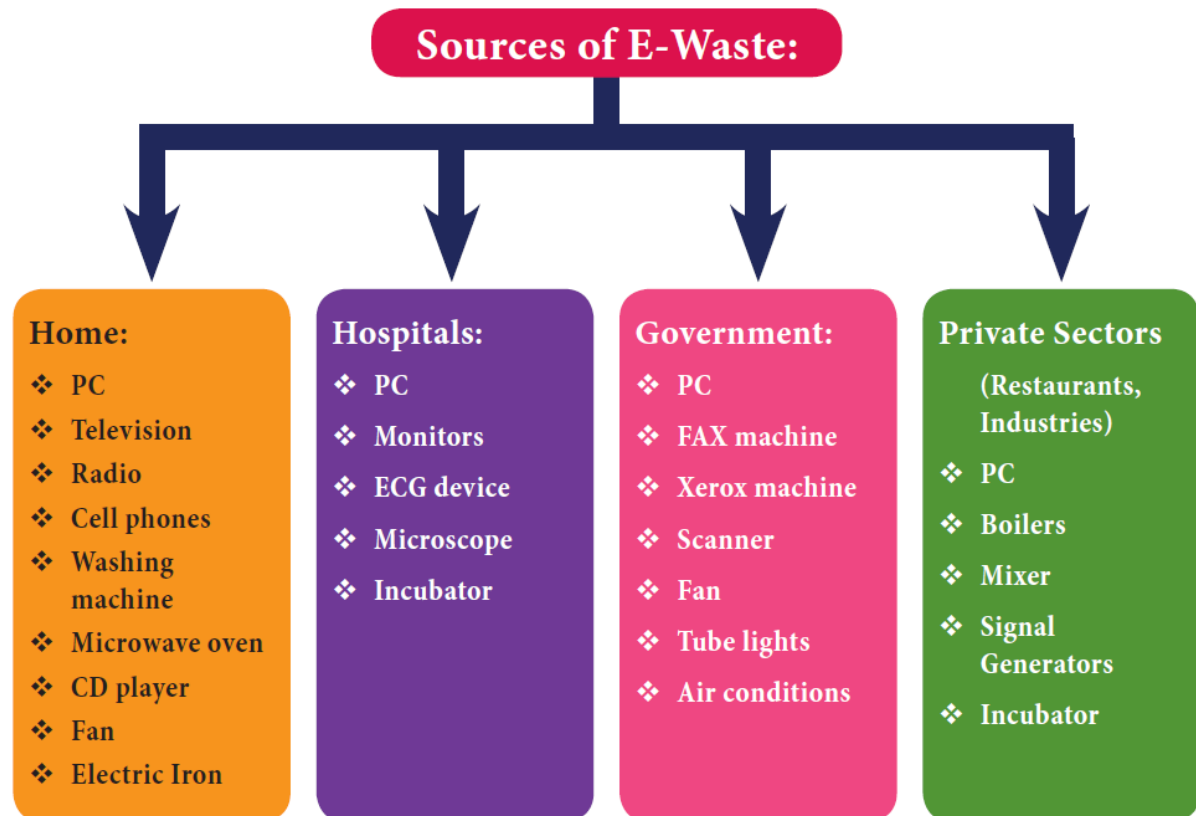
- The climate change refers to seasonal changes over a long period with respect to the growing accumulation of greenhouse gases in the atmosphere. Recent studies have shown that human activities since

the beginning of the industrial revolution have contributed to an increase in the concentration of carbon dioxide in the atmosphere by as much as 40%, from about 280 parts per million in the pre-industrial period, to 402 parts per million in 2016, which in turn has led to global warming.

- Several parts of the world have already experienced the warming of coastal waters, high temperatures, a marked change in rainfall patterns, and an increased intensity and frequency of storms. Sea levels and temperatures are expected to be rising.

### **Acid Rain**

- Acid rain is one of the consequences of air pollution. It occurs when emissions from factories, cars or heating boilers contact with the water in the atmosphere. These emissions contain nitrogen oxides, sulphur dioxide and sulphur trioxide which when mixed with water becomes sulfurous acid, nitric acid and sulfuric acid. This process also occurs by nature through volcanic eruptions. It can have harmful effects on plants, aquatic animals and infrastructure.



### e-Wastes

- Electronic waste which is commonly referred as “e-waste” is the new byproduct of the Info Tech society. It is a physical waste in the form of old discarded, end of life electronics. It includes a broad and growing range of electronic devices from large household appliances such as refrigerators, air conditioners, cellular phones, computers and other electronic goods". Similarly, e-waste can be defined as the result when consumer, business and household devices are disposed or sent for re-cycling (example, television, computers, audio-equipments, VCR, DVD, telephone, Fax, Xerox machines, wireless devices, video games, other household electronic equipments).

### Solid Waste

- Solid Waste is basically discharge of useless and unwarranted materials as a result of human activity. Most commonly, they are composed of solids, semisolids or liquids. Solid wastes consist of the discards of households, hospital refuse, dead animals, debris from construction site, ashes, agricultural wastes and industrial wastes etc. When waste is not removed from the streets and public places in time it poses severe public-health and hygiene hazards.

## Sustainable Development

### Meaning

- Sustainable development is concerned with the welfare of not only present generation but also future generation. It aims at not only satisfying the luxury wants of the upper class i.e. rich but also the basic necessities of the poor like food, sanitation, health care, education etc. The present generation should not exhaust the resources left by the past generation, but it should leave the same for the sake of future generation. This is called inter – generational equity.

### Definitions

- “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”

-World Commission on Environment and Development, 1987-

- “The alternative approach (to sustainable development) is to focus on natural capital assets and suggest that they should not decline through time.”

-Pearce, Markandya and  
Barbier, 1989-

### Sustainable Development Goals (SDGs)

- It is crucial to harmonize three core elements such as economic growth, social inclusion and environmental protection. A set of 17 goals for the World’s future can be achieved before 2030 with three unanimous principles fixed by United Nations such as Universality, Integration and Transformation.

1. End Poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote wellbeing for all at all ages
4. Ensure inclusive and quality education for all and promote lifelong learning

5. Achieve gender equality and empower women and girls
6. Ensure access to water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote inclusive and sustainable economic growth, employment and decent work for all
9. Build resilient infrastructure, promote sustainable industrialization and foster innovation.
10. Reduce inequality within and among countries
11. Make cities inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production pattern
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources
15. Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
16. Promote just, peaceful and inclusive societies
17. Revitalize the global partnership for sustainable development

### **Green Initiatives**

- Today, number of organizations, businesses and people across the globe that are striving for sustainability and more eco-friendly lifestyles is increasing. They are passionate towards protecting the Earth – the only life support system we have. Hence, we should bring about change through political lobbying, citizen action and consumer pressure. And we should take peaceful direct action to protect this fragile planet and promote the solutions for a green and peaceful future. Since the globe warming is a globe problem, the polluters, namely developed countries, should be made to pay for the pollution control efforts.

### **Organic Farming**

- Organic farming is a system of agricultural production which relies on animal manure, organic waste, crop rotation, legumes and biological pest control. It avoids use of synthetic fertilizer, pesticides and livestock additives. Organic inputs have certain benefits, such as enriching soil for microbes.
- Organic production is a holistic system designed to optimize the productivity and fitness of diverse communities within the agro-

ecosystem, including soil organisms, plants, livestock and people. The principal goal of organic production is to develop enterprises that are sustainable and harmonious with environment. The general principles of organic farming are:

1. Protect the environment, minimize soil degradation and erosion, decrease pollution, optimize biological productivity and promote a sound state of health.
2. Maintain long-term soil fertility by optimizing conditions for biological activity within the soil
3. Maintain biological diversity within the system
4. Recycle materials and resources to the greatest extent possible within the enterprise
5. Provide attentive care that promotes the health and meets the behavioural needs of livestock
6. Prepare organic products, emphasizing careful processing, and handling methods in order to maintain the organic integrity and vital qualities of the products at all stages of production.
7. Rely on renewable resources in locally organized agricultural systems.

### **Alkali Farming**

- Nearly 50 percent of the irrigated land in the arid and semi-arid regions has some degree of soil salinization problems. The occurrence of accumulation of excess salt acid in the root zone, results in a partial or complete loss of soil productivity and such soil is defined as 'Problem (alkali, saline & acid) Soils' and exist mainly in arid and semi-arid regions.
- The alkali soils are predominantly located in the Indo-Gangetic plains encompassing States of Punjab, Haryana, Uttar Pradesh, Bihar and partly in States like, Chhattisgarh, Rajasthan, Andhra Pradesh, Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Madhya Pradesh and Tamil Nadu.

### **Tree Plantation**

- Trees contribute to their environment by providing oxygen, improving air quality, climate amelioration, conserving water,



preserving soil and supporting wildlife. During the process of photosynthesis, trees take in carbon dioxide and produce the oxygen we breathe. So trees are considered to be the lungs of the earth. Natural forests and tree plantations improve the water cycle in diminishing runoff and improving the replenishment of the water table.

## Seed Ball

- A seed ball (or seed bomb) is a seed that has been wrapped in soil materials, usually a mixture of clay and compost, and then dried. Essentially, the seed is 'pre-planted' and can be sown by depositing the seed ball anywhere suitable for the species, keeping the seed safely until the proper germination window arises. Seed balls are an easy and sustainable way to cultivate plants that provide a larger window of time when the sowing can occur.

