1

CONCEPTS OF AND DISTINCTION BETWEEN GROWTH AND DEVELOPMET

Unit Structure:

1.0 OBJECTIVES

- To understand the concept of economic growth.
- To understand the concept of economic development.
- To study the distinction between economic growth and development.

1.1 INTRODUCTION

Economic Growth is a narrower concept than economic development. It is an increase in a country's real level of national output which can be caused by an increase in the quality of resources (by education etc.), increase in the quantity of resources & improvements in technology or in another way an increase in the value of goods and services produced by every sector of the economy. Economic Growth can be measured by an increase in a country's GDP (gross domestic product).

Economic development is a normative concept i.e. it applies in the context of people's sense of morality (right and wrong, good and bad). The definition of economic development given by Michael Todaro is an increase in living standards, improvement in self- esteem needs and freedom from oppression as well as a greater choice. The most accurate method of measuring development is the Human Development Index which takes into account the literacy rates & life expectancy which affects productivity and could lead to Economic Growth. It also leads to the creation of more opportunities in the sectors of education, healthcare, employment and the conservation of the environment. It implies an increase in the per capita income of every citizen.

1.2 CONCEPT OF ECONOMIC GROWTH

The modern conception of economic growth began with the critique of Mercantilism, especially by the physiocrats and with the Scottish Enlightenment thinkers such as David Hume and Adam Smith, and the foundation of the discipline of modern political economy. It is an increase in the value of goods and services produced by an economy. It is conventionally measured as the percent rate of increase in real gross domestic product, or GDP. Growth is usually calculated in real terms, i.e. inflation-adjusted terms, in order to net out the effect of inflation on the price of the goods and services produced. In economics, "economic growth" or "economic growth theory" typically refers to growth of potential output, i.e. production at "full employment," rather than growth of aggregate demand.

Economic growth is the increase of per capita gross domestic product (GDP) or other measure of aggregate income. It is often measured as the rate of change in real GDP. Economic growth refers only to the quantity of goods and services produced. Economic growth can be either positive or negative. Negative growth can be referred to by saying that the economy is shrinking. Negative growth is associated with economic recession and economic depression.

In order to compare per capita income across multiple countries, the statistics may be quoted in a single currency, based on either prevailing exchange rates or purchasing power parity. To compensate for changes in the value of money (inflation or deflation) the GDP or GNP is usually given in "real" or inflation adjusted, terms rather than the actual money figure compiled in a given year, which is called the nominal or current figure.

Economists draw a distinction between short-term economic stabilization and long-term economic growth. The topic of economicgrowth is primarily concerned with the long run. The short-run variation of economic growth is termed the business cycle.

1.3 CONCEPT OF ECONOMIC DEVELOPMENT

The latter half of the 20th century, with its global economy of a few very wealthy nations and many very poor nations, led to the study of how the transition from subsistence and resource-based economies to production and consumption based-economies occurred. This led to the field of development economics, including the work of Nobel laureates Amartya Sen and Joseph Stiglitz. However this model of economic development does not meet the demands of subaltern populations and has been severely criticized by later theorists.

Economic development is the increase in the standard of living in a nation's population with sustained growth from a simple, low-income economy to a modern, high-income economy. Also, if the local quality of life could be improved, economic development would be enhanced. Its

scope includes the process and policies by which a nation improves the economic, political, and social well- being of its people.

Gonçalo L Fonsesca at the New School for Social Research defines economic development as "the analysis of the economic development of nations.

Economic development' is a term that economists, politicians, and others have used frequently in the 20th century. The concept, however, has been in existence in the West for centuries. Modernization, Westernization, and especiallyIndustrialization are other terms people have used when discussing economic development. Although no one is sure when the concept originated, most people agree that development is closely bound up with the evolution of capitalism and the demise of feudalism."

The study of economic development by social scientists encompasses theories of the causes of industrial-economic modernization, plus organizational and related aspects of enterprise development in modern societies. It embraces sociological research on business organization and enterprise development from a historical and comparative perspective; specific processes of the evolution (growth, modernization) of markets and management-employee relations; and culturally related cross-national similarities and differences in patterns of industrial organization in contemporary Western societies. On the subject of the nature and causes of the considerable variations that exist in levels of industrial-economic growth and performance internationally, it seeks answers to such questions as: "Why are levels of direct foreign investment and labour productivity significantly higher in some countries than in others?"Mansell and Wehn state that development has been understood since the Second World War to involve economic growth, increases in per capita income, and attainment of a standard of living equivalent to that of industrialized countries.

Economy Development can also be considered as a static theory that documents the state of economy at a certain time. According to Schumpeter (2003) the changes in this equilibrium state to document in economic theory can only be caused by intervening factors coming from the outside.

1.4 DISTINCTION BETWEEN ECONOMIC GROWTH AND DEVELOPMENT

There are significant differences between economic growth and economic development. The term "economic growth" refers to an increase (or growth) in real national income or product expressed usually as per capital income. National income or product itself is commonly expressed in terms of a measure of the aggregate output of the economy called gross national product (GNP). Per capita income then is simply gross national product divided by the population of the country. When the GNP of a nation rises, whatever the means of achieving the outcome, economists refer to it as economic growth.

The term "economic development," on the other hand, implies much more when used in relation to a country or an entire economy. It typically refers to improvements in a variety ofindicators, such as literacy rates and life expectancy, and it implies a reduction in poverty. Critics point out that GDP is a narrow measure of economic welfare that does not take into account important non-economic aspects such as more leisure time, access to health & education, the environment, freedom, or social justice. Economic growth is a necessary but insufficient condition for economic development.

Economic Growth does not take into account the size of the informal economy. The informal economy is also known as the black economy which is unrecorded economic activity. Development alleviates people from low standards of living into proper employment with suitable shelter. Economic Growth does not take into account the depletion of natural resources which might lead to pollution, congestion & disease. Development however is concerned with sustainability which means meeting the needs of the present without compromising future needs. These environmental effects are becoming more of a problem for Governments now that the pressure has increased on them due to Global warming.

Different View related Growth and Development:

For a layman, the terms economic development and economic growth are synonyms. For a long time, the terms, economic development, economic growth, economic progress, economic welfare, secular change and other similar terms are being commonly used in day-to-day life as synonyms. But some leading economists have drawn a line of demarcation between them. Under the above heading we shall discuss the difference between the above two concepts, i.e., economic development and economic growth which is given below:

Mrs. Ursula Hicks, "Development should relate to underdeveloped countries, where there is possibility of developing and using hitherto, while the term growth is related to economically rich and advanced countries where most of the resources are already known and developed."

This definition draws a vivid distinction between the economic development and economic growth. The first term relates to the problems of underdeveloped countries and their solution, whereas the second term is related to the problems of developed countries of the world.

Prof. A. Maddison, "the rising of income levels is generally called economic growth in rich countries and in poor countries it is called economic development."

This definition also points out the same fact that economic development is concerned with the rising of income level in underdeveloped countries like India, whereas economic growth refers to the rising of income levels in advanced and rich countries like America, U. K., France, Germany etc.

Prof. J. A. Schumpeter, "Development is a discontinuous and spontaneous change in the stationary state, which for ever alters and displaces the equilibrium state previously existing; while growth is a gradual and steady change in the long run, which comes about by a general increase in the rate of savings and population‖.

This explanation emphasises that the economy is in the stationary state before the process of development starts and in that stationary state, equilibrium exists among the different development variables such as investment and savings, income and expenditure, demand and supply etc. The view of Schumpeter has been widely accepted and elaborated by the majority of economists.

C. P. Kidleberger, "Economic growth means more output and economic development implies both more output and changes in the technical and institutional arrangements, by which it is produced."

This explanation states that growth is synonymous with higher output. Any increase in the quantity of development variables is termed as growth. It has nothing to do with the means and methods of production. Development, on the other hand, implies not only higher output, but also the changes which help in raising the level of output. Kindleberger has further explained the difference by an analogy with human beings. According to him, "Growth involves focussing on height or weight while development draws attention to the change in functional capacity."

Prof. J. K. Mehta has summed up the above discussion in the words, "The word Growth has quantitative significance while the Development has by comparison qualitative significance."

Byrns and Stones , "Economic growth occurs when more goods can be produced. Economic development entails improvements in the quality of life, in the qualities of goods available or in the ways production is organised."

Dr. Bright Singh , "Economic development is a multi- dimensional phenomenon, it involves not only increase in money incomes, but also improvement in real habits, education, public health, greater leisure and in fact all the social and economic circumstances that make Tor a fuller and happier life. On thecontrary, in case of economic growth, there is increase in national income alone. There is no structural change in the economy."

The distinction between economic development and economic growth may further be explained by means of the table given below :

Table No. 1.1

Difference between Economic Development and Economic Growth

S. N.	Basis of Difference	Economic Development	Economic Growth
1.	**Utilisation**	Economic Development relates to the utilisation and development of unused resources in the underdeveloped countries.	Economic Growth relates to optimum utilisation and development of under-utilised resources of developed countries
2.	**Implication:**	progressive changes in socio-economic structure of country(institutional and technological changes)	output of goods and services in the country like increase the income in savings, investment etc.
3.	Concerned with	Development relates to underdeveloped countries.	Growth relates to developed countries.
4.	**Effect:**	Brings both qualitative and quantitative changes in the economy	Brings quantitative changes in the economy
5.	Prof. A. Maddison's View	The rising of income levels is generally called economic growth in rich countries.	The rising of income levels is generally called economic development in poor countries.
6.	Nature and cause of change	According to Schumpeter, "Economic development is discontinuous and spontaneous state in the stationary state."	According. to Schumpeter, "Economic growth is a gradual and steady change in the long run."
7.	More out put and changes	According to Kindleberger, economic development implies more output and changes in the technical and institutional arrangements.	According to Kindle-berger, economic growth means more output.

8.	Significance	According to Prof. J. K. Mehta, economic development has quali-tative significance.	According to Prof. J. K. Mehta, economic growth has quantitative significance.
9.	Bryns and Stones' views	According to Bryns and Stones, economic development entails improvement in the quality of life and goods.	According to Bryns and Stones, economic growth occurs when more goods can be produced.
10.	Dr. Bright Singh's view	Economic development is a multi-dimensional phenomenon.	Economic growth is a single dimensional phenomenon.
11.	Scope	Economic development is a wider concept than economic growth.	Economic growth is a narrower concept than economic development.
12.	Importance	Economic development is not possible without economic growth.	Economic growth is possible without eco-nomic development.
13.	Character	Economic development is regulated and controlled in character.	Economic growth is spontaneous in charac-ter.
14.	John Fried-man's view.	Economic development is an innovative process leading to the structural transformation of social system.	Economic growth is an expansion of the system in one or more dimensions without a change in its structure.
15.	Real National Income	Economic development is the process as well as increase in real national income.	Economic growth is simply the rise in real national income and not the process.

In spite of the above apparant difference, most of the economists are of the opinion that there is no difference between economic development and economic growth and hence they use both these terms as synonyms. According to Arthur Levis, "Most often we shall refer only to growth but occasionally for the sake of variety, to progress.

Economic growth is a necessary but not sufficient condition of economic development.

1.5 SUMMARY

While economists do not agree on exactly how to promote economic development, there is general agreement that development requires economic growth, a real increase in per capita income, and the social and political institutions necessary to support an expansion of the national economy. It also requires citizens who can work effectively in the

enterprises. As the production of goods and services rise at a rate higher than increases in population there is economic growth. Economic development, in addition to increased per capita income, also includes fundamental changes in the structure of the economy. These changes are characterized by a growing industrial sector combined with a declining agriculture share of Gross Domestic Product (GDP) as well as significant changes in population growth, rural to urban migration, and employment opportunities.

1.6 QUESTIONS

Q1. Write a note on economic growth.

Q2. Write a note on economic development.

Q3. Explain the distinction between economic growth and development.

2

HUMAN DEVELOPMENT AND MILLENNIUM DEVELOPMENT GOALS (MDGs)

Unit Structure:

2.0 OBJECTIVES

- To study the concept of human development and human development index.
- To study the concept of gender development index.
- To understand the concept of green GDP.
- To study Sen's Capability Approach.
- To study about the millennium development goals.

2.2 CONCEPT OF HUMAN DEVELOPMENT

The UNDP Human Development Report 1997 describes human development as "the process of widening people's choices and the level of well-being they achieve are at the core of the notion of human development. Such theories are neither finite nor static. But regardless of the level of development, the three essential choices for people are to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a decent standard of living. Human development does not end there, however. Other choices highly valued by many people, range from political, economic and social freedom to opportunities for being creative and productive and enjoying self respect and guaranteed human rights". The HDR 1997 further stated that, "Income clearly is only one option that people would like to have

though an important one. But it is not the sum total of their lives. Income is only a means with human development the end".

What we understand from the description of human development found in HDR 1997 is that human development is a continuous process. The process becomes developmental only if it increases choices and improves human well-being. Amongst other choices, the three most important choices are that of long and healthy life which is determined by life expectancy at birth, to acquire knowledge which is determined by education and a decent standard of living which is determined by GDP per capita. These three choices are also the components of human development index. While these three choices are basic to human development, the choices go beyond these three to include the ever expanding social, political and economic freedoms that make human life worth living. Thus guaranteed human rights become an important aspect of human development.

According to Paul Streeton, human development is necessary due to the following reasons:

1. Economic growth is only a means to the end of achieving human development.

2. Investments in education, health and training will increase longevity and productivity of the labor force and thereby improve human development.

3. Female education and development widens choices for women's development. Reduced infant mortality rate reduces fertility rate and also reduces the size of the family. It further improves female health and helps to reduce the rate of growth of population.

4. Encroachment upon the natural environment is the result of growing size of impoverished populations. Problems of desertification, deforestation, and soil erosion, erosion of natural beauty, unpleasant habitats and surroundings will reduce with human development.

5. Poverty reduction will encourage people to satisfy higher order needs like esteem needs and the need for self- actualization.Thus human development can contribute to a better civil society, a credible democracy and social stability and political stability.

2.3 HUMAN DEVELOPMENT INDEX (HDI)

The HDI – human development index – is a summary composite index that measures a country's average achievements in three basic aspects of human development: health, knowledge, and a decent standard of living. Health is measured by life expectancy at birth; knowledge is measured by a combination of the adult literacy rate and the combined primary, secondary, and tertiary gross enrolment ratio; and standard of living by GDP per capita (PPP US$).

The Human Development Index (HDI) is a composite statistic used to rank countries by level of "human development" and separate developed (high development), developing (middle development), and under developed (low development) countries. The statistic is composed from data on life expectancy, education and per-capita GDP (as an indicator of standard of living) collected at the national level using the formula given in the Methodology section below.

The origins of the HDI are to be found in the United Nations Development Programme's (UNDP) Human Development Reports (HDRs). These were devised and launched by Pakistani Economist Mahbub ulHaq in 1990 and had the explicit purpose: __to shift the focus of development economics from national income accounting to people centered policies‘‘. To produce the HDRs, Mahbub ulHaq brought together a group of well known development economists including: Paul Streeten, Frances Stewart, Gustav Ranis, Keith Griffin, Sudhir Anand and Meghnad Desai. But it was Amartya Sen‘s work on capabilities and functionings that provided the underlying conceptual framework. Haq was sure that a simple composite measure of human development was needed in order to convince the public, academics, and policy-makers that they can and should evaluate development not only by economic advances but also improvements in human well-being. Sen initially opposed this idea, but he went on to help Haq develop the Human Development Index (HDI). Sen was worried that it was difficult to capture the full complexity of human capabilities in a single index but Haq persuaded him that only a single number would shift the attention of policy-makers from concentration on economic to human well-being.

The HDI has been used since 1990 by the United Nations Development Programme for its annual Human Development Reports.

Human Development Index measures achievements on average on the basis of three following criteria. Areas which are of significance to human development:

- Life expectancy at birth which measures the longevity of life.
- Knowledge which is based on the following two factors.
- Adult literacy rate
- Gross enrolment ratio at primary, secondary and tertiary level.
- Per capitaGDP measures the standard of living of the people.

On the basis of above criteria an index is created for each of the above dimensions. This is done on the basis of maximum and minimum values for each of the above three indicators.

Table 2.1: Maximum and Minimum Values for Calculating HDI

Indicator	Maximum Value	Minimum Value
Life expectancy at birth	85	25
Adult literacy rate	100	0
Gross enrolment ratio	100	0
GDP per capita (PPP US$)	40,000	100

The actual values for each country are compared with the maximum and minimum value and for each country the values of all the indicators would range between 0 and 1.The following formula is used:

$$\text{Index for each indicator} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

Table 2.2: Human Development Indicators, 2003

Human Development Index	Norway HDI Rank: 1	India HDI Rank: 127	Burundi HDI Rank: 171
Life expectancy at birth (years), 2001	78.7	63.3	40.4
Adult literacy rate (% age - 15 and above), 2001	-	58.0	49.2
Combined primary, secondary and tertiary grcfcs enrolment ratio (%), 2000-01	98	56	31
GDP per capita (PPP US$), 2001	29,620	2,840	690
Life expectancy index, 2001	0.90	0.64	0.26
Education index, 2001	0.99	0.57	0.43
GDP index, 2001	0.95	0.56	0.32
Human Development Index (HDI) value, 2001	0.944	0.590	0.337
GDP per capita (PPP US$) rank minus HDI rank	4	-12	0

Table 2 gives the Human Development index of selected countries as given by the UN Human Development Report, 2003. According to this report, India is ranked 127 among a total of 175 countries. India is classified on the basis of HDI as a country of medium human development.

2.3.1 Three dimensions in the HDI: The HDI combines three dimensions:

- Life expectancy at birth, as an index of population health and longevity
- Knowledge and education, as measured by the adult literacy rate (with two-thirds weighting) and the combined primary, secondary, and tertiary gross enrolment ratio (with one-third weighting).
- Standard of living, as indicated by the natural logarithm of gross domestic product per capita at purchasing power parity.

The formula defining the HDI is promulgated by the United Nations Development Programme (UNDP) In general, to transform a raw variable, say x, into a unit-free index between 0 and 1 (which allows different indices to be added together).

$$x - index = \frac{x - min\ x}{max\ x - min\ x}$$

where min xand maxx are the lowest and highest valuesthe variable x can attain, respectively.

The Human Development Index (HDI) then represents the uniformly weighted sum with 1/3 contributed by each of the following factor indices:

2.3.2 Methods of HDI measures:

A) Life Expectancy Index:

Life expectancy is the expected (in the statistical sense) number of years of life remaining at a given age. It is denoted by ex, which means the average number of subsequent years of life for someone now aged x, according to a particular mortality experience. (In technical literature, this symbol means the average number of complete years of life remaining, excluding fractions of a year. The corresponding statistic including fractions of a year, the normal meaning of life expectancy, has a symbol with a small circle over the e.) The life expectancy of a group of individuals is heavily dependent on the criteria used to select the group. Life expectancy is usually calculated separately for males and females. Females live longer than males in countries with modern obstetric care.

In countries with high infant mortality rates, the life expectancy at birth is highly sensitive to the rate of death in the first few years of life. Because of this sensitivity to infant mortality, simple life expectancy at age zero can be subject to gross misinterpretation, leading one to believe that a population with a low overall life expectancy will necessarily have a small proportion of older people. For example, in a hypothetical stationary population in which half the population dies before the age of five, but everybody else dies exactly at 70 years old, the life expectancy at age zero will be about 35 years, while about 25% of the population will be between the ages of 50 and 70. Another measure such as life expectancy at age 5

(e5) can be used to exclude the effect of infant mortality to provide a simple measure of overall mortality rates other than in early childhood—in the hypothetical population above, life expectancy at age 5 would be 70 years. Aggregate population measures such as the proportion of the population in various age classes should also be used alongside individual-based measures like formal life expectancy when analyzing population structure and dynamics.

$$Life\ Expectancy\ Index = \frac{LE - 25}{2a}$$

B) Education Index:

The Education Index is measured by the adult literacy rate (with two-thirds weighting) and the combined primary, secondary, and tertiary gross enrolment ratio (with one-third weighting). The adult literacy rate gives an indication of the ability to read and write, while the GER gives an indication of the level of education from kindergarten to postgraduate education.

Education is a major component of well-being and is used in the measure of economic development and quality of life, which is a key factor determining whether a country is a developed, developing, or underdeveloped country.

c) Adult literacy index:

The Adult literacy index (ALI) is a statistical measure used to determine how many adults can read and write in a certain area or nation. Adult literacy is one of the factors in measuring the Human Development Index (HDI) of each nation, along with life expectancy, education, and standard of living.

The equation for calculating the Adult Literacy Index is:

$$Adult\ Literacy\ Index\ (ALI) = \frac{\mathbf{ALR - 0}}{\mathbf{100 - 0}}$$

The gross enrolment ratio (GER) or gross enrolment index (GEI) is a statistical measure used in the education sector and by the UN in its Education Index. The GER gives a rough indication of the level of education from kindergarten to postgraduate education – known in the UK and some other countries (mostly in the Commonwealth of Nations) as primary,secondary, and/or tertiary–among stresidents in a given jurisdiction.

In the UN, the GER is calculated by expressing the number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of official school age for the three levels.

$$Gross\ Enrolment\ Index\ (GEI) = \frac{\mathbf{CGER - 0}}{\mathbf{100 - 0}}$$

D) Gross domestic product:

The gross domestic product (GDP) or gross domestic income (GDI) is a measure of a country's overall economic output. It is the market value of all final goods and services made within the borders of a country in a year. It is often positively correlated with the standard of living, alternative measures to GDP for that purpose.

Gross domestic product comes under the heading of national accounts, which is a subject in macroeconomics.

GDP can be determined in three ways, all of which should in principle give the same result. They are the product (or output) approach, the income approach, and the expenditure approach.

$$\text{GDP} = \frac{\log GDPpc - \log 100}{\log 40000 - \log 100}$$

2.4 GENDER DEVELOPMENT INDEX (GDI)

The Gender-related Development Index (GDI) is an indication of the standard of living in a country, developed by the United Nations (UN). It is one of the five indicators used by the United Nations Development Programme in its annual Human Development Report. It aims to show the inequalities between men and women in the following areas: long and healthy life, knowledge, and a decent standard of living.

While HDI measures average achievement, the GDI adjusts the average achievement to reflect the inequalities between men and women. The three components used for the purpose are: (i) female life expectancy, (ii) female adult literacy and gross enrolment ratio, and (iii) female per capita income.

If gender inequality were not penalised, the value of GDI and HDI would be the same, but if gender inequality exists, the value ofGDI would be lower than that of HDL The greater the difference between HDI and GDI, the greater is the gender inequality. Table no. 2.4 provides data both for HDI and GDI for selected countries. It may be noted that near gender equality exists in Norway, Canada, United States, United Kingdom, Japan, Mexico, Russian Federation, Malaysia, Venezuela, Philippines, Sri Lanka, China, Vietnam and Indonesia. Countries which indicate higher gender inequality are Saudi Arabia, Pakistan, Iran, India, Egypt and Nigeria.

However, there is a greater awareness in the world about gender inequality and efforts are being made to reduce gender inequality by promoting the education of females and giving them a better status in the family. Some countries have lagged behind due to cultural biases against the females. However, in them also, women movements are promoting the cause of bringing about gender equality.

2.4.1 GDI in India:

In India, Life expectancy at birth of females in 2001 was 64 years, but for males, it was 62.8 years. Comparing with medium human development countries, Indian achievement, though good, is still much lower in relation to Mexico, Venezuela, Russian Federation, Thailand, Philippines, Sri Lanka, Iran, Vietnam, to name a few among them.

Although gap between life expectancy of females and males is very small, but in other gender-related developmentindicators, this gap is very wide. For instance, adult literacy of females was barely 46.4 per cent against 69.0 per cent of males in 2001. Similarly, combined Gross Enrolment ratio of females was 49 per cent as against 63.0 per cent for males in 2001. Likewise, Estimated Earned Income of females was $ 1,531 as compared with that of males to be $ 4,070 in 2001. This implies that female income was just 38 per cent of male income. Obviously, either females suffered from gender discrimination in wage income or they did not have regular employment and a big proportion was employed as casual labourersor a large proportion of females worked part time. There may be many more factors, but it cannot be denied that females suffered gender bias both in education and employment.

Calculating the GDI involves three steps:

Step 1: Unit-free indices between 0 and 1 are calculated for females and males in each of the following areas:

1. Life expectancy,
2. Education (the adultliteracyrateandthecombinedprimarytotertiary grossenrolmentratio),
3. Estimatedearnedincome(at purchasing power parityUS$).

- FemaleLifeExpectancyIndex

$$= \frac{\text{Female lifeexpectancy} - 27.5}{87.5 - 27.5}$$

- MaleLifeExpectancyIndex

$$= \frac{\text{femalelifeexpectancy} - 22.5}{82.5 - 22.5}$$

Female & MaleEducationIndices

$$= \frac{2}{3}\frac{\text{adultliteracyrateofgender}}{100} + \frac{1}{3}\frac{\text{grossenrollmentrateofgender}}{100}$$

Female &MaleIncomeIndices

$$\frac{\log\text{earnedincomeofgender} - \log 100}{\log 40{,}000 - \log 100}$$

Step 2: For each area, the pair ofgender indices, are combinedinto an Equally Distributed Index that rewards gender equality andpenalizes inequality. It is calculated as the harmonic mean of thetwoindices.

Equally Distributed index

$$= \frac{\text{femaleshareofpopulation}}{\text{female index}} \quad \frac{\text{maleshareofpopulation}}{\text{male index}}$$

[1]

Step 3: The GDI is the unweighted average of the three Equally Distributed Indices: Equally distributed life expectancy index, Equally distributed education index, Equally distributed income index.

The UN uses a different standard for male and female life expectancy, basically assuming that it is natural that women shouldlive about 5 years longer than men. If the life expectancy index wasset at an equal age of 85 years, the GDI calculated would increase, reflecting the superior life expectancy of women in almost all countries. Just replace 87.5 years and 82.5 years with 85.0 yearsand replace 27.5 years and 22.5 years with25.0 years to equalizeit. Iceland, for example, would have a GDI of 0.992 instead of 0.962underthis method.

2.5 GREEN GDP

Green GDP is an important and current topic that is relevant to the UPSC exam. It forms a part of the current affairs, environment and ecology, polity and also social issues. The following article gives you a brief about the concept of green GDP.

The Green Gross Domestic Product, or Green GDP for short, is an indicator of economic growth with environmental factors taken into consideration along with the standard GDP of a country. Green GDP factors biodiversity losses and costs attributed to climate change. Physical indicators like “carbon dioxide per year or “waste per capita” may be aggregated to indices like the “Sustainable Development Index”.

How is Green GDP Calculated?

Green GDP is calculated by subtracting net natural capital consumption from the standard GDP. This includes resource depletion, environmental degradation and protective environmental initiatives. These calculations can alternatively be applied to the net domestic product (NDP), which subtracts the depreciation of capital from GDP. In every case, it is required to convert any resource extraction activity into a monetary value since they are expressed in this manner through national accounts.

2.6 SEN'S CAPABILITY APPROACH

The core concepts:

The capability approach involves concentration on freedoms to achieve in general and the capabilities to function in particular (Sen 1995). The major constituents of the capability approach are functionings and capabilities.1 Functionings are the beings and doings of a person, whereas a person's capability is the various combinations of functionings that a person can achieve. Capability is thus a set of vectors of functionings, reflecting the person's freedom to lead one type of life or another (Sen 1992). A person's functionings and her capability are closely related but distinct.

A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they are different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead (Sen 1987: 36).

The difference between functioning and capability can best be clarified with an example.

Consider the following variation on Sen's classical illustration of two persons who both don't eat enough to enable the functioning of being well-nourished. The first person is a victim of a famine in Ethiopia, while the second person decided to go on a hunger strike in front of the Chinese embassy in Washington to protest against the occupation of Tibet.

Although both persons lack the functioning of being well- nourished, the freedom they had to avoid being hungry is crucially distinct. To be able to make this distinction, we need the concept of capability, i.e. the functionings that a person could have achieved. While both hungry people lack the achieved functioning of being well-nourished and hunger-free, the protester in Washington has the capability to achieve this functioning which the Ethiopian person lacks.

Another crucial distinction in the capability approach is the distinction between commodities (that is, goods and services) on the one hand and functioning on the other hand.

Commodities are goods and services. They should not necessarily be thought of as exchangeable for income or money – as this would restrict the capability approach to analyses and measurement in market-based economies, which it does not intend. A commodity has certain characteristics, which makes it of interest to people. For example, we are not interested in a bike because it is an object made from certain materials with a specific shape and colour, but because it can bring us to places where we want to go, and in a faster way than if we were walking. These characteristics of a good enable a functioning.

In our example, the bike enables the functioning of mobility, to be able to move oneself freely and more rapidly than walking. However, the relation between the good and the functionings to achieve certain beings and doings is influenced by three conversion factors. Firstly, personal characteristics (e.g. metabolism, physical condition, sex, reading skills, intelligence) influence how a person can convert the characteristics of the commodity into a functioning. If a person is disabled, or in a bad physical condition, or has never learned to cycle, than the bike will be of limited help to enable the functioning of mobility. Secondly, social characteristics (e.g. public policies, social norms, discriminating practises, gender roles, societal hierarchies, power relations) and environmental characteristics (e.g. climate, infrastructure, institutions, public goods) play a role in the conversion from characteristics of the good to the individual functioning. If there are no paved roads, or if a society imposes a social or legal norm that women are not allowed to cycle without being accompanied by a male family member, then it becomes much more difficult or even impossible to use the good to enable the functioning. Hence, knowing the goods a person owns or can use is not enough to know which functionings she can achieve; therefore we need to know much more about the person and the circumstances in which she is living.

The capability approach does not consider the functionings that a person has achieved as the ultimate normative measure. In principle, we are concerned with people‘s real freedoms, that is, with their capability to function, and not with her achieved functioning levels.

The functionings of a person are the set of things that she is and does in life, whereas the capability of that person is the alternative combination of functionings that this person can achieve and from which she can choose one vector of functionings. Capability is thus closely related to the idea of opportunity, but, as Sen warns, this should not be understood in the limited traditional sense, but more as a positive notion of overall freedom.

The basic idea is thus that we are concerned with people‘s capabilities, with their affective freedoms to be whom they want to be and do what they want to do. Let us now look at three theoretical refinements.

Firstly, a focus on functionings and capabilities does not have to imply that a capability analysis would not pay any attention to resources, or the evaluation of social institutions, economic growth, technical advancement, and so forth. Thus, while functionings and capabilities are of ultimate concern, other dimensions can be important as well. Indeed, in their evaluation if development in India, Drèze and Sen have stressed that working within the capability approach does in no way exclude the integration of an analysis of resources: ―It should be clear that we have tended to judge development by the expansion of substantive human freedoms – not just by economic growth (for example, of the gross national product), or technical progress, or social modernization. This is not to deny, in any way, that advances in the latter fields can be very important, depending on circumstances, as instruments for the enhancement of human freedom. But they have to be appraised precisely

in that light – in terms of their actual effectiveness in enriching the lives and liberties of people – rather than taking them to be valuable in themselves. **(Drèze and Sen 2002: 3)**

The second remark is that there are cases and situations where it makes much more sense to investigate people‘s achieved functionings directly, instead of evaluating their capabilities.

For example, if we are focussing on the capability of bodily integrity, we will not be concerned with a boxer who deliberately puts his body at danger of being beaten up.

He has the capability of not being attacked, but chooses to engages in violent fights. But as far as domestic violence is concerned, we will use the very plausible assumption that no one wants to be beaten up by another person in the household, and therefore the achieved disfunctioning of bodily integrity due to domestic violence is a univocal sign that the victim didn‘t have the capability of being safe from bodily harm in the first place. Other examples where it makes more sense to focus on achieved functionings levels directly instead of capabilities are being well-nourished in areas fraught by hunger and famines, and all situations of extreme material and bodily deprivation in very poor societies or communities.

Finally, it is important to note that in real life, two people with identical capability sets are likely to end up with different types and levels of achieved functionings, as they have made different choices from their effective options. In philosophical terms, we could say that they have different ideas of the good life, that is, different desires and wishes on what kind of life they want to lead. As a liberal philosophical framework, the capability approach respects people‘s different ideas of the good life, and this is why capability, and not achieved functioning is the appropriate political goal. However, it is also clear that in real life, our ideas of the good life are profoundly moulded by our family, tribal, religious, community or cultural background. There are very few children from Christian parents who end up being Muslim, for example. One could question, therefore, to what extent this is a choice at all, and if we characterise it as a choice, it would still remain a constrained choice. This does not mean that these constraints always have to be negative or unjust; on the contrary, some people might find them very enabling and supporting. There is very little about these constraints that one could say in general terms, as they are so closely interwoven with a person‘s own history and thus with her personality, emotions, values, desires and preferences. It is however important to question to what extent people have genuinely access to all the capabilities in their capability set, and whether or not they are punished by members of their family or community for making certain life-style choices.

Principles of Capabilities:

Nussbaum (2000) frames these basic principles in terms of ten capabilities, i.e. real opportunities based on personal and social

circumstance. This approach contrasts with a common view that sees development purely in terms of GNP growth, and poverty purely as income-deprivation. It has been highly influential in development policy where it has shaped the evolution of the human development index HDI has been much discussed in philosophy and is increasingly influential in a range of social sciences.

The ten capabilities Nussbaum argues should be supported by all democracies are:

1. Life. Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.

2. Bodily Health. Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.

3. Bodily Integrity. Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.

4. Senses, Imagination, and Thought. Being able to use the senses, to imagine, think, and reason—and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain.

5. Emotions. Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)

6. **Practical Reason.** Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.)

7. Affiliation.

1. Being able to live with and toward others, to recognize and show concern for other humans, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)

2. Having the social bases of self-respect and non- humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of non-discrimination on the basis of race,

sex, sexual orientation, ethnicity, caste, religion, national origin and species.

8. Other Species. Being able to live with concern for and in relation to animals, plants, and the world of nature.

9. Play. Being able to laugh, to play, to enjoy recreational activities.

10. Control over one's Environment.

1. Political. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

2. Material. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers.

The approach was first fully articulated in Sen (1985) and discussed in Sen and Nussbaum (1993). Applications to development are discussed in Sen (1999), Nussbaum (2000), and Clark (2002, 2005) and are now numerous to the point where the capabilities approach is widely accepted as a paradigm in development.

2.7 MILLENNIUM DEVELOPMENT GOALS (MDGS)

The Millennium Development Goals (MDGs) which include eight goals were framed to address the world's major development challenges with health and its related areas as the prime focus. In India, considerable progress has been made in the field of basic universal education, gender equality in education, and global economic growth. However there is slow progress in the improvement of health indicators related to mortality, morbidity, and various environmental factors contributing to poor health conditions. Even though the government has implemented a wide array of programs, policies, and various schemes to combat these health challenges, further intensification of efforts and redesigning of outreach strategies is needed to give momentum to the progress toward achievement of the MDGs.

The MDGs adopted by the United Nations in the year 2000 project the efforts of the international community to “spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty.” The MDGs are eight goals to be achieved by 2015 that respond to the world's main development challenges.(1) These goals are further subdivided into 18 numerical targets which are further measured by means of 40 quantifiable indicators. Health constitutes the prime focus of the MDGs. While three out of eight goals are directly related to health, the other goals are related to factors which have a significant influence on health. Hence the goals and targets are inter-related in many ways. The eight MDG goals are to –

(1) eradicate extreme poverty and hunger;

(2) achieve universal basic education;

(3) promote gender equality and empower women;

(4) reduce child mortality;

(5) improve maternal health;

(6) combat HIV/AIDS, malaria, and other diseases;

(7) ensure environmental sustainability;

(8) develop a global partnership for development.

2.8 INITIATIVE BY INDIAN GOVERNMENT TOWARDS MDGS

"Acute poverty prevails in eight Indian states, including Bihar, Uttar Pradesh and West Bengal, together accounting for more poor people than in the 26 poorest African nations combined, a new 'multidimensional' measure of global poverty has said. As per the new measure Multidimensional Poverty Index (MPI – was developed and applied by the Oxford Poverty and Human Development Initiative with UNDP support), there are more 'MPI poor' people in eight Indian states (421 million in Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and West Bengal) than in the 26 poorest African countries combined (410 million)".

The states like Bihar, Chhattisgarh, Uttar Pradesh, Rajasthan, Orissa, and Madhya Pradesh are among the most populous in the country, and have very low GDP. Growing rate of population within these states will account for an even larger share of India's population in 2015. Therefore, India's attainment of MDGs will also largely depend on the performance of these states.

The Millennium Development Goals under the Millennium Declaration are not like other documents or plans which remain on paper only. These set out measurable targets instead of the usual hazy statements or agreements.

Goal 1: To achieve the goal of eradicating extreme poverty and hunger, India must reduce the proportion of people below poverty line from nearly 37.5% (in 1990) to about 18.75% by 2015.

Goal 2: To achieve universal primary education, India should increase the primary school enrolment rate to 100 % with decreasing number of students and completely wipe out the drop-outs by 2015 against 41.96% in 1991-92.

Goal 3: To ensure gender parity in education, India will have to promote female participation at all levels to reach a female male proportion of equal level by 2015.

Goal 4: It aims at reducing 'under five mortality rate (U5MR)' from 125 deaths per thousand live births in 1988-92 to 42 in 2015.

Goal-5: India should reduce maternal mortality (MMR) from 437 deaths per 100,000 live births in 1991 to 109 by 2015.

Goal-6: Under this goal, though India has a low prevalence of HIV among pregnant women as compared to other developing countries, yet the prevalence rate has increased from 0.74 per thousand pregnant women in 2002 to 0.86 in 2003. This increasing trend needs to be reversed to achieve MDG 6.

Goal-7: The proportion of population without sustainable access to safe drinking water and sanitation is to be halved by 2015 and India is on track to achieve this target.

Goal-8: Develop global partnership for development. (It includes financial support from developed countries. For example Official Development Assistance – ODA, etc.)

The Government of India has adopted ambitious targets related to Millennium Development Goals such as education – 'Sarva Shiksha Abhiyan' (the national policy to universalize primary education and making free and compulsory Education to the Children of 6-14 years age group), Health – the National Rural Health Mission along with Integrated Child Development Services. To achieve the MDGs, India needs to convert these commitments and resources into measurable results.

The Government of India claims that the country is on track to meet the MDG targets by 2015. These claims include; number of people living below the poverty line has reduced, child and maternal mortality rates are reducing, increased public resources in several key sectors, Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has increased rural employment, National Rural Health Mission have resulted in massive inputs in the health sector, HIV rates are low and that deaths due to tuberculosis and malaria show downward trends.

2.9 SUMMARY

1.India has been categorised by the Human Development Report 2001 as a medium human development country. A major impediment to progress in human development is the very fast growth of population experienced in India.

2.The Human Development Index (HDI) is a summary composite index that measures a country's average achievements in three basic aspects of human development: health, knowledge and a decent standard of living. Health is measured by life expectancy at birth; knowledge is measured by a combination of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio and standard of living by GDP per capita.

3. Following are the methods of HDI measures:

A) Life Expectancy Index: Life Expectancy is the expected (in statistical Sense) number of years of life remaining at a given age. It is denoted by ex, which means the average number of subsequent years of life for someone now aged x, according to a particular mortality experience.

B) Education Index: The Education Index is measured by the adult literacy rate (with two-third weighing) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weighing).

C) Adult literacy Index: The Adult literacy index is a statistical measure used to determine how many adults can read and write in a certain area or nation.

D) Gross Domestic Product: The gross domestic product or gross domestic income is a measure of a country‘s overall economic output. It is the market value of all final goods and services made within the borders of a country in a year. It is often positively correlated with the standard of living, alternative measures to GDP for that purpose.

4.The Gender related Development Index (GDI) is an indication of the standard of living in a country, developed by the United Nations (UN). It is one of the five indicators used by the United Nations Development Programme in its annual Human Development Report. It aims to show the inequalities between men and women in the following areas: long and healthy life, knowledge and a decent standard of living.

5.The Sen‘s capability approach involves concentration on freedoms to achieve in general and the capabilities to function in particular. The major constituents of the capability approach are functionings and capabilities. Functionings are the beings and doings of a person, whereas a person‘s capability is the various combinations of functionings that a person can achieve.

Capability is thus a set of vectors of functionings, reflecting the person‘s freedom to lead one type of life or another.

2.10 QUESTIONS

Q1. Write a note on –

a) Human Development Index.
b) Gender Development Index.
c) Greed GDP.
d) Millennium Development Goals.

Q2. Explain Sen’s capability approach.

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3

THEORIES OF ECONOMIC DEVELOPMENT - 1

Unit Structure:

3.0 OBJECTIVES

- To study the Rostow's Stages of Growth.
- To explain big push theory.
- To Leibenstein's Critical Minimum Effort Thesis.

3.1 INTRODUCTION

W. W. Rostow adopted a historical approach to the process of development. He has given a descriptive economic study of the pattern of growth and development of countries. He identifies five stages of development in the light of the experience of developed countries. Hence empirical and historical examples are given to establish the stages of growth theory.

Harrod and Domar models of growth also give us the dynamics of growth based on a developed country. These models are extensions of Keynes equilibrium analysis. J. M. Keynes explained the conditions for equilibrium. Equilibrium will be achieved when planned investment becomes equal to planned saving. Harrod and Domar furthered Keynes theory to study the conditions required for steady and smooth growth of the economy.

3.2 ROSTOW'S STAGES OF GROWTH

W. W. Rostow had adopted a historical method of studying and interpreting the process of economic development. According to him, there are five stages of economic growth.

1.The Traditional Society

2.The Pre-conditions for take off.

3.The take-off.

4.The drive to maturity.

5.The age of high mass consumption.

1. The Traditional Society : Traditional society is one whose structure is developed within limited production function based on pre-Newtonian science and technology. But such societies allowed for economic changes. Such societies allowed for land to be bought, change in the scale of production and increase in production. However there was no systematic and regular use of modern science and technology.

The social structure was hierarchical family and clan connections were important. The landed aristocracy exercised political power. More than 75% of the population was engaged in the agricultural sector. Agriculture was the main source of livelihood for the people.

2. The pre-conditions for take-off : This stage in development is a transitional period. During this period, pre-conditions for sustained growth were created. The pre-conditions were encouraged by four forces. The new learning or renaissance, the new monarchy, the new world and the new religion or the reformation. These factors encouraged the reasoning power. They brought about the fall of feudalism. Nation states emerged. New inventions and discoveries led to the emergence of the bourgeoisie. There was a change in social values, attitudes and expectations. Profit motive, education etc. encouraged enterprise. This led to widening of scope as investment increase trade expand and transport and communications develop. According to Rostow, radical changes in three non-industrial sectors are necessary.

1. The setting up of social overhead capital especially, transport.

2. It is necessary to bring about a technological revolution in agriculture so that agricultural productivity increases to meet the needs of population.

3. Thirdly, expansion of imports needed for development and also strengthen export with appropriate measures.

Industrial development was possible by the adoption of modern techniques and reinvestment of profits. Ultimately, the rate of investment must become more than the population growth rate. Moreover, due to the international demonstration effect, people wanted the products of modern industry which encouraged production of better quality goods.

3. The take-off : The take-off stage is a short stage of development during which growth becomes self – sustaining.

a) The investment must increase from 5% to more than 10% of the national income.

b) The development of one or more substantial manufacturing sectors with a high rate of growth.

c) Theexistence of a political, socialand institutional framework which makes faster growth possible.

The take-off will necessitate huge amounts of funds for investment. The funds come from the profits of agricultural sector, reinvestment of profits by landlords and inflows of foreign capital.

Rostow identifies leading growth sectors which enable the take- off process.

i) Primary Growth Sectors : The innovation and exploiting of new resources help to achieve a higher rate of growth examples – The cotton textile of Britain and New England in the early stages of growth.

ii) Supplementary Growth Sectors : This sector grows as a result of the development of the primary growth sectors. Example – the development of railways is a primary growth sector and the expansion of iron, coal and steel industries is a growth activity in the supplementary sector.

iii) Derived Growth Sectors : The growth in these sectors take place as a result of the overall increase in income, population, industrial production etc. For example, production of food and housing construction.

There are certain conditions to qualify any sector as the leading sector. They are as follows –

1. There should be an expanding market for the product so that it becomes established.

2. The leading sector should generate secondary expansion.

3. The sector should have access to sufficient capital from the re-invested profits.

According to Rostow the take-off can be triggered off by technological innovations or political revolution.

4.The Drive to Maturity : This stage is defined by Rostow ―as the period when a society has effectively applied the range of modern technology to the bulk of its resources. It is a period of long sustained growth which may extend upto four decades. During this period new production techniques will be adopted instead of the old ones. There will be new leading sectors. The rate of investment will go above 10% of the national income. As a country becomes technologically mature, some changes occur. In the first place, workers become skilled and there will be urbanization. Workers become organized and the real wages increase. Secondly, there will be a use of polished efficient managers. Thirdly, the society is used to the changes of industrialization and wants further changes.

The Age of High Mass-Consumption:

During this stage there is increased migration to urban areas and more use of durable consumer goods. In the stage, the economy becomes concerned with demand and problem of consumption and welfare. In the post maturity stage, there is an effort to increase welfare in the following ways. The countries try to increase their power and influence beyond their borders. Secondly, the countries wilt want to pursue the goal of setting up a welfare state which follows measures like progressive taxation and increased social security and leisure. Thirdly, efforts will be undertaken to produce cheaper automobiles, houses etc. This stage is marked by an increase in population.

Criticisms of the Stages of Economic Growth:

A number of criticisms have been leveled against the authencity of the decision of economic history into five ―Stages of growth ‖. The question was whether all the countries follow the same sequence in the stages of growth. This is very unlikely.

1. Traditional society may not be essential : Empirical study and experiences of countries like U.S.A. and Canada proves that traditional society need not be a stage in the evolution towards development.

2. Pre-conditions need not be present : The pre-conditions need not be necessary for a country‘s take off. Even after the take off many changes can take place in an economy. For example, agricultural revolution and accumulation of social overhead capital may take place even after the take-off.

3. The stages may overlap : The experience of a number of countries show that development in agriculture continued even in the take off stage.

4. Criticism of the take-off : The take-off dates are doubtful and it need not be uniform for countries. The theory ignores facts like the degree of backwardness of countries, time of entry into the process of economic growth etc. Even assuming a 10% investment rate is arbitrary.

The theory gives a lot of importance to the leading sectors like textile, railroads etc. But economic growth is not general by a few leading sectors. Many economists pose the question of how to identify leading sectors.

5. The stage of Drive to maturity is vague : This stage is supposed to the concerned with sustained growth which may be attained in the take-off stage itself. There is not much difference between the take-off stage and the stage of drive to maturity.

6.The countries reach the stage of High Mass consumption at different points of time.

3.3 BIG PUSH THEORY

Theory:

The theory states that proceeding _bit by bit' will not launch the economy successfully on the development path; rather a minimum amount of investment is a necessary condition for success. It necessitates the obtaining of external economies that arise from the simultaneous establishment of technically interdependent industries. Thus, the indefensibilities and external economies flowing from a minimum quantum of investmentare a prerequisite for launching economic development of underdeveloped countries successfully.

In underdeveloped countries, there is little scope in investing in modern industries which need large investment. If the modern methods of production and distribution are applied, the profit will be large. On the other hand, to invest individually will not be beneficial if it is done separately and privately. It will be beneficial only if they are organized together. To quote Prof. Benjamin Higgins, ―Leaning on a stalled car with gradually increasing weight will not get it started, for example, it needs a big push. He further makes clear, ―Insistence on slow evolution is defeatist and indeed dangerous because it precisely slows down the evolution that cannot succeed in the face of all obstacles.

Indivisibilities:

Rodan says the need for big push in underdeveloped countries arises from the following three kinds of indivisibilities and external economies which are considered foremost in getting the path of economic development:

a) Indivisibilities in the Production Function.

b) Indivisibility of Demand.

c) Indivisibility of the Supply of Savings.

Now let us examine these indivisibilities in the context of development of underdevelopment countries.

a) Indivisibilities in Production Function:

According to Rosenstein Rodan, indivisibilities in Production function refer to the indivisibilities of inputs, outputs and process of production etc. they lead to increasing returns, i.e., the increase in output, income and employment and lowering the capital output ratio. He showed that law of increasing returns had played an important role in reducing the output capital ration from 4:1 to 3:1. He considers social overhead capital such as, power, transport, communications, housing, education etc., as the most important examples of indivisibility and of external economies on the supply side. These services of social overhead capital are indirectly productive and have a long gestation period. They require heavy investments. According to Rosenstein Rodan, an underdeveloped country

needs a capital investment of about 30-40 percent of its total investment on the development of social overhead capital. The social overhead capital is characterized by four indivisibilities. Firstly, it is irreversible in time, therefore, must precede other directly productive investments, secondly, it has minimum durability, this making it very lumpy. Thirdly, it has a long gestation period. Fourthly, it has an irreducible minimum industry mix ofdifferent kinds of public utilities. Most of the underdeveloped countries have been suffering from the shortage of social overhead capital, and it is one of the chief obstacles to development in such economies. In this way, the rapid economic development in underdeveloped economies would require a high initial investment in social overhead capital.

b) Indivisibility of Demand:

Rosenstein Rodan stressed the importance of indivisibility of demand in his original article, and later it was given wide publicity by Prof. Ragnar Nurkse in his book ¯Problems of capital Formation in Underdeveloped Countries. The importance of indivisibility of demand lies in expanding the size of the market. The underdeveloped countries are characterized by the small markets, which in turn limit the investment opportunities and obstruct the process of development. Investment in any single project will have a high degree of risk because of the uncertainty as to whether their product will find a market. This indivisibility of demand requires simultaneous investment in different industries. In other words, the indivisibility of demand stresses the complementarily of investment. Rodan uses his example of shoe factory to explain his point. Assuming a closed economy, let us suppose that a hundred disguised unemployed workers (whose marginal productivity is equal to zero) are employed in shoe factory. Their wages would constitute additional income. If newly employed workers spend all of their additional income for the purchase of shoes they product, the shoe factory will find a market, thus it would expand. In fact new workers do not spend their entire additional income on shoes and the shoe factory will not find the market. The risk of not finding a market would reduce the incentive to invest and the result would be the colure of the factory. In this way the investment in a single project cannot widen the extent of the market.

Now we shall change the example and suppose ten thousand workers are employed in hundred industries (instead of hundred workers in one industry) and they produce the bulk of consumer goods on which the newly employed workers will spend their wages. This would enlarge the extent of demand and the size of the market. What is not true in case of a single industry will become true in complementary system of one hundred industries. In a complementary system of industries, the risk of not finding the new market reduces and incentive to investment increases. Hence the indivisibility of demand necessarily implies a high quantum of investment in complementary industries for enlarging the size of market and increasing the incentives to invest without which the development proves gets stuck up.

c) Indivisibility in the Supply of Savings:

The third indivisibility in the Rosenstein Rodan Theory is the indivisibility in the supply of savings which means a high income elasticity of savings, hence a high quantum of investment is needed for establishing complementary industries and this will require huge savings. But in underdeveloped countries, savings are low because income is low. To reduce the gap between income and expenditure, the rate of saving should be increase. To overcome this crisis, Rosenstein Rodan suggests to the underdeveloped countries that with their enhancing incomes due to an increase in investment, they should have their marginal rate of savings much higher than the average rate of savings. If we want to initiate the process of growth in underdeveloped countries, we must increase income and saving considerably. The large increase in income requires large investments in underdeveloped countries. According to Rosenstein Rodan, ¯A high minimum quantum of investment requires a high volume of savings, which is difficult to achieve in low income in underdeveloped countries. The way out of the vicious circle is to have first increase in income and to provide mechanism which assures that at the second stage, the marginal rate of saving would be very much higher than average rate of saving.

Giving much importance to these three indivisibilities and external economies, the underdeveloped countries can successfully solve their problems of development only by a ¯big push or a minimum quantum of investment. Rosenstein observes: ¯There may be finally a phenomenon of indivisibility in the vigour and drive required for a successful development policy. In other words, favorable environment for development may be created in underdeveloped countries by a big push or a minimum quantum of investment, and not by an isolated and small way.

Importance of Social capital and Investment:

The big push theory is very clear on the importance of social overhead capital and assigns a crucial role to investment in power, transport; communications and other basic industries, investments in all these activities are lumpy along with long gestation period. Therefore the responsibility for the development of social overhead capital has to be borne by the state. Neither the private sector neither is willing nor is capable of undertaking such type of projects involving a huge amount of investment and then wait for profit for a long period of time due to their gestation period and other constraints too. Rodan says in this regards, ¯The existing institutions of international and national investment do not take advantage of external economies. There is no incentive within theirframework for many investments which ate profitable in terms of social marginal net product but do not appear profitable in terms of private marginal net product. The main driving force of investment is the profit expectation of an individual entrepreneur which is based on experience of the past. Experience of the past is partly irrelevant, however, where the whole economic structure

of a region is to be changed. If the industrialization of international depressed areas were to rely entirely on the normal incentive of private entrepreneurs, the proves would not only be very much slower, the rate of investment smaller and (consequently) the national income lower, but the whole economic structure of the region would be different.

Evaluation of theory:

Rosenstein Rodan Theory is an improvement over the traditional static equilibrium theory. The big push theory clearly brings into focus the need for a massive effort on the part of the underdeveloped countries to industrialize them self provided they are really serious about economic development. It warns that piecemeal efforts of development would be of no avail. It is the high minimum quantum of investment that takes an underdeveloped economy toward an optimum position.

Despite the above, big push theory has been criticized on several grounds by number of leading economists like H. Myint, Jacab Viner and H. S. Ellis etc. It has been argued that this theory creates more problems than it solves. The main pillars of criticism are as follows:

1. More Emphasis on Indivisibilities:

The big theory lays too much stress on the problem of indivisibilities of both the demand and supply sides. According to Celso Furtado, ¯The recognition and identification of these necessary reforms is of fundamental practical importance both for countries which are anxious to emerge from stagnation and for those who are desirous of intensifying their development.:

2. Lack of Historical support:

The big push theory seems to suggest that whenever a large-scale influence is exerted on the process of capital formation, stationary economy probably begins to develop. As noted by Furtado this is not confirmed by History. Furtado gives the example of Bolivia where large investments were made in social and economic overheads. Yet the economy of this country remained stationary and per capita income low. The progress of the advanced countries does not lend support to the big push theses.

3. Institutional and Administrative Difficulties:

As a matter of fact, the big push theory cannot be adopted without active state participation, guidance and control. However, in underdeveloped countries the government administrative and institutional machinery is very weak and inefficient. Further, underdeveloped countries lack statistical knowledge, technical know-how, trained personnel and problem coordination between different departments. Beside this, there is gross re-tapism and corruption. This hampers the smooth working of Big Push.

4. Not consider for Mixed Economy:

The concept of Big-Push ignores the difficulties faced in a mixed economy. The mixed economy, in underdeveloped countries, provides co-existence for both private and public sectors. If these are complementary in nature then it faces no constraints. The problems become acute when two sectors become competitive, e.g., when government sets up its own factor in public sector. A situation of ‑Cold War' is a common feature between these two sectors in underdeveloped countries. According to Prof. H. Myint, ¯the government departments tend to keep their plans and intentions secret from the private businessmen because they fear speculative activities which will disrupt their plans. On the other hand, private enterprise is inhibited by uncertainties not only about the general economic situation but also about the future changes in government regulation.

5. Neglect the Promotion of Further Investment:

By concentrating on the acceleration of investment through planned action, the big push theory has neglected the important tasks of providing proper environment for further investment. Firstly, there is no provision for inducing further investment in the economy. Secondly, it has not provided a proper place to the private sector. By depending on the public sector, t has simply bypassed the private sector which can play important role both in savings and investments.

6. Ignore the Importance of Techniques:

Celso Furtado points out that the big push theory neglects the importance of techniques in its over enthusiasm for capital formation. The fact is that although capital formation has been the main vehicle of the assimilation of new techniques it is, in itself, responsible for only a relatively small fraction of the increase in the productivity of labour. Is the historical context of today,development depends increasingly upon technique and less on direct capital-formation in the production processes.

7. Create Inflationary Pressure:

The heavy investment on social overhead capital is not only highly expensive, but also has a high capital output ratio and a very long gestation period. It also generates inflationary pressure in the economy for the want of consumer goods. Consequently, this large inflationary pressure, in turn, would prolong, the process of constructing overhead capital, and it would, thus, be very difficult for an underdeveloped country to achieve the goal of rapid economic growth.

8. Difficulty in Coordination:

According to H. Myint, it is very difficult to coordinate various development plans in big push theory. Evidently, sometimes the problem of coordination is beyond the efficient administrative machinery even of

developed countries. The governments of underdeveloped countries face the difficulty not only in the initial drawing of the economic development plans, but also in the execution of various development projects according ot a planned time table. In executing the various development projects‘, there are possibilities of revision of original plans, delays and departures from the original time table. Thus, the problem of coordination has been one of the weakest points of planning machinery.

9. Lack of External Economies:

According to the ¯big push theory, the external economies can be realized in underdeveloped countries only though investments in social overhead capital. But it pointed out by viner, ¯Underdeveloped economies realize greater economies from world trade independently of home investment. Later, Rodan has also realized this fact.

10. Lack of Resources:

The theory fails to recognize the fact that the amount of resources in an underdeveloped country are limited. They lack requisite capital, skilled labour, entrepreneurship ability and social and economic overheads. So these countries cannot adopt big push theory. According to Prof. E. Gudin. ¯The theory of big push is somewhat unreal because it presupposes not only an ample supply of capital but also of other scarce factors in underdeveloped countries. Since, otherwise, they would not be underdeveloped. An attempt at a big push would probably amount to stating more projects than the country‘s resources can cope with, with the resultof lengthening the period of investment unnecessarily and uneconomically:

11. Ignorance of Agricultural Sector:

Rosenstein Rodan believes that an underdeveloped country can undertake its development through a high level investment in all types of industries-capital goods, consumer goods and social overhead capital. In this way, the big push theory totally ignores agriculture which is the prime source of living in underdeveloped countries because this sector contributes a major part of national income and provided livelihood to a large section of working population. The neglect of the agriculture sector in such economies will retard rather than accelerate their economic development.

12. Low Investment leads to Large Increase in Output:

In this analysis of economic development of underdeveloped countries, Adler reveals. ¯A relatively low level of investment ¯pays off‘ well in the form of additional output. He has concluded this fact on the basis of observation regarding the development process in India, Pakistan and many other Asian and Latin American countries. It, thus, proves the ¯big push theory unrealistic and unpracticable in underdeveloped economies.

Check Your Progress:

1. State the Theory of Big Push.
2. State the three kinds of indivisibilities in Big Push Theory.

3.4 LEIBENSTEIN'S CRITICAL MINIMUM EFFORT THESIS

Prof. Leibenstein wrote his thesis not with reference to developed economies nor with reference to backward and stagnant economics, but with reference to the developing but less developed economies. These economies are in ¯subsistence equilibrium which is not completely stable but ¯quasi-stable. In other words, there is some dynamism in these less developed countries. Theessential feature of these economies is that while many crucial variables (saving, population, skilled labour. Investment, employment, GNF and intensity of application of various policy measures) are changing the per capita real income remains almost at the same real subsistence level, or changes just a little. This is quasi-stable equilibrium; or quasi-stable disequilibrium. There are no endemic and endogenous forces that can bring development and therefore, exogenous shocks of the critical minimum size are being administered so that the per capita income rises. His thesis had countries like India in mind.

There are always some factors that pull down development and some factors that push up development. There are positive sun factors, negative sum factors and zero sum factors of economic development. The economy can surge forward only when the first set is greater than the last two sets. The first set factors should be considerably greater. They should be if a critical minimum size.

CRITICAL MIMIMUM EFFORTS:

a) Development requires that Economic Variables of Positive Sum Set be greater than of the Negative Sum Set and Zero Sum Set:

Negative set activities are population pressure, inflation, balance of payment leakages and corruption. Demonstration effect leakages are also negative sum activities.

Zero sum activities consist of opportunities for exploitation. Distribution activities are zero sum activities because they just transfer income from the unfortunate ones to the fortunate ones. In these activities there are individual gains but not the social gains. Zero sum activities involve mere transfer of liquidity and their preponderance is the cause of poverty. In many less developed countries there are more distributions than are actual producers and the margin between what is taken out of the pockets of the consumers and what toes in the pockets of the actual producers is very wide indeed.

Positive sum activities mean efforts towards actual production efforts. The first task of development planning is to see that positive sum activities are much more than the sum total of zero sum and negative sum activities. Theses should persist.

Development will require that Positive Sum Incentives persist and do not degenerate and disappear as also they do not stimulate Zero Sum Activities:

One big problem of development is that many a times the positive sum activities themselves degenerate into zero sum activities. E.g. development brings inflation, or technological improvement brings unemployment. Therefore, it should be seen that these degenerated zero sum and negative sum effects become positive sum effects as soon as possible.

c) Development will require Growth and Development of the Growth Agents:

Factors of production have to be made efficient ―growth agents‖. The same population can become doubly effective, if its training, motivation and efficiency go up.

d) Growth agent‘s Promote development and development itself promotes the growth agents.

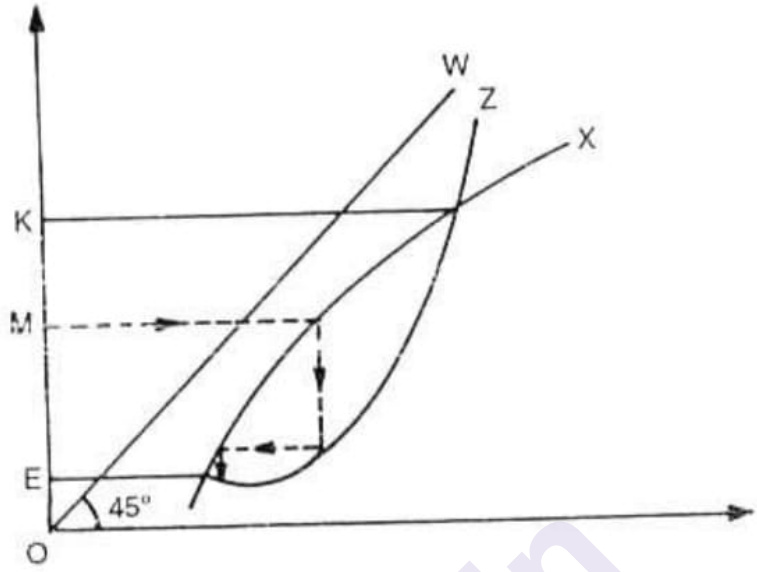
Entrepreneurs and technical organizers are very important growth agents. Entrepreneurs discover investment opportunities, Marshall resources of production, promote new ventures and most efficiently engage other agents of production.

e) Positive Sum Activities to be of a Critical Minimum Size:

The initial thrust that should be given to the economy should be of a critical minimum size i.e., not below a particular size. Only this way the vicious circle of poverty can be broken. For example, if agriculture is to be developed at a slow rate, the increase in output will all be consumed and no re-investible surpluses will be generated by agriculture. The critical minimum effort thesis can be shown with the help of a diagram.

In the following diagram of OE, subsistence level of income reducing force (say, population growth) are as powerful as income raising factors. Here the economy is in the grip of vicious circle. (Nelson called it ―low level equilibrium trap‖). Any rise above OE (say to OM) will bring the economy back to the same equilibrium level as the income depressing forces line is higher or more powerful. However, if the stimulant is sufficiently large so that income does rise above OK, the path of change is one of endless expansion. This clearly vindicates the critical minimum effort thesis. Stimulants should be higher than the depressants.

Figure 3.1



It is to be conceded that there cannot be critical minimum effort everywhere and in all lines.

Not everything can be done at once. A certain expenditure stretched over ten years may be more effective than the same expenditure spent all at once or all in one year.

This implies that the critical minimum efforts viewed as a minimum of all possible efforts that would lead to sustained real income growth involves an optimum time pattern of expenditure of efforts.

Critical minimum efforts are necessary not only to overcome production, technical and psychological indivisibilities (Rodan thesis) to get out of the vicious circle trap (Nelson thesis) but also to overcome the depressing obstacles, about which mention had been made earlier.

Critical minimum effort is necessary to pierce the cultural and institutional barriers to growth. Old values will take a long time to change through evolutionary proves. There should be such a sudden (and of certain critical minimum size) change that changes should breed more changes above the low-level income equilibrium trap.

f) Critical Minimum Effort most relevant in the Stage of Demographic Transition or Explosion:

Leibenstein agrees that a large population is a big drag on development but one cannot wait for reduction in birth rate to bring down population to such a level that it is no longer a drag. It is a necessary but not a precondition to growth.

Leibenstein is of the view that if the development efforts are of critical minimum size, the decline in birth rate itself can take place early and surely; if it is not of that size then demographic transition will always be

of such a nature that it remains a depressing factor. If there are efforts to bring down birth rate in a set-up where people are economically poor, the efforts will not show quick results. Fertility decline in such a set-up lags behind the mortality decline and there will be demographic explosion.

g) Investment in Physical and Human Capital Formation on Critical Minimum Effort Criterion:

Leibenstein wants investment both between physical capital and human capital (investment for improving skill, knowledge, energy adaptability and perceptiveness and capacity to ferret out new economic opportunities). Investment should be made in such a manner that it brings adequate gains to investors to enable them to reinvest. In other words, investment should give the highest marginal per capita re-investment quotient.

Leibenstein argues that for a given tempo of change a certain minimum per capita income level has to be achieved in order to generate sustained per capita income growth in the economy. If the initial per capita income is below this critical minimum limit, it can be raised to the necessary minimum by a sufficiently large ‘injection‘ of investment from outside the economy.

h) Higher Productivity, Key to Development, as Declining International – Capital Output Ratio will reduce the size of the Denominator to Growth:

If massive investment is made in developing the physical and human capital formation, the capacity and willingness of the entrepreneurial class, organizers and the working class will increase. The demand for workers is a derived demand if they produce more, the capacity and willingness of the entrepreneurs to use more labour will increase Long term interests of development require that capital intensive projects that have high productivity profitability and reinvestment possibilities should be chosen.

3.5 SUMMARY

The Big Push theory is an investment theory which stresses the conditions of take-off. The argumentation is quite similar to the balanced growth theory but emphasis is put on the need for a big push. The investments should be of a relatively high minimum in order to reap the benefits of external economies. Only investments in big complexes will result in social benefits exceeding social costs. High priority is given to infrastructural development and industry, and this emphasis will lead to governmental development planning and influence.

The big push theory cannot be ignored. Really speaking, this theory is not an exercise in futility; rather it stresses the bold attempt and tremendous efforts, which the underdeveloped countries should put in so as to achieve sustained growth. Every underdeveloped country wants to achieve

sustained growth in the shortest possible time, but is difficult for it to do so without big push strategy of economic development.

In the conclusion we can say that the Leibenstein has given us new terms like positive sum, negative sum and zero sum activities and they are very relevant. He has very correctly analyzed that the bane of the development problem in less developed countries is that there are more distributors than actual producers. It has also been correctly brought home that growth process itself creates certain problems and the economy should be purged off these problems. The critical minimum effort thesis is novel and important as well. Once Leibenstein concedes that the _critical minimum injection' can be optimized into smaller doses, he has solved a big problem. He is philosophical in the same manner in which smith and Marshall were – happiness is more important than just growth.

3.6 QUESTIONS

Q1. What are the Rostow's Stages of Growth?

Q2. Explain Big Push Theory.

Q3. Explain the Leibenstein's Critical Minimum Effort Thesis.

4

THEORIES OF ECONOMIC DEVELOPMENT - 2

Unit Structure:

4.0 OBJECTIVES

- To study the Harrod-Domar Growth Model.
- To study the Lewis Model of Unlimited Supply of Labour.
- To study the RagnerNurkse's Theory of Disguised Unemployment
- To study the Schumpeter's Theory of Development

4.1 INTRODUCTION

Harrod and Domar models of growth also give us the dynamics of growth based on a developed country. These models are extensions of Keynes equilibrium analysis. J. M. Keynes explained the conditions for equilibrium. Equilibrium will be achieved when planned investment become sequalto planned saving. Harrod and Domar furthered Keynes theory to study the conditions required for steady and smooth growth of the economy.

4.3 HARROD-DOMAR GROWTH MODEL

The model is based on the experiences of advanced capitalist economies and it analyses the requirements of steady growth in such economies.

REQUIREMENTS OF STEADY GROWTH

Harrod and Domar attempted to determine the rate of income growth necessary for the steady working of the economy. Their models are different in details. However, their conclusions are similar. According to the two, investment has a key role in the economic growth process because it generates income and increases the productive capacity of the economy. Rise in income may be known as the demand effect and rise in productive capacity may be known as the supply effect of investment. Expansion inreal income and output depends upon net investment. Full employment equilibrium will be maintained if growth in real income and output is equal to the rise in the productive capacity. If growth in real income and output is less than the growth in the productive capacity, excess capacity will emerge and entrepreneurs will reduce investment leading to reduced levels of income and employment in the subsequent periods and the economy will move away from the path of steady growth. The required rate of growth in real income and output in order to maintain full employment is known as the Warranted Rate of Growth or the full capacity growth rate.

ASSUMPTIONS

The Harrod-Domar model is based on the following assumptions:

1. There is an initial full employment level of equilibrium.
2. There is absence of government interference.
3. The economy is a closed economy.
4. There are no adjustment lags between investment and productive capacity.
5. The average propensity to save is equal to the marginal propensity to save.
6. The ratio of capital stock to income is fixed.
7. The marginal propensity to save remains constant.
8. There is no depreciation of capital goods.
9. Saving and investment relate to the income of the same year.
10. The general price level is constant.
11. Interest rate is constant.
12. The proportion of labor and capital in the productive process is fixed.
13. Fixed and circulating capital are lumped together to be capital.
14. There is only one type of product.

(A) THE DOMAR MODEL

The rate at which investment should increase in order to make the increase in real income equal to the increase in the productive capacity can be

obtained by linking aggregate supply and aggregate demand through investment.

1. **Increase in Productive Capacity or the Supply Side.** Let the annual rate of investment be 'I' and the annual productive capacity per dollar be 's'. Thus the productive capacity of 'I' dollar invested will be I·s dollars per year. However, new investment will compete with the old for attracting factors of production leading to a lower output from the old plants. As a result, the rise in productive capacity of the economy will be less than I·s which is indicated as Io where o represents the net social average productivity of investment (= ΔY/I). Thus Io < Is. Io is the total net potential increase in the output of the economy and is known as the 'sigma effect'. According to Domar Io is the supply side of the investment.

2. **Required Increase in Aggregate Demand.** Let the annual increase in income be denoted by ΔY and increase in investment by ΔI and the propensity to save by a (= ΔS/ΔY). Then the increase in income will be equal to the multiplier (1/a) times the increase in investment i.e. ΔY = ΔI×1/a.

3. **Equilibrium.** In order to maintain full employment equilibrium level of income, aggregate demand should be equal to aggregate supply. Equality between AD and AS is the fundamental equation of the model which is stated as follows:

$$\Delta I \times 1/a = Io \text{ which can be restated as } \Delta Y = Io.$$

Solving the above equation by dividing both sides by I and multiplying by a we get:

$$\Delta I/I = ao.$$

This equation shows that to maintain full employment, the growth rate of net autonomous investment (ΔI/I) must be equal to ασ (mps times the productivity of capital). Aσ is the rate at which investment must grow to ensure the use of potential capacity in order to maintain a steady growth rate of the economy at full employment.

Domar gives a numerical example to explain his point. Let o = 25% per year, a = 12 per cent and Y = 150 Billion USD per year.

In order to maintain full employment, an amount equal to 150 × 12/100 = 18 billion USD should be invested. This will raise productive capacity by the amount invested σ times i.e. by:

$$\frac{150 \times 12}{100} \times \frac{25}{100} = 4.5 \text{ Billion USD.}$$

The national income will therefore rise by 4.5 Billion USD per year. But the relative rise in income will equal the absolute increase divided by the income itself, i.e.

$$150 \times \frac{\frac{12}{100} \times \frac{25}{100}}{150} = \frac{12}{100} \times \frac{25}{100} = \alpha\sigma = 3 \text{ Percent}$$

Or $$\frac{4.5 \times 100}{150} = \frac{450}{150} = 3 \text{ Percent}$$

Thus in order to maintain full employment, income must grow at a rate of 3 per cent per annum which is the equilibrium rate of growth. Any divergence from the 3 per cent rate of growth will lead to cyclical fluctuations. When $\Delta I/I > \alpha\sigma$, the economy would experience boom and when $\Delta I/I < \alpha\sigma$, the economy would experience depression.

(B) THE HARROD MODEL

Prof. RF Harrod tries to show in his model how steady growth may occur in the economy. Once the steady or the equilibrium growth rate is disturbed, the disequilibrium will continue on account of the cumulative forces leading the economy into secular deflation or inflation. The model is based upon three distinct rates of growth. The actual growth rate 'G' which is determined by the saving ratio and the capital output ratio. 'G' shows the short run cyclical variation in the growth rate. The warranted growth rate is represented by 'Gw' which is the full capacity growth rate. The natural growth rate is represented by 'Gn' which is regarded as the welfare optimum by Harod. 'Gn' may also be called as full employment rate of growth.

The Actual Growth Rate (G)

In Harrod's model, the first fundamental equation is:

$$GC=s \qquad (1)$$

Where G is the rate of growth of output in a given period of time i.e.

$(\Delta Y/\Delta Y)$,

'C' is the net addition to capital and is defined as the ratio of investment to the increase in income i.e. $I/\Delta Y$and 'S' is the average propensity to save i.e. S/Y. Substituting these ratios in the above equation, we get:

$$\frac{\Delta Y}{Y} \times \frac{I}{\Delta Y} = \frac{S}{Y} \text{ OR } \frac{I}{Y} = \frac{S}{Y} \text{ OR I = S.}$$

The Warranted Rate of Growth (Gw)

It is the rate at which producers will be happy with what they are doing. It is the entrepreneurial equilibrium. Given the propensity to save, the rate of growth of output will be equal to the growth rate in income or demand. The equation for the warranted growth rate is:

$$G_w C_r = s \quad \ldots\ldots (2)$$

Where Gw is the warranted rate of growth which is equal to $\Delta Y/\Delta Y$, 'Cr' is capital required to maintain the warranted rate of growth i.e. the required capital output ratio which is equal to $I/\Delta Y$. 's' = S/Y or the average propensity to save. Thus if the economy is to grow at a steady rate of Gw, income must grow at the rate of s/Cr per year i.e. Gw = s/Cr.

If income grows at the warranted rate, the capital stock of the economy will be fully utilized and entrepreneurs will be willing to continue to invest the amount of saving generated at full potential income. Gw is therefore a self-sustaining rate of growth and at Gw growth rate, the economy will follow the equilibrium path.

The Origin of Long-run Disequilibria

At full employment growth, the actual growth rate 'G' must equal 'Gw' resulting in a steady grwoth rate and 'C' must equal 'Cr' i.e. the actual capital goods must be equal to the required capital goods for steady growth. If 'G' and 'Gw' are unequal, the economy will be in disequilibrium. For example, if G > Gw, then C < Cr and there will be shortages of goods and equipment leading to secular or general inflation. The ruqired investment will be greater than saving and hence aggregate supply will be less than aggregate demand. There would thus be chronic or continuous inflation. This is shown in figure 3.1(A). Notice that the actual growth rate 'G' follows the warranted growth path 'Gw' from the full employment level of income Y_o up to point 'E' through period t_2. From t_2, 'G' deviates from 'Gw' and lies above it. In later periods, the gap between G and Gw widens. Conversely, if G < Gw, then C > Cr resulting in a secular or general depression because actual income grows at a rate less than the rate of growth of the productive capacity of the economy. This is a situation in which the actual capital goods are greater than the required capital goods. This means that the required investment is less than saving and aggregate demand is less than aggregate supply. The result is fall in output, employment and income. There would thus be chronic depression. This is shown in Fig. 3.1(B). Notice that from period t_2 onwards, G falls below Gw and the gap widens in the subsequent periods. According to Harrod, once the equilibrium is disturbed, it cannot be automatically restored. Hence public policy should aim at establishing equality between G and Gw in order to

maintain long run stability. In this context, the concept of natural rate of growth assumes importance.

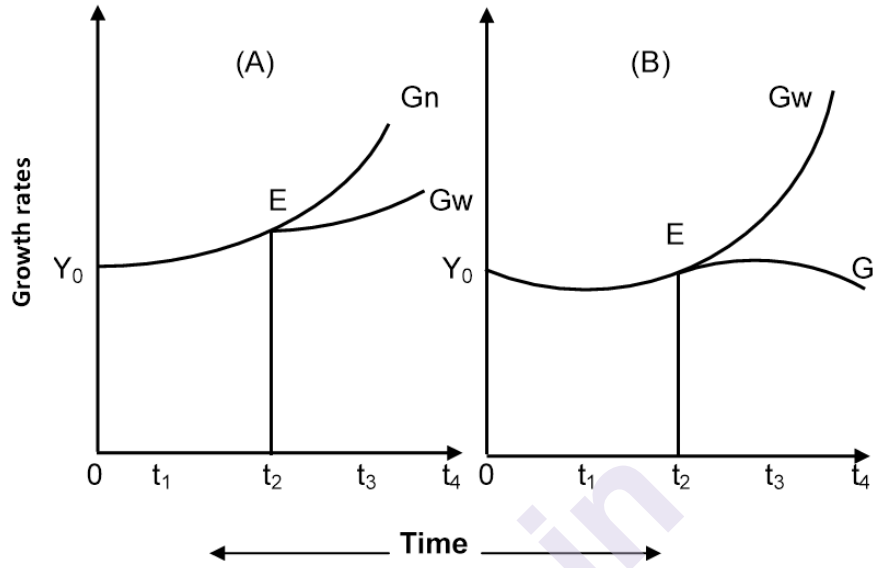


Fig. 4.1(A). Secular Inflation Fig. 4.1(B). Secular Depression

The Natural Rate of Growth

The natural rate of growth is the rate of growth determined by the increase in population and technological improvements at full employment. The equation for the natural growth rate is:

$$Gn.Cr = s \quad Or \quad GnCr \neq s.$$

Here Gn is the natural or full employment rate of growth.

Divergence of G, Gw and Gn

Full employment equilibrium will be attained when Gn = Gw = G. If there is any divergence between thee rates of growth, there will be either secular stagnation, inflation or depression. If G> Gw, investment increases faster than savings and incomes rises faster than Gw resulting in inflation. If G < Gw, saving increases faster than investment and rise of income is less than Gw resulting in depression. According to Harod, if Gw> gn, secular stagnation will develop. In this situation, Gw is also greater than G because the upper limit to the actual rate is set by the natural rate as shown in Figure 3.2(A). When Gw> Gn, C> Cr and there will be excess of capital goods due to shortage of labor which keeps the rate of increase in output to a level less than Gw. Excess capacity results in reduced investment, employment, output and incomes. The economy will be found in chronic depression and savings will be considered bad. If Gw < Gn, Gw is also less than G as in Fig.3. 2(B), secular inflation will develop

in the economy. When Gw < Gn, C will be less than Cr (C < Cr), there is shortage of capital goods and labor is abundant. Profits are high because desired investment is greater than realized investment and businessmen will tend to increase their capital stock. This will lead to secular inflation. In such a situation, saving is good because it permits the warranted growth rate to increase.

The policy implications of the model are that saving is good in any inflationary gap economy and bad in a deflationary gap economy. Thus, in an advanced economy, 'S' has to be moved up and down as the situation demands.

LIMITATIONS OF THE HARROD-DOMAR MODEL

1. The propensity to save (α or s) and the capital output ratio (σ) are assumed to be constant. In reality, these do not remain constant in the long run and hence the requirements of steady growth may change. Further, steady growth rate may be obtained even with variable α and σ.
2. The assumption that labor and capital are used in fixed proportions is not acceptable. Labor can be substituted for capital and the economy can move towards a steady growth path.
3. The general price level is assumed to be constant. In reality, prices do change and may stabilize unstable situations.
4. The assumption that interest rate is constant is unrealistic and irrelevant to the model. A reduction in interest rates during periods of over-production can make capital intensive processes more profitable by increasing the demand for capital and thus reduce excess supply of goods.
5. The Harrod - Domar models ignore the effect of government programs on economic growth.
6. The model neglects the entrepreneurial behavior which actually determines the warranted growth rate in the economy.
7. The model fails to distinguish between capital goods and consumer goods.
8. According to Prof. Rose, the primary source of instability in Harrod's system lies in the effect of excess demand or excess supply on production decisions and not in the effect of growing capital shortage or excess capital on investment decisions.

Notwithstanding these limitations, the model is based on a free market economy with fiscal neutrality and is designed to indicate conditions of progressive equilibrium for an advanced economy.

The model is important because it attempts to infuse dynamism and secularize Keynes's static short-run saving and investment theory.

APPLICATION OF HARROD-DOMAR MDOEL TO UNDERDEVELOPED COUNTRIES

The Harrod-Domar models are based on three principal concepts of saving function, autonomous and induced investment and productivity of capital. The model was basically developed to solve the problem of secular stagnation in the advanced economies of the post-war period. The application of these models has been extended to the development problems of the under-developed countries.

Let us see as to how these models can be used for planning in UDCs. Let us assume the capital output ratio to be 4:1 and Gw to be 3 per cent per annum. By applying the Harrod Domar formula, the planners can find out the saving ratio required to sustain the growth rate of 3 per cent per annum. By substituting the above values in Harrod's model GwCr = s, we get:

$$\frac{3}{100} \times \frac{4}{1} = \frac{12}{100} = 0.12 \text{ or } 12\%$$

Thus if the capital output ratio is assumed to be 4:1 in an economy, the domestic savings must be 12% of the national income so that the economy grows at the rate of 3% per annum. Given the saving ratio and the capital output ratio, Harrod's formula for calculating growth rate is Gw = s/Cr and if S is 12% and the value of Cr is 4, then Gw = 12 /4 = 3 per cent. UDCs are characterized by low savings, high level of investment and chronic inflation. Hence, Harrod suggests the financing of large investments through the expansion of bank credit and automatic investment of inflationary profits in the capital markets. In the absence of organized capital markets in the UDCs, bank credit is the only way to finance investments and generate economic growth. Low savings in UDCs are responsible for low rate of growth and mass unemployment and under-employment. Thus the actual level of savings should be raised to the required level of savings by a compulsory tax or a surplus budget so that S = Sr. Further, Harrod also emphasizes the need for changes in the social and institutional factors because social and institutional obstacles are viewed as a cause of low growth rate.

LIMITATIONS OF THE HARROD-DOMAR MODEL IN UDCs

1. **Different Conditions.** The models were not intended to guide industrialization programs of under developed countries.

2. **Savings Ratio.** The growth models require high savings as well as low capital output ratio. In the UDCs, savings and investment decisions are taken by a small percentage of people with the majority of people leading a subsistence life.

3. **Capital Output Ratio.** It is difficult to measure capital output ratio when productivity is hindered by shortages and bottlenecks. According to Prof. Hirschman, the predictive and operational value of a model based on the capital output ratio and the savings ratio is less useful in under developed countries.
4. **Structural Unemployment.** According to Prof. Kurihara, the model fails to solve the problem of structural unemployment in UDCs i.e. unemployment arising out of a faster growth of population than the accumulation of capital.
5. **Disguised Unemployment.** The models begin with the assumption of full employment level of income which is not found in UDCs. Disguised unemployment cannot be removed by these models.
6. **Government Intervention.** UDCs cannot develop without substantial government intervention in the form of public investment, planning and regulating the economy. However, the model is based on laissez-faire policy.
7. **Foreign Trade and Aid.** The models are based on the assumption of a closed economy. However, UDCs are open economies in which foreign trade and aid has a major role.
8. **Price Changes.** Prices are assumed to be constant. However, the development experience of UDCs indicates inflationary growth.
9. **Institutional Changes.** Institutional factors are assumed to be given. However, economic development is not possible without institutional changes in Under developed countries.

4.4 LEWIS MODEL OF UNLIMITED SUPPLY OF LABOUR

4.0 Introduction:

The developing countries have agriculture as their main occupation. Agriculture more or less is a subsistence activity implying that what ever is produced by this sector is more or less used for consumption at the local level only. Only a small part of it is marketed. This at least, is a feature of underdeveloped economy that whatever is produced by the farmer is consumed by him and his family. In his article 'Economic Development with Unlimited Supplies of Labour", Lewis has tried to analyse how this kind of subsistence economy transforms into the money or exchange economy. His theory has been accepted as a general theory of development in the third world labour surplus economies.

4.1 Lewis Model in Closed Economy:

In the closed economy, in order to explain the growth process in labour surplus economies, Lewis divides the economy into two sectors.

a) Capitalist Sector:

It is that part of the economy which uses reproducible capital and pays capitalist, for the use there of. The capital sector may be either private or public and it may include not only manufacturing but also plantations and mines where the labour is hired. The productivity of labour in this sector is high because labour is employed with capital.

b) Subsistence Sector:

It is that part of the economy which does not use reproducible capital. In fact, this sector is characterised by self-employment of labour. Output and productivity per head is very low because labour is not employed with capital. It is in this sector that the marginal productivity of labour, in some cases, may be zero. This is due to disguised or hidden unemployment.

Relationship between these two sectors:

The subsistence sector and the capitalist sector are related to each other. When the capitalist sector expands, the labour force required for expansion comes from the subsistence sector. As Lewis deals with the labour surplus economies, it is assumed that the subsistence sector has surplus labour which is available unlimitedly for industrial expansion at the existing wage rate.

According to Lewis:

"In this situation, new industries can be created, or old industries expanded without limit at the existing wage, or to put it more exactly, shortage of labour is no limit to the creation of new sources of employment." The labour supply for this expanding capitalist sector will come from the following sources:

a) The labour which is disguisedly unemployed in subsistence sector.

b) Women who are housewives.

c) Labour supply from growth of population.

All these sources of labour, however, will supply unskilled labour. But according to Lewis, getting skilled labour is just a temporary bottleneck. Once this surplus labour is given training, the problem of unskilled labour can be solved. Another problem in this whole transition of labour from subsistence to capitalist sector is whether the labour is really ready to leave their families and come to take up wage employment. This would depend upon the wages offered to them. According to Lewis, they are generally offered 30% more wages than what their subsistence earnings. This induces them to leave their traditional sector and join the modern capitalist sector.

Diagrammatic Representation:

The two-sector Lewis model of economic growth can be explained with the help of a diagram.

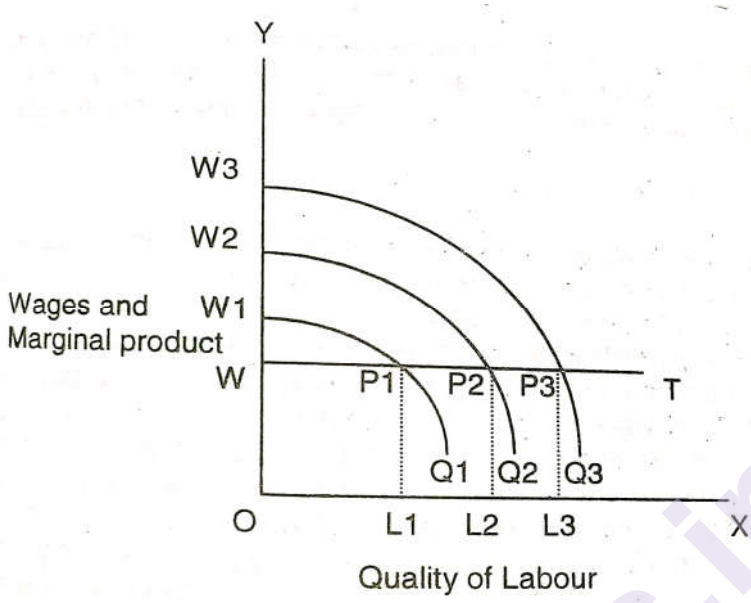


Figure No. 4.1

On X-axis, the quantity of labour is represented and on Y-axis marginal productivity of labour and wages are reprsented.

OS - Subsistence level of wages in the farming sector.

OW- Real wage rate in the Capitalist sector (which according to Lewis is 30% more than subsistence level).

WT- Unlimited or perfectly elastic supply curve of labour (It is assumed in this model that the economy is a labour-surplus one).

W, Q, Marginal productivity curve of labour.

Capital will be employed till the point marginal productivity of labour equals to wage rate. So at OW wage rate, OL, amount of labour will be employed. Now,

OW, P, L, Total output

OW, P, L, Total wage-payment WW, P, Capitalists surplus/profit

According to Lewis, a part of this surplus is reinvested so that the amount of fixed capital in terms of machinery, equipments, plants and factories increases. This shifts the marginal productivity curve upwards to W2 Q2

OW2P2L2 - Total output

OWP2L2 - Total wage payment

W W2P2 - Capitalist's surplus/profit.

Again, a part of this surplus is reinvested, fixed capital in the economy increases more labour is employed and this further increases output of he economy. This process, according to Lewis, continues till the entire surplus labour in the economy in absorbed.

Role of Savings:

In this entire process, savings play an important role. Unless the surplus is reinvested, economic growth process can not be taken further. In the words of Lewis,

"The central problem in theory of economic development is to understand the process by which a community which was previously saving and investing 4 to 5% of its national income or less, converts itself into an economy where voluntary saving is running at about 12 to 15% of national income or more. This is the central problem because the central fact of economic development is rapid capital accumulation (including knowledge and skills with capital). We can not explain any "industrial revolution" until we an explain why savings increased relatively to national income".

The savings, according to Lewis come mainly from the people who earn profits or rent. The poor people who earn wages can not save. The middle-class salary earners do not save much and hence savings that can be converted into investment came through profits and rent. This explains the existence of poverty in the developing countries. These countries have a small capitalist sector and hence the quantity of rent and profits in these countries is also less. The process of capital accumulation or the process of reinvestment of a part of profits of producers will stop at a point where the real wages rise very high and a large part of capitalist's surplus is used up in payment of wages.

Critical Evaluation of the Lewis Model:

The Lewis model of dual economy has been criticised on many grounds.

1) Supply of labour may not be unlimited -

The Lewis model assumes surplus labour and disguised unemployment in the subsistence sector which is used for the expansion of capitalist sector. But there are many African and Latin American countries which are thinly populated. This model may not suit them.

2) The process of absorption of surplus labour suddenly ends -

As per Lewis, economy expands till the surplus labour is existing in the subsistence sector. This according to the critics, seems to be sudden and abrupt. Also surplus labour can be found not only in agricultural sector, but also in the industrial towns and cities of many less Developed countries. Surplus labour in the cities, then has to be absorbed within the industrial sector and this may adversely affect the process of transfer of labour from agriculture to industry.

3) Capital Intensive Technology is adopted -

The critics argue that the expansion of capitalist sector may take place with the help of capital intensive technology. The use of capital intensive technology will shift the marginal productivity curve upward but that will not reduce the unemployment.

4) Supply of skilled labour is limited -

The process of development requires, a supply of skilled labour. But the under developed countries may have unlimited supply of unskilled labour and that of skilled labour may be limited.

5) Lack of entrepreneurs -

The Lewis model assumed the capitalist class to absorb the surplus labour that already exists in the country. This class keeps on reinvesting and industrial activities keep on expanding. But the situation in the underdeveloped countries may be totally different. They may not have adequate entrepreneurs to take an opportunity of expanding business activities.

6) Aggregate demand is not considered -

The Lewis model assumes that 'whatever is produced is sold'. So if the production goes up, the level of consumption will automatically increase. But in the underdeveloped countries, the subsistence sector is so big that unless and until the productivity in that sector increases, there will be no market for the commodities produced in the capitalist sector.

In this way, a Lewis Model of surplus labour in agriculture is criticised heavily on many grounds. These criticisms make it difficult to be applicable to the underdeveloped countries but still in the model gives an important insight into how the development and capital formation is possible in the two-sector economies.

4.5 RAGNER NURKSE'S THEORY OF DISGUISED UNEMPLOYMENT

The theory of disguised unemployment was introduced into the theory of underdevelopment by Rosenstein Rodan in his famous article **"Problems of Industrialisation in Eastern and Southern Europe**". Strictly speaking, the term was first coined by Joan Robinson in 1936, who defined it as **"the adoption of inferior jobs by the workers laid off from their normal jobs due to lack of effective demand during depression."**

However, this term was used by her in the context of developed countries alone where disguised unemployment is only a cyclical phenomenon since, with the revival of economic activity, workers return to more productive occupations and the problem ceases to exist. This disguised unemployment is a SR problem, due to underutilization of capital equipment's.

However, much blood has been shed on the meaning and the implications of disguised unemployment. There are two fronts in the battle—the analytical and the empirical. However, we will concentrate on the analytical issues. Existence of disguised unemployment is largely a matter of definition and assumptions about the institutional forces involved.

The term 'disguised unemployment' is used to designate a situation in which the removal, from a working combination of factors, of some units of labour, nothing else being unchanged, will have the aggregate product of the working combination undiminished; and may even increase it.

To say that there is disguised unemployment is, therefore, equivalent to saying, in that working combination the MP_L is zero and may even be a 'negative quantity'. A considerable amount of rural surplus labour can, therefore, be removed for productive use elsewhere, in the construction of capital goods, say, roads, irrigation works and in the manufacturing sector.

Where MP of labour is zero in the agricultural sector, surplus labour can be removed without reducing the total agricultural output. Even if the MP of surplus labour is positive in the rural sector, it consumes more than it produces in subsistence agriculture, i.e., its consumption (equal to his average product) is much higher than his marginal contribution to the production.

Thus, the removal of each unit of surplus labour will leave more food for those remaining in the farm. This surplus food can be used to feed the labour, removed for some other productive work. Thus, disguised unemployment provides with concealed savings.

However, Prof. A. K. Sen does not agree with this interpretation of surplus labour. Using A. K. Sen's definition of the production approach, **"disguised unemployment"** means that a withdrawal of a part of the labour force from the traditional filed of production would leave the total output unchanged.

Given this definition, some economists proceeded to define disguised unemployment as a situation in which marginal product of labour over a wide range is zero. In defining surplus labour or disguised unemployment, one has to distinguish between labour and labourers (or flow of man hours or stock of men).

This important point was raised by A. K. Sen. According to him, it is not that too much labour is being spent in the process, but that too many labourers are working in it. Thus disguised unemployment takes the form of number of labourers.

Say, a production process needs 35 hours of labour for its completion and the work is done by 7 workers initially. Then, if two workers are removed, the remaining 5 workers work longer than 5 hours each. Thus, disguised unemployment is that of 2 workers. It is, thus, the marginal productivity of the labourer, so as to say that is nil over a wide range and the productivity of labour may be just equal to zero at the margin.

This is represented in the following diagram:

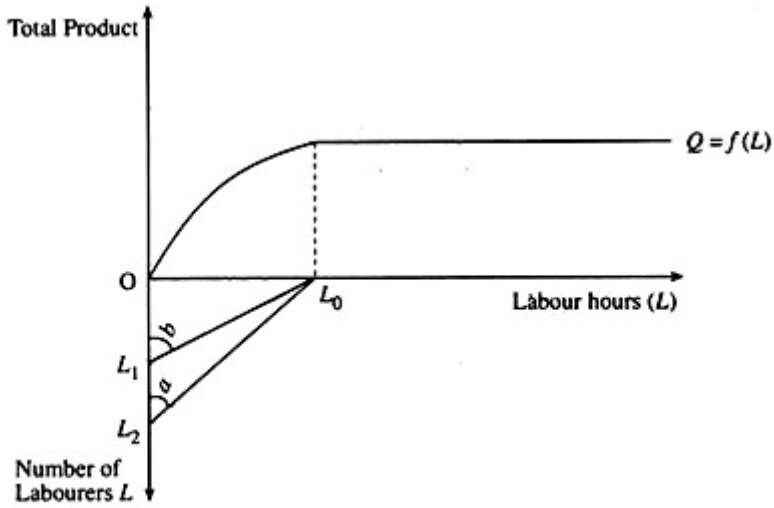


Fig. 1: Disguised unemployment

Figure No. 4.2

In the above figure, the south represents the number of labourers, the east represents the number of labour hours and the north represents their product. In this figure $MP_L = 0$ or it becomes nil with OL_0 labour hours. Thus, there is no use to employ labour beyond this point. Number of labourers engaged in agriculture initially is, say, OL_2.

This working population each puts in 'tan a' hours of work. But the normal and sufficient working hours per worker is 'tan b' (OL_0/OL_1). So the job can be done by OL_1 labourers keeping normal hours. In this sense, thus L_1L_2working population is the existence of surplus labour. Thus, while marginal productivity of labour is nil at point L_0 only, that of the labourer is nil over the range L_1L_2. This represents the volume of disguised unemployment.

However, existence of surplus labour or disguised unemployment in agriculture is questioned. Shakuntala Mehra has observed that disguised unemployment is purely a seasonal phenomenon. There is a complimentarily between peak and slack season employment. Schultz, in his **"Influenza epidemic test"** has shown that disguised unemployment is related to selected withdrawal.

The reorganisation requires extra fund. Thus, disguised unemployment is not costless and self-financing as stated by Nurkse. In the words of RagnerNurkse, the developing countries suffer from large-sc**ale disguised unemployment in the sense that** "even with unchanged techniques of agriculture, a large part of the population engaged in agriculture could be removed without reducing agricultural output".

This means that, without changing technical methods of production, same farm output can be obtained with a smaller labour force. The proviso that is possible without any improvement in agricultural techniques is very

important because, with improved techniques, one could always take some people off the land without reducing output.

4.6 SCHUMPETER'S THEORY OF DEVELOPMENT

Joseph A Schumpeter presented his theory of economic development in 'Theory of Economic Development' published in German in 1911. The theory was later refined and presented in his Business Cycles (1939) and Capitalism, Socialism and Democracy (1942).

TheTheory:

Schumpeter assumes a perfectly competitive economy in a stationery state. There are no profits, no interest rates, no savings, no investments and no involuntary unemployment. The economy is in a circular flow without change. According to Schumpeter, development is spontaneous and discontinuous change in the channels of the circular flow which changes the state of equilibrium. Changes are intrinsic and appear in the spheres of industrial and commercial life. Development takes place when new combinations are carried out in the form of innovations.

Innovations: An innovation may consist of:

1. Introduction of a new product.
2. Introduction of a new method of production.
3. Opening up of a new market.
4. Conquest of a new source of supply of raw materials or semi-manufactured goods, and
5. Carrying out new organization of any industry like the creation of a monopoly.

According to Schumpeter, the introduction of a new product and the continual improvements in existing ones lead to development.

The innovator must be an entrepreneur who introduces something entirely new. He directs the use of funds. The entrepreneur is motivated by:

1. The desire to found a private commercial kingdom.

2. The will to conquer and prove his superiority.

3. The joy of creating, getting things done or exercising one's energy and ingenuity.

His nature and activities are determined by his socio-cultural environment. The entrepreneur requires technical knowledge in order to produce new products and the power of disposal over the factors of production in the form of credit. According to Schumpeter, a pool of untapped technical knowledge exists which he can make us of. Hence, credit is essential for development to begin.

Role of Profits: An entrepreneur innovates to earn profits. Profits are a surplus over costs. Under competitive conditions, the price of each product just equals its cost of production and there are no profits. Profits arise due

to dynamic changes resulting from an innovation. They continue to exist till the innovation becomes general.

Breaking the Circular Flow: The circular flow is broken with an innovation in the form of a new product by an entrepreneur for the purpose of earning profits. The innovators are financed by bank credit expansion and they pay interest on the money borrowed from the banks. Once the new innovation becomes successful and profitable, other entrepreneurs follow in swarm like clusters. Innovations in one area may induce other innovations in related areas. The emergence of a motor car industry may stimulate a wave of new investments in the construction of highways, rubber tyres and petroleum produces. However, the spread of innovation is never cent per cent.

The spread of innovation is shown in Fig.2.5 The percentage of firms adopting innovation is shown on the vertical axis and time taken on the horizontal axis. The curve OI shows that firms adopt an innovation slowly to begin with and later the pace of adoption increases but it is never cent per cent.

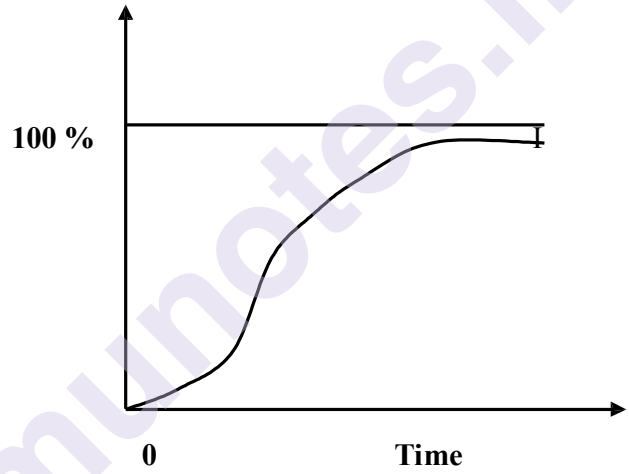


Figure No. 4.3 : The Spread of Innovation

Cyclical Process : Investment is constant and financed by bank credit. It increases money incomes and prices and set the forces of expansion in the economy. When the purchasing power of people increases, the demand for products of the old industries increases, supply falling short. Prices rise, profits increase and old industries expand through bank credit. The situation results in a fresh wave of credit inflation super imposed on the innovation induced credit inflation. Over-optimism and speculation adds momentum to expansion. When the new products from new innovation arrive in the market, they displace the old products and a process of liquidation, re-adjustment and absorption begins. The prices of old products fall due to falling demand. The old firms are forced to reduce their output and employment and some have to close down their operations. As the innovators begin to repay bank credits out of their profits, the supply of money falls and prices begin to fall. Profits decline and uncertainties and risks increase. The motivation to innovate disappears and the economy slips into depression. However, after a period

of long depression, the forces of recovery appear once again and the equilibrium is restored. Entrepreneurs begin with a new wave of innovations, others follow and once gain expansion begins. Schumpeter describes this process as one of 'creative destruction' in which the old is destroyed and replaced by the new. This process is shown in Fig.2.6 where time is measured on the horizontal axis and output on the vertical axis. The curve YPT shows the long run trade cycles. When there is a new innovation, the economy moves upwards from Y and reaches output level P. When this innovation ends and new one begins, the output levels fall from P to T. However, point T is higher P indicating a new higher level of equilibrium.

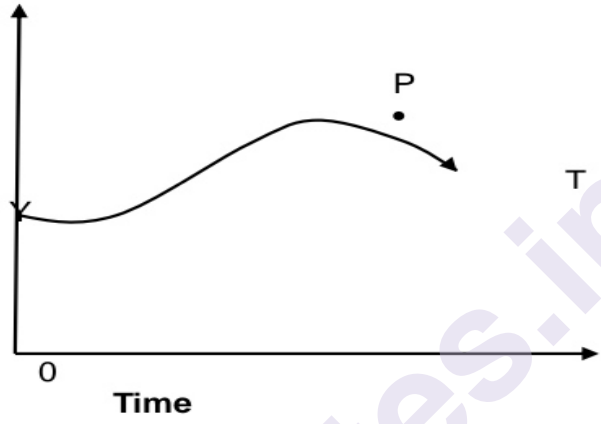


Figure No. 4.4 : Innovations and Trade Cycles

Schumpeter's cyclical process of economic development is shown in Fig. 2.7 where the secondary wave of credit inflation is superimposed on the primary wave of innovation. With over- optimism and speculation, development takes place more rapidly in the expansion phase. When recession starts, the cycle continues below the steady growth path to the depression phase. A new innovation brings about recovery and prosperity once again. Entrepreneurs are therefore the main drivers of the economy. They bring about economic development in spontaneous and discontinuous manner. Cyclical swings are the cost of economic development under capitalism. Trade cycles are a permanent feature of a capitalist economy .

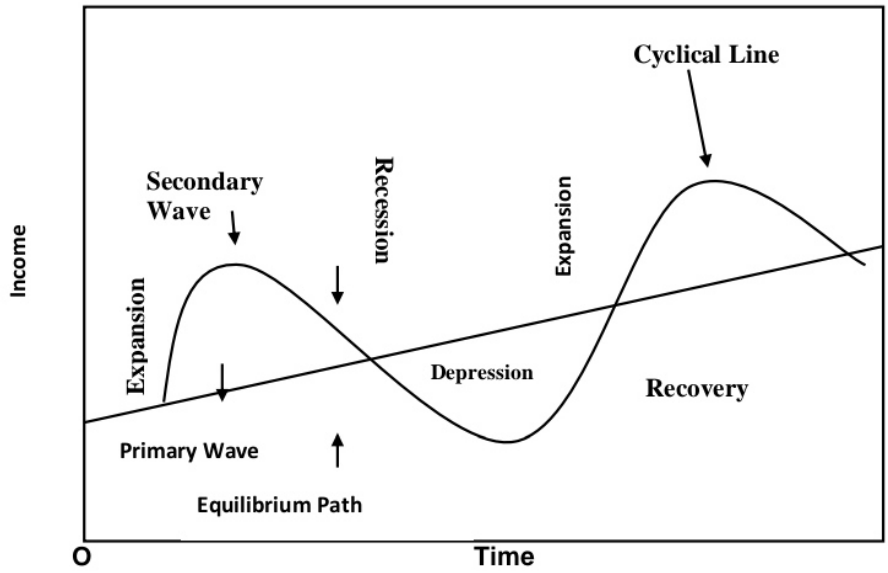


Figure No. 4.5: Trade Cycles and Economic Development

The Death of Capitalism: Schumpeter says that capitalism will survive as long as entrepreneurs continue their entrepreneurial activity. Schumpeter says that a capitalist society is a rationalist society. The forces of decadence are set in due to the scientific temperament of the capitalist society. These are: the decadence of the entrepreneurial function, the disintegration of the capitalist family and the destruction of the institutional framework of the capitalist society.

1. In the early stages of capitalism, the entrepreneurs were the driving force behind development. Later on, innovation becomes routine. Technological progress is captained by the new managers, impersonal owners and private bureaucrats. This reduces the industrial family to a class of wage earners and thereby reduces the role of the entrepreneur in a capitalist society.

2. The capitalist families are on the way to destruction because parents adopt a rationalist attitude towards their children. The desire to establish a private kingdom does not exist and hence the will to accumulate wealth also dies its natural death.

3. The entrepreneur also destroys the institutional system of the capitalist society. The tendency towards concentration weakens and destroys the institutions of private property and freedom of contract. In the case of big firms, the proprietors and the shareholders are made defunct by the professional managers.

The intellectual class become hostile towards capitalism and begins with mass campaigns against capitalism. They bring about anti-capitalist political reforms and capitalism begins to crumble only to be replaced by Socialism.

Critical Appraisal: Schumpeter's theory of economic development is criticized on the following grounds:

1. The Survival and Progress of Capitalism. According to Schumpeter the entrepreneur is the ideal behind the success of capitalism. However, in later days, innovation becomes routine in the modern joint stock companies and innovators become defunct. Capitalism comes to an end to be replaced by Socialism. However, the economic history of the 20th century and beyond is the story of the success of capitalism. It is in fact, socialism as an economic system that came to an end in the 1990s.

2. Economic Development is not Essentially Cyclical. Trade cycles are not essential for economic development. Trade cycles are a consequence of macro-economic mismanagement and many a times deliberately induced. Innovation is not a discontinuous process and trade cycles are not caused by innovations alone.

3. Overemphasis on Bank Credit. Bank credit constitutes only one segment of the financial market. In fact long term capital, both ownership and debt capital comes from the capital market. The capital market has a more important role to play in the process of economic development than the money market which offers bank credit..

4.7 SUMMARY

According to Schumpeter, development is spontaneous and discontinuous change in the channels of the circular flow which changes the state of equilibrium. Changes are intrinsic and appear in the spheres of industrial and commercial life. Development takes place when new combinations are carried out in the form of innovations.

4.8 QUESTIONS

Q1. Explain the Harrod-Domar Growth Model.

Q2. Explain the Lewis Model of Unlimited Supply of Labour.

Q3. Explain the Ragner Nurkse's Theory of Disguised Unemployment.

Q4. Explain the Schumpeter's Theory of Development.

5

STRUCTURAL ISSUES IN DEVELOPMENT PROCESS – 1

Unit Structure:

5.0 OBJECTIVES

- To know the concept of human capital.
- To understand the role of education, health and nutrition in human capital.
- To study the meaning and measurement of poverty.
- To know the measures to eradicate the poverty.
- To study the meaning and measurement of inequality.
- To know the measures to eradicate the inequality.

5.1 CONCEPT OF HUMAN CAPITAL

The concept of human capital has relatively more importance in the labour-surplus countries. These countries are naturally endowed with more of the labour due to the high birth rate under the given climatic conditions. Surplus labour in these countries is the human resource available in more abundance than the tangible capital resource. This human resource can be transformed into the human capital with effective inputs of education, health and moral values. Transformation of raw human resource into highly productive human resource with these inputs is the process of human capital formation. Problem of scarcity of tangible capital in the labour surplus countries can be resolved by accelerating the rate of human

capital formation with both private and public investment in education and health sectors of their national economies. Tangible financial capital is an effective instrument of promoting economic growth of the nation. Tangible human capital, on the other hand, it is an instrument of promoting comprehensive development of the nation because human capital is directly related to human development, and when there is human development, the qualitative and quantitative progress of the nation is inevitable. This importance of the human capital is explicit in the changed approach of United Nations (UN) towards comparative evaluation of the economic development of different nations in the world economy. United Nations publishes the Human Development Report (HDR) on the human development in different nations with the objective of evaluating rate of human capital formation in these nations.

The human capital is the backbone of human development and economic development in every nation. Mahroum suggested, at the macro-level, the human capital management is about three key capacities: the capacity to develop talent, the capacity to deploy talent, and the capacity to draw talent from elsewhere. Collectively, these three capacities form backbone of any country's human capital competitiveness. The recent U.S. research shows that geographic regions that invest in human capital and economic advancement of immigrants who are already living in their jurisdictions help boost their short- and long-term economic growth. There is also the strong evidence that organizations that possess and cultivate their human capital outperform other organizations lacking human capital.

5.2 ROLE OF EDUCATION, HEALTH AND NUTRITION IN HUMAN CAPITAL

INTRODUCTION:

Many studies, especially in the Western countries, have shown that the growth of national income in their countries was much more than the growth in their physical inputs like physical capital and labour units. The National income in those countries has increased over and above the rate of capital formation. This has led to distinguish capital into two concepts:

a) Physical capital:

Physical capital is the growth of machinery, equipment, plants, labour units and other material things.

b) Human capital:

Human capital is acquiring skill, education, abilities and other kinds of training which add to the productive capacity and efficiency of labour units. Many economists have understood the importance of human skills in improving the productivity of labour - The actual growth rate of the economy, therefore, does notjust depend upon the physical capital formation but also on the human capital formation.

ROLE OF EDUCATION:

Most of the empirical work on the relationship between education and economic development of a country is done in the developed countries. According to T. W. Schultz's study, there was a substantial part of growth in the USA which could not be explained by the growth of physical capital. Education had rapidly expanded during that period and as per Schultz, the rate of return on education was much higher than the rate of return on the physical capital. His study clearly indicates the importance of education in the process of economic development. All the obstacles to greater productivity of labour like poor health, illiteracy, non-acceptance of the new technology, fear of change, lack of incentive to change job-can be overcome by the education. In other words, education can make a labourer more efficient and productive which in general will lead to faster economic development of a country.

1. According to Frederick Harbinsen:

'Human resources...constitute the ultimate basis for wealth of nations. Capital and natural resources are passive factors of production; human beings are active agents who accumulate capital, exploit natural resources, build social, economic and political organisations, and carry forward national development. Clearly, country which is unable to develop skills and knowledge of its people and to utilize them effectively in the national economy will be unable to develop anything else."

The process of education helps a country in many ways. Following points will explain the importance and role of education in economic development of a country:

2. Education and Economic Growth

From the experience of the Western countries, the developing countries startedspending a huge amount of public expenditure on providing educational opportunities toall. This did help them in the following ways.

i)It created a skilled labour force.

ii) It provided a large number of employment opportunities in the form of teachers, school administrative staff, text-book printers, uniform manufacturers and so on.

iii) It generated a class of leaders in all the fields who were educated and were leading in various fields like public administration, professions, private business, etc.

iv)It created a class of people who believed in the modern technology, attitudes and had better skills.

3. Education, Inequality and Poverty:

The relation-ship between education and inequality or poverty is difficult to establish. There is a positive correlation between the level of income

and the level of lifetime earnings of a person. It means more educated person tends to earn more in his lifetime as compared to his less educated counterpart. This is basically true about higher education. As more education tends to increase the productivity of the nation, quality of labour also improves and the growth rate of economy also increases, most of the underdeveloped and developing countries went for rapid expansion of education. The impact of this expansion on poverty and inequality was ignored. Recently, it has been found out that educational system of most of the developing countries lead to increase rather than decrease in the income inequalities.

This is mainly because there is no doubt that education improves the lifetime capacity to earn, but generally the low and middle income groups are denied access to the higher education. As a result, it is just the higher income group that benefits out of educational expansion.

4. Education and Migration and Fertility:

Education generally has a positive impact on both migration and fertility. More educated person has more propensity or chance to migrate from rural to urban areas and get a better job in the modern sector in the urban areas. Similarly, there is an inverse correlation between level of education of women and the size of family. Generally, the educated women tend to have smaller families.

5. Education and Rural Development:

Education indirectly helps rural development in many ways.

a) If the farmers are educated, it becomes easier to adopt new technology.
b) Education helps in improving the quality of life by improvement in health, nutrition, child care, etc.
c) It helps in reducing the impact of ignorance and superstitions. It can also help them to be economically more sound by adopting allied activitiesand alternative employment opportunities during the slack agricultural season.

In the developing countries, however, education has more urban-bias and hence it does not give proper attention to the needs of the rural environment. Major rural groups of out-of-school children, women, subsistence farmers are out of the purview of formal educational system.

Conclusion

There is no doubt about the contribution of education towards the development of human capital formation. Many efforts are made to measure the contribution of education to development. Indirectly also education helps to improve the tendency to make the people more lawful, more research oriented, more skillful and to increase the potential of a country to have political stability.

ROLE OF HEALTH AND NUTRITION:

The efficiency of workers directly increases with the improvement in health and nutrition. According to World Development Report." Improved health contributes to economic growth in four ways: It reduces production losses caused by worker's illness, it permits the use of natural resources that had been totally or nearly inaccessible because of diseases, it increases the enrolment of children in the schools and makes them better able to learn, and it frees for alternative uses, resources that would otherwise be spent on treating illness. The economic gains are relatively greater for the poor people, who are typically most handicapped by ill health and who stand gain the most from the development of underutilised natural resources".

Better health conditions of workers help them to earn more because they can be more productive and can get better paying jobs. Healthier person also is more eger to learn new things. Improvement in health facilities can also reduce the poverty rate in the country. Many studies have shown a positive correlation between health and nutrition and economic development of a country.

Conclusion

The concept of human capital formation, thus, has gained a lot of importance in the economics of development. The growth of social infrastructure including education, health and nutrition has helped the countries to experience better growth rates. For the developing countries, a lot more to be done. A proper educational planning, control of population and spread of health facilities are some of the issues which the developing countries should take care of. An accumulation of just the physical capital is not going to be sufficient but the investment in human capital is going to help these countries to break a vicious circle of poverty in their economies.

5.3 MEANING OF POVERTY

For formulating poverty reduction programmes it is necessary to define poverty and measure poverty. The extent of absolute poverty is the number of people who are unable to command sufficient resources to satisfy basic needs. They are counted as the total number living below a specified minimum level of real income or an international poverty line. Absolute poverty is measured in terms of the basic needs a person has to meet in order to survive adequately in modern society. However, the expressions like ―adequately and ―modern society are vague.

Another approach to explain the concept of absolute poverty is to estimate the minimum intake of calories required for survival so the search for measuring poverty led to the concept of poverty line. The poverty line indicates the income level below which poverty exists. For this data is needed with respect to the income or consumption. The common statistical instruments are used for estimation of poverty.

1. Surveys with regard to income, consumption standards, nutritional contents.
2. Surveys are also conducted to gather information with regard to employment, housing conditions.
3. Census data also enables the estimation of poverty

Human Poverty Index :

The Human Poverty Index was introduced by the United Nations Development Programme (UNDP) in the Human Development Report 1997. HPI is a composite index to measure poverty which is based on three indicators.

i) Life Expectancy
ii) Basic Education
iii) Access to public and private resources.

Life expectancy is an important indicator of human development. Life expectancy in developing countries is 40 whereas in the developed countries it is 60. Life expectancy is a reflection of the overall living conditions, health and sanitary measures, food and nutrition.

Literacy is another indicator of the level of development. The level of illiteracy is high in developing countries inspite of globalization and changes in technology literacy is important to keep pace with changes happening in the country and at the global level. It is also essential to take advantage of economic opportunities.

The third indicator of HPI is the standard of living. Though this criteria cannot be easily defined, it is a combination of three variables. Standard of living is based on three variables i.e. the percentage of people with access to health services, to safe water and the percentage of malnourished children under five. The HPI is published for each country. Though HPI is an overall index showing the level of development, individual indicators are also prepared separately, so that policy makers can study the specific problems are formulate policies for human development. For example, health and sanitation may be a problem area for a particular country. Policies can be tailor made to remedy the situation.

Alternative Poverty Measures :

Head Count Ratio : Absolute Poverty may be measured by the number of ―headcount, H of those, whose incomes fall below the absolute poverty line . When the head count is taken as a fraction of the total population, N, it is called the headcount Index, .

The poverty line is set a level that remains constant in real terms so that we can chart our progress on one absolute level once time. The level is set at a standard below which we would consider a person to live in absolute human misery such that one‘s health is in danger. It is difficult to define a minimum health standard that is fixed over time since

technology changes over time. It is more practical to establish a reasonable minimum standard which is applicable over a few decades so as to understand the progress made. The international poverty level is defined at a level of 1 dollar per day. This may not be practically useful in the Indian extent when anti-poverty programmes have to be designed. Another more practical method of determining a local absolute poverty line is to define the combination of food or basket of food on the basis of nutritional requirements surveys and data collected from the households will make clear the nature and type of goods purchased by people and how they are not meeting the standard set by the basket of food which is supposed to by nutritionally balanced and ideal. Food alone is not sufficient to determine the poverty line. Hence the expenditures of the households on basic needs such as clothing, shelter and medical care have to be included to determine the local absolute poverty line. Calculating by this method has shown that the poverty line may come to more than 1 dollar per day.

Poverty Gap : Depending on the poverty line and simply counting the number of people below the accepted poverty line can be misleading since it has a number of limitations. If the povertyline is set at US 360 dollars per person, there may be people earning 355 dollars or 300 dollars or any other category. To put everyone into a homogeneous group is misleading since all will be given the same weights when calculating the proportion of the population that lies below the poverty line. The seriousness of the poverty problem may be different for different income level. The concept of ‑Poverty Gap ‘which measures the total amount of income necessary to raise everyone who is below the poverty line upto that line.

Poverty gap is illustrated in the diagrams below

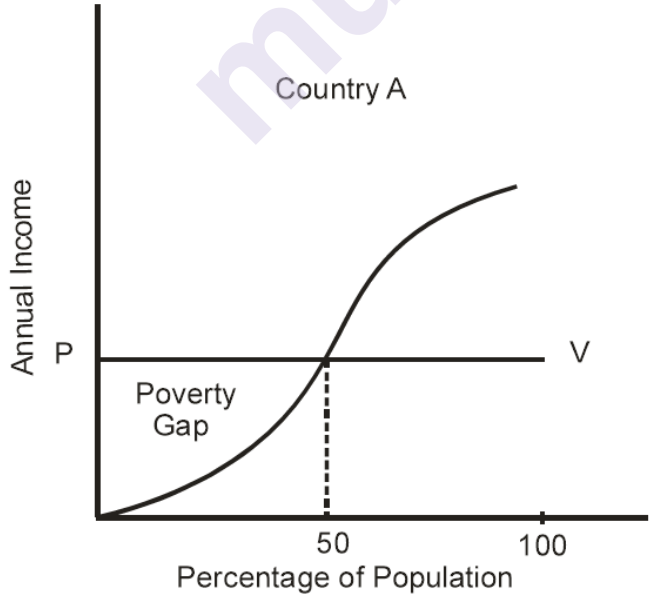


Figure No. 5.1

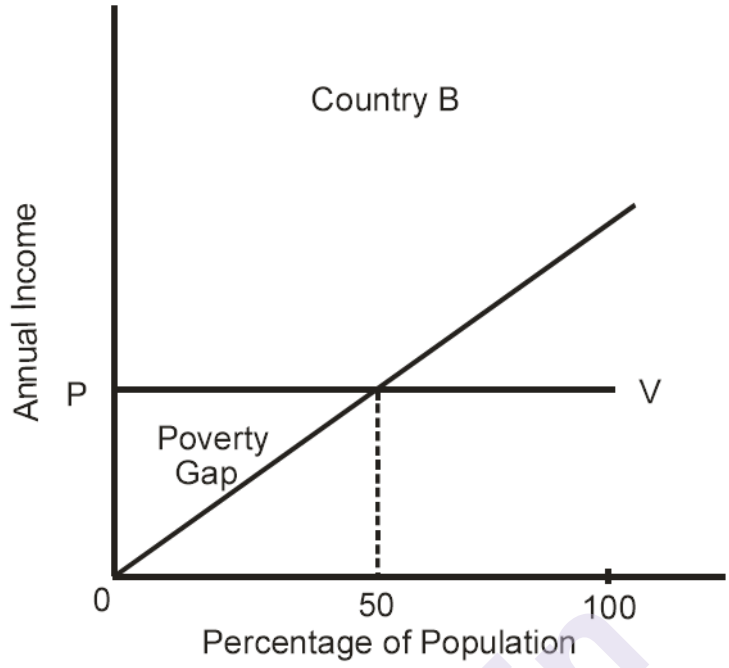


Figure No. 5.2

Measuring the Poverty Gap

The poverty gap is the shaded area between the poverty line PV and the annual income profile of the population. In both countries A and B, 50% of the populations are falling below the poverty line. But the poverty gap is more for country _A' then _B'. Hence the poverty situation is more serious for a country like _A' and more efforts will be needed to remove poverty. The extent to which the incomes of the poor lie below the poverty line can be calculated. The —total income shortfall or total poverty gap of the poor is defined as

$$TPG = \sum_{i=1}^{N} y_p - y_i$$

y_p = poverty line income

y_i = income of the individual / family i

TPG is also defined as the amount of money per day needed for bringing every poor person in the economy upto the minimum income standards. The average poverty gap

$$APG = \frac{TPG}{H}$$ where 'H' is the number of people below the poverty line.

5.5 MEASURES TO ERADICATE POVERTY

Poverty eradication is one of the major objectives of planned economic development. Economic growth has always been recognized as an important among various factors contributing to poverty alleviation. It is now recognized that it is not the rate of growth but the composition of growth which determines the pace of the "trickle down" effect of growth.

India's anti-poverty programmes are mainly run by the Central Government. There are three main types of poverty alleviation programmes :(1) rural works, (2) self-employment and (3) food subsidy. All three have been subject to reforms in the recent years. Plan allocations have been enhanced in areas of health, education, sanitation and other facilities in order to promote capacity building and wellbeing of the poor. Anti-poverty programmes have been strengthened and restructured through special programmes for the weaker sections of the-society.

The major poverty alleviation programmes currently operating in the country are discussed below : .

1) Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA) February2006:

This flagship programme of the government aims at enhancing livelihood security of households in rural areas by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. For the year 2011- 12, Rs. 40,000 crore has been allotted for this programme. This has led to substantial increase in the purchasing power and has strengthened the livelihood resource base of the rural poor in India.

During the year 2011-12, 3.80 crore households have been provided employment under the scheme till January 2012. At national level, the average wage paid under the MGNREGA has increased from Rs. 65 in 2006-07 to Rs. 120in2011-12.

2) Swarnajayanti Gram Swarozgar Yojana (SGSY):

April, 1999. It is a major ongoing scheme to help the poor rural families to cross the poverty line by assisting them to take up incomegenerating economic activities through a mix of bank credit and government subsidy. The scheme involves selection of key activities, planning of activity clusters, organization of the poor into self-help groups (SHGs) and building of their capacities through training and skill development, creation of infrastructure and technological and marketing support. SGSY was introduced by amalgamating former self employment programmes into a single self employment programme. Since inception of the scheme in April 1999 up to December, 2011, 42.05 lakh self-help groups (SHGs) have been formed and 168.46 lakh swarojgaries have been assisted with bank credit and subsidy. The total, investment under the SGSY is Rs. 42,168.42 crore.

NRLM: The SGSY has now been restructured as the National Rural Livelihood Mission (NRLM). The NRLM aims at reducing poverty by enabling poor households to access gainful self-employment and skilled wage employment opportunities.

3) Sampoorna Grameen Rozgar Yojana (SGRY):

Sept.2001 The objective of SGRY is to provide additional wage employment along with food security, creation of durable community, social and economic assets and infrastructure development in the rural areas. The schemes of Jawahar Gram Samridhi Yojana (JGSY) and Employment Assurance Scheme (EAS) have been fully integrated with SGRY. SGRY programme in many districts has been included in National Rural Employment Guarantee Scheme (NREGS) during 2006-07 and 2007-08. Since April 2008, SGRY programme is part of National Rural Employment Guarantee Scheme (NREGS).

4) Pradhan Mantri Gramodaya Yojana (PMGY):

It was launched in 2000-01 in all states and the Union Territories (UTs) in order to achieve the objective of sustainable human development at the village level. The PMGY gives additional central assistance to states and UTs for selected basic minimum services in order to focus on certain priority areas. Initially, it focused on five critical areas, i.e., primary health, primary education, rural shelter, rural drinking water and nutrition. Rural electrification has been added as an additional component from 2001-02.

5) Pradhan Mantri Gram Sadak Yojana (PMGSY) : Dec.2000

It is a 100 percent centrally sponsored scheme. It is a programme to provide road connectivity through good all weather roads to all the eligible unconnected rural inhabitants. 1,42,750 kms. of road works had been completed till December 2007 and an expenditure of Rs. 27,382 crore has been incurred.

6) Antyodaya Anna Yojana : Dec. 2000

It provides foodgrains at a highly subsidized rate of Rs. 2 per kg for wheat and Rs. 3 per kg for rice to the poor families under the Targeted Public Distribution System. Initially 25 kgs of foodgrains was made available to each family per month. This quantity has been increased to 35 kgs with effect from April 2002.

7) Swarna Jayanti Shahari Rozgar Yojana (SJSRY) :1997 Revised in April 2009

It aims at providing gainful employment to urban unemployed or underemployed poor by encouraging the setting up of self-employment ventures or provision of wage employment. It replaced various programmes operated earlier for urban povertyalleviation. It is being funded on a 75 : 25 basis between centre and the states. The budget

allocation for the SJSRY scheme for 2011- 12 is Rs. 813 crore. A total of 3,63,794 beneficiaries have been assisted in the year 2011-12.

8) Indira Awaas Yojana (lAY) : 1999-2000.

It aims at providing dwelling units, free of cost, to the poor families of the Scheduled Castes (SCs), Scheduled Tribes (STs), freed bonded labourers and also the non-SC/ST persons below the poverty line in the rural areas. Upto December 2006, about 153 1akh houses had been constructed or upgraded with an expenditure of Rs. 29,246 crore.

9) Annapurna Yojana : 2000.

It aims at providing food security to meet the requirements of those senior citizens who, though eligible for pensions under the National Old Age Pension Scheme, are not getting the same. Foodgrains are provided at a subsidized rate. It is a 100 percent centrally sponsored scheme.

10) Valmiki Ambedkar Awas Yojana (VAMBAY) : Dec. 2001

It seeks to improve the conditions of the urban slum dwellers living below the poverty line who do not possess adequate shelter. The primary objective of this scheme is to facilitate construction and upgradation of dwelling units for the slum dwellers. A component of the scheme is to provide a healthy environment through community toilets.

11) National Food For Works Programme (NFFWP) :Nov.2004

This programme is open to all rural poor who are in need of wage employment and desire to do manual unskilled work. It is implemented as a 100 per cent centrally sponsored scheme and the food grains are provided to the states free of cost.

12) Rural Employment Generation Programme (REGP) :

It was launched in 1995 with the objective of creating self employment opportunities in the rural areas and small towns. Since the inception upto March 2004, 1.86 lakh projects have been financed and 22.75 lakh job opportunities have been created.

13) Prime Minister's Rozgar Yojana (PMRY) :

It was started in 1993 with the objective of creating self employment opportunities to the educated unemployed youth by assisting them to set up any economically viable activity.

14) Public Distribution System and its impact on Poverty:

The Public Distribution System (PDS), seeks to enhance food security particularly for the economically weaker sections of the society. The PDS is the instrument for ensuring availability of certain essential commodities at easily affordable prices especially for the poor. A well targeted and properly functioning public distribution system (PDS) is an important constituent of the strategy for poverty alleviation. PDS with a network of

about 4.74 lakh. Fair Price Shops (BPS) is perhaps the largest Distribution network of its type in the world.

In order to make PDS more responsive to the needs of the poor, the Targeted Public Distribution System (TPDS) was introduced in June 1997. This system attempts to target families below the poverty line (BPL) at heavily subsidized rates.

5.6 MEANING OF INEQUALITY

Economic in equality is a situation characterized by fundamental disparity that permits a few individual certain materialchoices and denying the choices to a few others.In the context ofdevelopment, it is necessary to examine whether the gap between the haves and the haves not has widened since the beginning of planning.Most of the findings arrived at the conclusion that the gapbetween haves and haves not has evidenced and there has been aconcentration of wealth and economic power in a few hands which adversely affected the common people. Even Karl Mark firmly believed thatine quality will bring the doom of capitalism. Incomparison to developed countries the developing countries are characterized by lowper capital in come and moreun equal distribution of income, wealth and power.

The inequality is due to the following factors.

1) Inequalitiesarise due to differences in education, qualification, skills, abilities and experience.

2) Differences in opportunities or access to education and jobs.

3) Difference son the basis of race, ethnicity and gendermay lead toinequalities.

4) Ownership and in heritance of wealth are also sources ofine quality.

5.7 MEASUREMENT OF INEQUALITY

Economists usually distinguish between two principal measures of income distribution for analytical and quantitative purposes. They are the personal or size distribution of income and the functional or distributive factor share distribution of income.

1. **The personal or size distribution of income:** This measure is most commonly used by economists. It simply deals with individual persons or households and the total incomes they receive. The distribution across income size classes is commonly called the ―size distribution of income. Income inequality among the households is commonly measured by the distribution of income according to the size of income per household. The higher the share of the low income classes in income, the more equal the distribution of income.

2. **Methods of Measurement :**

a) A very popular method to analyze personal income is to arrange all individuals by ascending personal incomes. For this the population has to be divided into distinct groups i.e. deciles (tenths) or quintiles (fifths). Then it is determined as to what proportion of the total national income is received by each income group.

The second method to analyze personal income statistics is to construct a Lorenz curve. The numbers of income recipients are plotted on the horizontal axis in cumulative percentage. The vertical axis shows the share of total income received by each percentage of population. Both are cumulative up to 100% meaning that both the axes are equally long. Every point on the Lorenz curve represents a statement. For example, the bottom ‑X‘ share of households has ‑y‘ share of the total income. Suppose there are 100 households, they are arranged in ascending incomes. The Lorenz curve is constructed by plotting the cumulative share of households on the horizontal axis and the cumulative share of household income on the vertical axis. The figure is enclosed in a square. A diagonal line is drawn from the origin or the lower left corner of the diagram to the upper right corner of the diagram. On the diagonal line, at every point, the percentage of income received is exactly equal to the percentage of income recipients. The diagonal line represents ―perfect equality of distribution of income. For example, if we take the mid point of the diagonal, i.e. halfway, 50% of the income is distributed to exactly 50% of the population.

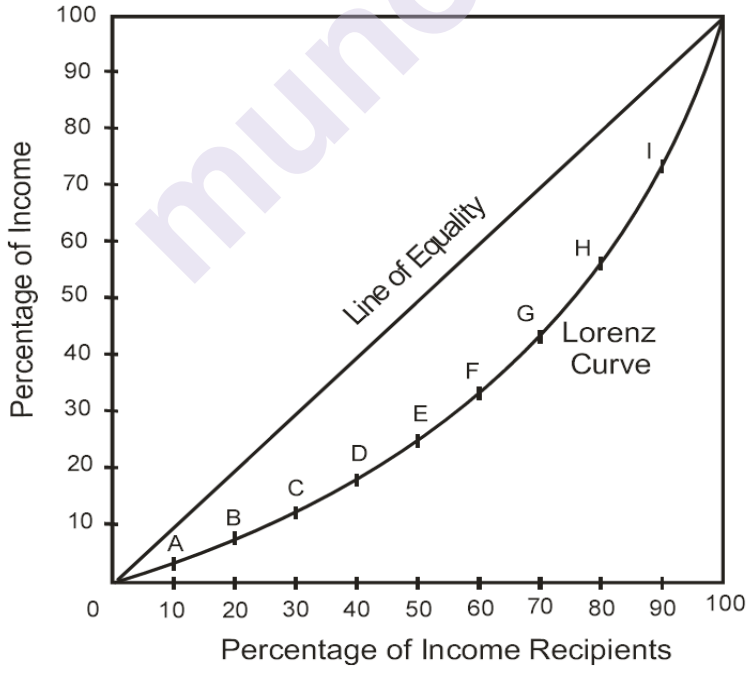


Figure No. 5.3

The Lorenz curve shows the actual quantitative relationship between the percentage of income recipients and the percentage of the total income they received during a given year. In the above diagram, the Lorenz curve has

data plotted in terms of decile groups. It is clear from the Lorenz curve that 50% of the population is receiving a little less than 20% of the income. In the same way, 80% of the population is receiving less than 50% of the total income. This is clear from point *H* on the Lorenz curve.

The population of the Lorenz curve will make clear the degree of equality or inequality. If the Lorenz curve coincides with the diagonal line there is perfect equality and all the people in the households get the same income. As the Lorenz curve moves away from the diagonal line, inequality also increases

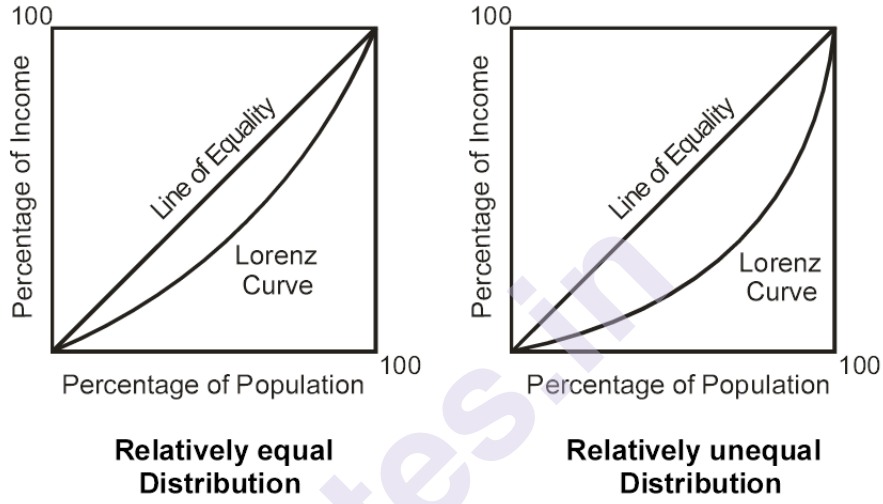


Figure No. 5.4

c) Gini concentration ratio or calculation of the Gini co-efficient is another measure of the relative degree of income inequality. This is obtained by calculating the ratio of the area between the diagonal and the Lorenz curve divided by the total area of the half square in which the curve lies.

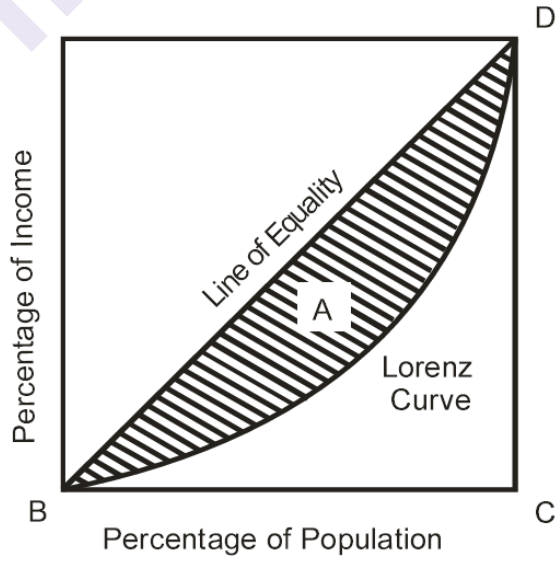


Figure No. 5.5

$$\text{Gini co-efficient} = \frac{\text{Shared Area A}}{\text{Total Area BCD}}$$

This ratio is known as the Gini Co-efficient, named after the Italian statistician who first formulated it in 1912. Gini co-efficients are aggregate inequality measures and can vary anywhere from zero (perfect equality) to one (perfect inequality). Gini co-efficient is commonly used to study the income and wealth distribution.

2. The Functional Distribution or Factor share of Distribution of income : The functional distribution of income attempts to explain the share of total national income that each of the factors of production (land, labour, capital) receives. This method looks at the income received by the factors as a whole in the form of rent, interest and profit. This method is not concerned with specific individual incomes. Functional distribution of income has emerged as a very important branch of study. It explains the income of a factor of production by the contribution that this factor makes to production. Supply and demand curves are assumed to determine the unit price of each productive factor. When this unit prices are multiplied by quantities employed, we get the total payments to each factor Example – the supply and demand for labour determine the wage rate. When this wage is multiplied by the total level of employment, we get the total wage payments called the wage bill. Thus functional distribution of income is a very relevant and important part of distribution studies.

Economic Growth and Income Inequality

Income inequality is a critical factor in determining the level of progress and well being of the citizens of a country. Inspite of the growth and development achieved by developing countries, the vast majority of population remains poor. Thus inequalities have increased inspite of economic progress.

There are aspects of inequality. Vertical inequality is the traditional measure of inequality which is discussed in the development policy. Horizontal inequality is concerned with how the different groups in society are treated, based on race, religion, language, class, gender etc. Both the measures help to evaluate the well being of the people.

It has been experienced that as an economy grows from a traditional to a modern economy, growth is accompanied by widening disparities in the personal income distribution. The disparities may occur due to various factors like industrious nature of people and skills. Even opportunities may not be available for all which may lead to inequalities. Lack of appropriate taxation system, and differences in individual ability may result in inequalities. Later with more developmental efforts, the inequalities will reduce.

Horizontal inequality shows how economic differences, social limitations and political power together create inequalities among different groups in a society. The groups may belong to different race, religion, gender, class or language. Horizontal inequalities can lead to conflicts within a society which adversely affect the development process.

Inequality affects an economy adversely in various ways. As far as economic growth is concerned, increased inequality creates dissatisfaction, ill feeling and frustration among the poor which may even lead to a civil war. Extreme inequality leads to economic inefficiency. Inequality may lead to inefficient allocation of resources. For example, high inequality leads to an over emphasis on higher education at the expense of good quality universal primary education. High inequality leads to actions like excessive lobbying, large political donations, bribery and cronyism.

5.8 MEASURE TO ERADICATE INEQUALITY

It is necessary for the government to formulate and implement certain policy measures to mitigate inequality in income distribution. The measures may be in the form of :

1)Fiscal Measures: Fiscal policy through its budgetary instruments can attempt to redistribute income. The important instruments are:

(a) Progressive Direct Taxes: Income tax, wealth tax, capital gains tax, gift tax and estate duty, when levied in a progressive manner, help withdraw more money from the rich. The poor will be exempted from these taxes by exempting minimum income or wealth from tax. The success of all these tax instruments depends on its effective implementation. Loopholes in tax laws enable the taxpayers to legally avoid tax payments. If tax evasion cannot be checked effectively, income inequalities may aggravate.

b) Subsidies: Cost of agricultural inputs like fertilizers, water supply, electricity, pumps and other equipment can be subsidized so that small and marginal farmers may produce more. Measures should be taken to safeguard the misuse of subsidies. Education and medical services can be provided to those below poverty line at a highly subsided rate or almost free.

c) Indirect Taxes: Taxes on commodities and services may turn out regressive if they are levied indiscriminately. They may help reduce inequality if such taxes are selective. Consumer durables, specially the luxurious ones like air conditioners, cars etc. and services in five star hotels, when taxed heavily help to mop up excess income of the top rich.

2) Monetary Measures: One of the reasons why the bottom section of the income group has remained so poor is their inability to acquire money capital for improving their income. Monetary policy through discriminatory rate of interest can provide the minimum required money

capital at a very low rate of interest. Treating them under the priority sector will help those secure loans at the right time with minimum and simple procedure.

3) Public Distribution System: The real income of the bottom income group could increase if they are supplied with essential consumer items through ration and fair price shops. Such public distribution should be confined only to the lowest income group.

4) Social Security Measures: The low income group comprise agricultural and industrial labourers, old people without any regular source of income and the unemployed. Social security measures go a long way in providing either minimum or some additional income to supplement their meagre income. The social security may comprise:

(i) Old Age Pension : Old people with no source of income can be provided a regular monthly income by the government to enable them to subsist.

(ii) Unemployment Benefits: With the increasing number of unemployed vis-a-vis limited employment opportunities the government is expected to support the jobless.

(iii) Social Security Insurance: Under this scheme, workers and their dependants are covered. The scheme can also be accepted by households voluntarily for a price, even by those who belong to higher income group. Medical, disablement and maternity benefits are provided under these schemes.

5) Employment Schemes: Employment in rural and urban areas are provided through various schemes like National Food for Works Programme, (SGSY), (SGRY), (PMGY), and many other schemes. In order to wipe out absolute poverty and extreme inequality it is necessary that the government provide permanent employment to at least one member of an absolutely poor family.

6) Institutional Changes: Land reforms are the example of institutional changes whereby land is distributed among the landless and ownership is given to the tiller. Such institutional reforms bring a change in the distribution of income earning assets in favour of the poor.

7) Self Employment: Unemployed specially the educated can be trained and assisted to set up tiny, cottage and small industries, service oriented jobs like electricians, machine repairers etc. Promoting self employment schemes besides providing employment reduces inequality too.

8) Rural Development: Rural India has a larger share of unemployment and poverty. The situation leads to the migration of people to the urban area aggravating the urban problems. Promoting rural development through providing infrastructure and rural industrialization would help preventing migration, providing employment and reduction in economic inequality. All these measures cannot bring a lasting solution to the inequality of income distribution. In our country these measures must be combined with rapid economic growth and effective control of population

growth in order to have the desired result. Otherwise we may end up distributing poverty instead of promoting equality.

5.9 SUMMARY

Economic inequality is a situation in which a few people areallowed access to resources and opportunities whereas the sameare denied to others.In spite of developmental efforts initiated bydeveloping countries, the gap between the rich and the poor haswidened.The developing countries are plauged by the problem oflow per capita income and unequal distribution of income, wealthand power. The inequalities arise due to difference in education qualification, skills, abilities, experience, inheritance of wealth etc.

There are two ways of studying income distribution, personaland functional.There are various methods of measuring inequalityin personal income distributions.One is to divide population intodistinct groups and study how much income is received by eachgroup.Another method is to construct a Lorenz curve which shows the actual quantitative relationship between the percentage of income recipients and the percentage of the total income receivedduring a given year.The diagonal shows perfect equality.The position of the Lorenz curve represents the degree of inequality.Another method of measuring inequality is to estimate the Gini coefficient. Another method of studying income distribution is functional distribution.

The economic growth of a country may lead to inequalities initially. But as the economy achieves development, inequalities become less. Prof. Kuznets had studied empirically the experience of different countries. The inverted_u'shaped Kuznets curve explain the inequalities experienced at different stages of development.The unit also discusses the causes of inequalitiesand how inequalities can affect economic development adversely.Inequalities can lead to imbalance in distribution of resources and can retard economic and social development. It can adversely affect production and lead to inefficiency. It can also affect socialstability. Thus, it is necessary to take appropriate steps to reduce inequalities in income and wealth distribution.

5.10 QUESTIONS

Q1. Write a note on -

a) Concept of Human Capital
b) Role of Education, Health and Nutrition in Human Capital
c) Meaning and Measurement of Poverty
d) Measures to Eradicate Poverty
e) Meaning and Measurement of Inequality
f) Measures to Eradicate Inequality

❖❖❖❖

6

STRUCTURAL ISSUES IN DEVELOPMENT PROCESS – 2

Unit Structure:

6.0 OBJECTIVES

- To understand the meaning of Inclusive Growth
- To know the concepts of Self-Help Groups (SHGs) and Microfinance
- To study of the concepts of migration and urbanization in detail.
- To study the formal and informal sector and urban Informal Sector

6.1 INCLUSIVE GROWTH

6.1.1 Introduction:

- Inclusive growth means economic growth that creates employment opportunities and helps in reducing poverty.
- It means having access to essential services in health and education by the poor. It includes providing equality of opportunity, empowering people through education and skill development.
- It also encompasses a growth process that is environment friendly growth, aims for good governance and helps in creation of a gender sensitive society.
- As per OECD (Organisation for Economic Co-operation and Development), inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all.

6.1.2 Elements of Inclusive Growth:

1. Skill Development

- Harnessing the demographic dividend will depend upon the employability of the working age population, their health, education, vocational training and skills. Skill development plays a key role here.
- India is facing a dual challenge in skill development:First, there is a paucity of highly trained workforce. Second, there is non-employment of conventionally trained youths
- According to the Economic Survey 2017, over 30% of youth in India are NEET (Not in education, employment or training).
- Similarly, UNICEF 2019 reports stats that at least 47% of Indian youth are not on track to have the education and skills necessary for employment in 2030.

2. Financial Inclusion

- Financial Inclusion is the process of ensuring access to financial services to vulnerable groups at affordable costs.
- Financial inclusion is necessary for inclusive growth as it leads to the culture of saving, which initiates a virtuous cycle of economic development.

3. Technological Advancement

- The world is moving towards an era of **Industrial Revolution 4.0.** These technological advancements have capabilities to both decrease or increase the inequality depending on the way these are being used.
- Several initiatives have been taken by the government, eg. Digital India Mission, so that a digitally literate population can leverage technology for endless possibilities.
- Technology can help to combat other challenges too, eg: **Agriculture-** Modern technology can help in making an agro-value chain from farmer to consumer more efficient and competitive.

Manufacturing- Technology can resolve the problems of finance, procuring raw materials, land, and linkages with the user market. GST was made possible only with the help of sound technology.

Education- Innovative digital technologies can create new forms of adaptive and peer learning, increasing access to trainers and mentors, providing useful data in real-time.

Health- Technologies could transform the delivery of public health services - extend care through remote health services.

Governance- Technology can cut down delays, corruption, and inefficiency in the delivery of a public service

4. Economic Growth

- India is among the fastest-growing major economies in the world. However, currently Indian economy is facing slowdown due to both cyclic and structural challenges.
- However, the target of becoming a $ 5 trillion economy by 2024-25 can allow India to reduce inequality, increase social expenditure and provide employment to all.

5. Social Development

- It means the empowerment of all marginalised sections of the population like SC/ST/OBC/Minorities, women and transgenders.
- Empowerment can be done by improving institutions of the social structure i.e. hospitals especially primary care in the rural areas, schools, universities, etc.
- Investment in social structures will not only boost growth (by fiscal stimulus) but will also create a healthy and capable generation to handle future work.

6.1.3 Challenges in Achieving Inclusive Growth:

1. Poverty

- As per the **Multidimensional Poverty Index (MPI) 2018,** India lifted 271 million people between 2005-06 and 2015-16, with the poorest regions, groups, and children, reducing poverty fastest. India demonstrates the clearest pro-poor pattern at the sub-national level.
- Still, despite the massive gains, 373 million Indians continue to experience acute deprivations. Additionally, 8.8% of the population lives in severe multidimensional poverty and 19.3% of the population are vulnerable to multidimensional poverty.

2. Unemployment

- As per the **Periodic Labour Force Survey (PLFS) of NSSO,** the unemployment rate among the urban workforce was 7.8%, while the unemployment rate for the rural workforce was 5.3% totaling the total unemployment rate at 6.1%.
- The quality and quantity of employment in India are low due to illiteracy and due to over-dependence on agriculture.
- The quality of employment is a problem as more than 80% of people work in the informal sector without any social security.

- Low job growth is due to the following factors:Low investment, Low capital utilization in industry and Low agriculture growth.

3. Agriculture Backwardness

- Around 44% of people in India have agriculture-related employment but its contribution to the Indian GDP is only 16.5% which lead to widespread poverty
- Issues in agriculture are as follows:
  - Declining per capita land availability
  - A slow reduction in the share of employment
  - Low labour productivity
  - Decline in agriculture yield due to climate change, land degradation and unavailability of water
  - Disparities in growth across regions and crops

3. Issues with Social Development

- Social development is one of the key concerns for inclusive growth. But it is facing some problems such as:
  - Significant regional, social and gender disparities
  - Low level and slow growth in public expenditure particularly in health and education
  - The poor quality delivery system
  - Social indicators are much lower for OBC, SC, ST, and Muslims
  - Malnutrition among the children - **India ranks 102nd in Global Hunger Index**

4. Regional Disparities

- Regional disparities are a major concern for India. Factors like the caste system, gap between rich and poor etc. contribute to the regional disparities which create a system where some specific groups hold more privileges over others.
- Some of the regional disparities problems are as follow:
  - In terms of literacy rate, Kerala is the most literate state with 93.1% literacy, on the other hand, literacy rate of Bihar is only 63.82%
  - In terms of per capita income, Goa's per capita income is Rs 4,67,998 in 2018 while per capita income of Bihar is just one-tenth of that ie Rs 43,822

6.1.4 Measuring Inclusive Growth:

1. Inclusive Development Index (IDI)

- In the Inclusive Development Index (IDI) compiled by the World Economic Forum (WEF), India ranked 62nd out of 74 emerging countries and was among the least inclusive countries in Group of 20 (G-20) countries.
- The IDI is based on the idea that most people base their country's growth not on GDP but by their own standard of living.
- It gives a measure of inequality based on three parameters:

  - Growth and development
  - Inclusion
  - Inter-generational equity and sustainability.

- India also did not make it to the top 10 most inclusive emerging and developing economies, where its neighbours Nepal, China and Sri Lanka made a mark.
- India performed its best in terms of "intergenerational equity and sustainability", ranking 44th, for which credit can be attributed to its demographic dividend.

2. Social Progress Index (SPI)

- It is an aggregate index of social and environmental indicators which includes the following:

  - Basic human need
  - Foundation of well being
  - Opportunity

- Limitation of other indices:

  - GDP: It does not include non-market activities.

Excludes factors like environment, equality, etc

  - Gini Coefficient:

Only income inequalities are included and other inequalities like social inequality, equality of opportunities, etc are ignored.

  - Gross Happiness Index:

Ignores gender neutrality, education, etc

  - HDI:

The unequal distribution of wealth is ignored.

- Benefits of SPI:

- SPI measures the outcomes of the government measures rather than money spent. It also takes account of efficiency by which money spent by the government has been used.
- It is more comprehensive.

3. Global Slavery Index

- It is released by the Walk Free Foundation of Australia.
- Modern Slavery means a situation where one person has taken away another person's freedom, to control their body so that they can be exploited.
- Factors responsible for modern slavery:
  - Absence of rights
  - Lack of physical safety
  - Access to necessities such as health care, education, food, etc
  - Pattern of migration
- Government actions to reduce modern slavery:
  - India has worked in the right direction by criminalizing trafficking, slavery, forced labor, child prostitution, and child marriage.

6.1.5 Measures Taken India to Achieve Inclusive Growth:

- Several schemes are being implemented by the government for inclusive growth which includes the following:
  - Mahatma Gandhi National Rural Employment Guarantee Act Scheme (MGNREGA)
  - Prime Minister’s Employment Generation Programme (PMEGP)
  - Mudra Bank scheme
  - Pt. DeenDayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)
  - Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (DAY-NULM)
  - SarvaSiksha Abhiyan (SSA)
  - National Rural Health Mission (NRHM)
  - Bharat Nirman
  - Swachh Bharat Mission
  - Mission Ayushman
  - Pradhan Mantri Jan Dhan Yojana

- Government is working with NGOs and International groupings in policy making eg:

  - DISHA Project is being implemented in partnership with UNDP for creating employment and entrepreneurship opportunities for women in India.

- NITI Aayog's Strategy for New India @75 has the following objectives for the inclusive growth:

  - To have a rapid growth, which reaches 9-10% by 2022-23, which is inclusive, clean, sustained and formalized.
  - To Leverage technology for inclusive, sustainable and participatory development by 2022-23.
  - To have an inclusive development in the cities to ensure that urban poor and slum dwellers including recent migrants can avail city services.
  - To make schools more inclusive by addressing the barriers related to the physical environment (e.g. accessible toilets), admission procedures as well as curriculum design.
  - To make higher education more inclusive for the most vulnerable groups.
  - To provide quality ambulatory services for an inclusive package of diagnostic, curative, rehabilitative and palliative care, close to the people.
  - To prepare an inclusive policy framework with citizens at the center

6.2 SELF-HELP GROUPS (SHGs) AND MICROFINANCE

Microfinance refers to the provision of small scale financial services to economically active people. The provision of financial services like credit facilities to operate small enterprises or micro enterprises. These units may be engaged in a variety of activities. They may be people who work for wages or commissions. They may be people who make an income from renting out their land, vehicles, draft animals or machinery and tools. These households have multiple sources of income.

More than 500 million of the world‘s poor population are economically active. These poor population earn their livelihood by being self employed or they work in micro enterprises. They produce a variety of goods in small workshops, trading and retail activities, making pots, furniture or sell fruits and vegetables. It is difficult for these people to secure capital and they have hardly any access to financial services. Since the institutional soruces are not ready to finance these poor people, they depend on family, friends etc. Microfinance is the solution to the needs of the people for finance. Though the movement was originally started for providing micro credit, it started covering a variety of financial services. In India NABARD (National Bank for Agricultural

and Rural Development) finances more than 500 banks. These banks lend money to Self Help Groups. The bank ability of the rural poor was discovered. With new lending methods, the rural poor repaid loans on time. There has been a tremendous growth in the number of successful micro finance institutions which are reaching out to a number of poor people and that are becoming commercially viable.

Features of Microfinance Services:

1. **Micro finance loans can be used for a number of purposes** : It enables the poor to accumulate assets and enable the poor to be economically independent. It helps the poor to invest in income generation activities. They can improve their standard of living through better education health and housing. The people have flexibility in loan use. It is understood that the clients themselves know about how best to manage their funds.

2. **Microfinance gives importance to financial services and not subsidies :** The low income entrepreneurs are more interested in getting working capital and run their business. They require capital and continued access to financial services rather than subsidies. The small entrepreneurs borrow small amounts and are able to comfortably pay off the loans while making a profit for themselves. The people find it better to borrow from micro finance institutions rather than from money lenders or the government.

3. **The micro finance revolution has helped in women empowerment :** Since women constitute the most vulnerable section of the society, MFIs have a special role to play in the upliftment and empowerment of women. Women face a number of disadvantages and problem since they have fewer economic opportunities and they hear the burden of domestic work, child bearing, education, health and nutrition of children. MFIs have found to the very helpful especially for women. Experience has proved that women are sincere and regular in repayment.

Microfinance supports institutions and not projects : There is a stress on the creation of institutions rather than projects for meeting the financial needs of the poor on a sustained basis. It has been proved that successful microfinance institutions reach large numbers of clients and become financially self – sufficient. The objective of setting up micro finance institutions is to reach out to the very poor people and provide them with quality financial services. The success of microfinance is due to the following features.

(i) It is possible to know the needs of the clients and design appropriate products. For example, the institutions are able to meet specific requirements of the people like short term loans, high liquidity, saving services etc.

(ii) Reducing risk and increasing value to the clients : There is no pressure to produce collateral security. The borrowers are

motivated to repay. For example the idea of poor group lending is adopted. In this several people guarantee one another's loan and incentives are given to people who repay on time.

(iii) Low administration cost : Since the operations are efficient and simple, the administrative expenses are low.

5. The microfinance movement has brought out the fact that institutions can serve the poor and still be sustainable.

6. There are a variety of financial services tailored to meet the specific requirements of poor population. For example, micro credit is a part of microfinance. Experiments with micro credit in Bangladesh have shown that it is possible to help extremely impoverished people to engage in self employment projects that allow them to generate an income and enable them to create wealth thus getting rid of poverty. The success of the micro credit policy is urging the mainstream finance industry to consider micro credit as a source of future growth. This brings out the various possibilities for the growth of micro finance which can revolutionize the society by empowering the poorer sections of the society.

6.3 MIGRATION

Migration means the long time relocation of an individual, household or group to a new location outside the community of origin. Urbanization leads to migration. Rural urban migration was once though normal and natural in the economic development literature. Internal migration was considered as a natural process in which surplus labour was gradually withdrawn from the rural sector to provide needed manpower for urban industrial growth. Today besides internal migration, international migration is also on the increase.

Causes of Migration:

There are various factors which lead to migration.

1) The conditions in the place of origin may not be sufficiently rewarding for the people. The migrants feel that they are not getting economic security and well being due to limited job opportunities. They feel that they will be better off with their skills and better education. These factors constitute the push factors.

2) The migrants may be attracted by the potential opportunities in the new place. Better wages, better living conditions, infrastructure may induce people to migrate. The movement usually is a more developed place with better amenities and life styles. These are the pull factors.

3) Government policies have an important role to play in migration. Government policies may encourage large produces or farmers for efficiency and economies of large scale production. The small farmers of producers may be discouraged. They may be forced to migrate in such a situation.

4) Policies for increasing competition and efficiency calls for minimum government intervention. As a result, concessions and benefits like farm subsidies and cheap credit policies meant to help the farmer will not be given to the farmers. This implies more burden on the farmers since they do not get any financial support. This situation may force the farmer to sell the land and migrate to cities. Policies to reduce the urban cost of living and distribution and sale of food at fair prices under the government scheme adversely affected the rural farmers. The prices of food grains are not sufficient even to cover the cost. Farming feel them is no more attractive. Hence they tend to look for better opportunities in cities. Internationally, migration policies affect migration.

5) Industrialization was the major factors which stimulated migration in the 19th and 20th centuries opportunities for work in factories and industries led to large scale migration. At present there is so much surplus migratory labour in cities which are available cheap. This lowers the cost of production, which is attractive for foreign investment companies.

6) Though wage differentials are the prime cause for migration. There are many social and circumstantial factors like marriage, migration of family members, disasters, famine which may induce migration.

Effects of Migration:

The experience of LDCs have shown clearly that rural – urban migration is harmful in many ways. The job creation in urban areas is not sufficient to absorb the migrants and the migrants are a burden on the infrastructure in urban areas.

1) Migration results in rural urban structural imbalances both on the supply side and the demand side. The educated skilled workers migrate from the rural areas in search of better opportunities. This will lead to a drain of human capital from the rural areas which may affect rural development adversely.

2) Migration to the urban areas increases pressure on job creation for the surplus labour force. This is so because urban job creation may mean use of more capital and other scarce complementary resources which may be difficult especially for LDCs.

3) The industries may be forced to adopt capital intensive technology due to rising wage rates and other benefits which have to be given to the labour force. Moreover these countries may not be able to select the appropriate labour intensive production technologies. If the job creation lags behind it will result in a situation of increasing urban surplus labour. Too much migration reflects the underdevelopment of the economy. Migration upsets the pattern of sectoral and geographic economic activity, income distribution and even population growth.

4) The policies of the government may have a direct and immediate impact on migration. For example, policies related to land tenure arrangement commodity pricing, taxation export promotion import substitution, exchange rate policies etc. affect migration.

5) All the above effects imply that it is necessary to formulate development policies taking into account the internal and international migration and the issues of population distribution.

6.4 URBANIZATION

An urban area is a geographical area, constituting a city or town. Urbanization means the growth of cities. According to the United Nations definition, settlements of over 20,000 are urban and those with more than 1,00,000 are cities.

Urbanization is a process in which an increasing proportion of an entire population lives in cities and the suburbs. It is related to the process of industrialization. Urbanization was at its peak in the late 19th and early 20th century. This was the period of industrial revolution. During this period, better opportunities come up in the cities due to the setting up of factories and industries. When human productivity increased due to industrialization, surpluses were generated in both agriculture and industry. Increasing number of population started living in cities. The factories and industries were set up in cities due to a number of advantages. The benefits of science, research and technology directly benefit the people who reside in cities.

Urbanization which is the result of industrialization and modernization involves a shift of population from the rural to the urban areas. Urbanization is the increase over time in the population of cities in relation to the regions' rural population. It is the proportion of the total population or area in urban localities over time. Urbanization can also be defined as the increased spatial scale and the density of settlement as well as business and other activities in the area. People are attracted to more to the urban areas since there are opportunities for business expansion. This involves a shift of people from agriculture to other activities like trade, manufacture etc. Urbanization leads to a number of changes like change in attitude, beliefs, values and behaviour patterns. The various facilities provided by the urban areas like better education, health care system, employment chances, civic facilities ard social welfare attract people to urban areas.

Urbanization and India:

The urban areas in India have a major role towards the growth of the country's economy. Urbanization is an integral part of the process of economic growth. Only 1/3rd of Indians live in cities. But these urban areas generate more than 2/3rd of the country's GDP and account for 90% of government revenue. There has been an uncontrolled growth of India's towns and cities as more have migrated to these areas in search of economic opportunity. In cities like Mumbai slums constitute 1/4th of urban housing and 50% of the population reside in slums.

Generally, the more developed the country measured by per capita income, the greater the share of population living in urban areas. The highest income countries like Denmark are also the most urbanized while the very poorest countries such as Rwanda are the least urbanized. A very important question as far as LDCs like India are concerned is that how they will cope, economically, environmentally and politically.

Causes of Urbanization:

The large cities and towns are the result of various socio- economic and political factors. The urbanization has led to changes in the land use pattern and there has been change, in the organization as well as governance. Various factors have contributed to urbanization process.

1. The increase in population has been a major reason for urbanization. There has been an increase in population due to high birth rate and low death rates. Another reason for the population increase is the large scale migration of rural population to urban areas in search of livelihood and better wages. Rural economy has failed to give gainful employment to the rural population and there is over crowding and uncertainty in agriculture. People migrate to urban areas in search of better opportunities in education, job and general standard of living.

2. Urbanization and migration are prompted by competition, diversity and opportunities which are absent in the villages.

3. With agriculture the only occupation, the farmers may find it difficult to grow beyond a certain limit. Agriculture has become very unpredictable and risky since it depends on environmental factors, climatic conditions, floods, pest attacks etc. The farmers have limited choice and crop failures have become common. Somehow the government schemes have not been able to improve the conditions in farming. Cities offer various opportunities to earn a living.

4. The industries and businesses are located in the urban centres. Industrial and service sectors offer opportunities for growth. People can always find work and earn money through various activities which the rural areas lack.

5. With regard to education, transport, housing and other basic services urban areas are far ahead and are able to cater to the needs of the people. The presence of better health facilities and hospitals are attractive to people since the elders and sick people in the family can be looked after. Even in the field of entertainment urban areas offer a variety.

6. One of the causes for the urbanization and migration is also industrialization and commercialization of farming operations which resulted in unemployment. Thus unemployment caused due to mechanization has also contributed to migration. Moreover urban life is projected as glamorous and superior by mass media which is also encouraging increased migration.

7. Urban sprawl or increasing urbanization has led to the prolific growth of suburbs. Government has been investing in the development of suburbs by creating better infrastructure facilities. The advantages are cheap housing, nearest to cities, less population, low taxes etc.

Effects of Urbanization:

There are positive and negative effects of urbanization. The positive effects are the following.

1. Urbanization helps in enhancing productivity. Productive activity in urban centres allows for a larger scale of operation, leading to specialization and economies. The size of operation allows sharing and risk pooling. There will be mutually beneficial activities and cost efficiency which will make the firms more efficient.

2. Urbanization leads to a total change in the character of local areas. The nature of occupation, services and the way the various activities are conducted undergo a thorough change. For example, one major change will be the shift from the agriculture and service oriented sectors to large scale industries and business which becomes specialized and there will be more professionalism in their dealing. The business houses or industries become independent, risk taking and resourceful, fit to face competition and risk.

3. There will be specialization of goods and services in larger cities and they will provide the goods to the smaller cities like wholesalers. In this manner business grows and there will be expansion of capital and financial services. The wages paid also will be higher in larger cities.

4. Due to the facilities available in urban areas the urban productivity will be much higher as compared to rural productivity. This will further induce migration from rural to urban areas.

5. Another effect of urbanization is that it encourages the growth of commercial activities and promotes efficient utilization of resources. This will encourage the optimum production and distribution of goods.

6. City life helps in improving the quality of life : It helps individuals to grow socially, culturally, widen their horizons and learn new technology and applications. It enable a person to keep upto date and active in various fields and enables people to excel in their activities.

7. Urbanization will necessitate better housing, sanitation and transport facilities. There will be increased health awareness and people consciously try to improve their living styles. The families start opting for lesser children and better education for them. Hence urban life has a strong socio cultural impact on the people. Since the cost of bringing up children is more they start limiting the family size.

8. Urbanization helps in social and cultural integration since the cities function as the melting pots of cultures. The diverse culture merge and people learn from each other. They also learn to live with each other in harmony.

9. Urbanization leads to agglomeration economies. These economies arise and are enjoyed by the business houses, workers and consumers when they are localized in a particular area. The benefits result from the economies of scale and network effects. The benefits arise due to factors like the growth of infrastructure like schools, hospitals and other services. Benefits also arise in productive activities due to cost benefits, increased demand, competition, specialization and division of labour etc.

Urbanization also leads to many problems and it is necessary to arrest the negative effects of urbanization in view of the welfare of the society as a whole. The negative effects are the following.

1. Urbanization leads to overcrowding in cities. In countries like India urbanization has led to the growth of slums. The infrastructure facilities like water, electricity housing etc. have not expanded sufficiently to accommodate the large number of migrant population. There is too much pressure on the infrastructure facilities. This leads to adverse living conditions. Housing and sanitation become problems. Over crowding and congestion make life miserable. The governments are not in a position to cope with this situation.

2. Urbanization may co-exist with unemployment also. Anti social activities become common. This leads to activities like alcoholism drug abuse etc.

3. Pollution of air and water are the other serious harmful effects of urbanization. Polluting vehicles and unthoughtful expansion of construction and other activities adversely affect the environment. More and more lands will have be cleared for construction purposes. Eg. Destruction of mangroves in Mumbai. This results in loss of bio diversity. There will be serious environmental losses due to pollution in various forms like water pollution, air pollution and noise pollution. Overuse of transport leads to an pollution and noise pollution. Safe drinking water is a problem in urban areas. Pollution due to the industrial wastes and drainage get mixed with the drinking water.

4. Increased demand for housing results in hike in rents and overpricing of residential areas. This makes decent housing unaffordable for most of the people. This leads to the growth of slums. Moreover uncontrolled expansion of cities have been a strain on public utility services like energy, education, health care sanitation, transportation etc. The pressure on infrastructure leads to traffic congestion, lack of sanitation, poverty, lack of recreational activities, global warming, loss of forest cover and resulting over heating. It also leads to destruction of agricultural land and wildlife. Urban sprawl or development of suburbs increases traffic and destroys open space. There will be a scattering of resources. The growth of urban sprawls leads to neglect of infrastructure, waste of resources and heavier traffic with its ill effects. The economies of agglomeration turn into diseconomies as a result of too much competition. However, with the advancement of technology and the use of internet even in the rural areas,

another trend is also developing which is the idea of working from home. This trend, if continuous can solve many of the problems and ill effects of urbanization.

6.5 FORMAL AND INFORMAL SECTOR

Formal sector in India:

In this sector all jobs with specific working hours and regular wages and the worker's job is assured. It is a licensed organization and is liable to pay taxes.Banks and other corporations comes under formal sectors. Rag pickers, moneylenders, brokers are considered as a part of an informal economy.It is also described as the grey economy.

Informal sector in India:

Majority of the population is into the informal sectors.Informal sectors are deemed low with low production value.In India agriculture, dairy, horticulture and related occupation employ 52 percent of the workers.It lacks security both legally and economically. About 25 percent of the informal sectors constitute urban employment in India

6.6 SUMMARY

Economic growth and urbanization are inter related factors. Urbanization is a process in which an increasing proportion of an entire population lives in cities and the suburbs. It is related to the process of industrialization. Urbanization and modernization results in a shift of the population from the rural to the urban areas. Opportunities of employment and better living standards attract people to urban areas. It involves a shift of people from agriculture to other activities. The urbanization was caused by a number of factors like the increase in population, declining opportunities in the agricultural sector, better opportunities, transport, education, housing and other basic services.

Urbanization led to a number of positive and negative effects. The positive effects are increase productivity, increased commercialization professionalism, growth of capital and financial services, efficient utilization of resources, better housing and sanitation and transport facilities and social and cultural integration. Moreover, urbanization leads to agglomeration economies. The negative effects are over crowding, anti social activities, pollution, increase in rents, strain on public utility services etc.

The theory of migration implies that the labourers compare their expected incomes for a given time horizon in the urban sector with the prevailing average rural incomes. Migration takes place only if the expected returns are attractive. In deciding to migrate, the individuals must balance the probabilities and risks of being unemployed or under employed for a considerable period of time against the positive urban-rural real income differential. Rural- urban migration acts as an equilibrating force that equates rural and urban expected incomes. The model explain the co-existence of rural to urban migration and high unemployment in the urban sector. The Harris – Todaro model is relevant to the developing countries.

The module also explains the causes for migration. Migration is encouraged by prospects of better economic security, job opportunities, industrialization and wage differentials. Migration leads to a number of problems like lack of sufficient job opportunities, burden on infrastructure, rural-urban structural unbalances, increasing wage rates. Therefore, it is necessary to formulate policies with regard to migration, both internal and international.

6.7 QUESTIONS

Q1. What are the causes and impact of migration?

Q2. What are the causes and impact of urbanization?

Q3. Write a note on following topics in detail.

a) Inclusive Growth

b) SHG and Microfinance

c) Formal and Informal Sector

d) Urban Informal Sector

7

PLANNING, TECHNOLOGY AND ECONOMIC DEVELOPMENT - 1

Unit Structure:

7.0 OBJECTIVES

- To study the concepts and role of infrastructure in economic development.
- To know the role of technology in economic development.
- To understand the labour intensive versus capital intensive technology concepts.

7.1 MEANING AND FEATURES OF INFRASTRUCTURE

Infrastructure is an important factor contributing to the rapid economic growth of any country. The term Social Overhead capital is also used to describe infrastructure. Social Overhead Capital is different from the directly productive capital. Directly Productive capital includes the material things like plant, machinery, equipment, technology, etc. On the other hand, Social Overhead Capital includes all those basic services that help in carrying out economic activities in the country. These services indirectly help economic development but their presence is must.

Albert O. Hirschman, in his 'Strategy of Economic Development' defines infrastructure or Social Overhead Capital as follows:

"SOC (Infrastructure) is usually defined as comprising those basic services without which primary, secondary and tertiary activities can not function. In its wider sense, it includes all those public services from law and order to education and public health to transport and communications, power and water supply, as well as agricultural overhead capital like irrigation and drainage system."

In other words, the term infrastructure can be defined in narrow as well as wider sense. In narrow sense, investment in infrastructure should be technically indivisible. That is, there should be a lumpiness in the investment. The capital-output ratio in this type of investment also is generally high. If we really define infrastructure in this narrow sense, it will only include the following activities :

a) Power and electricity generation

b) Petroleum production

c) Transport and communication, etc.

d) Irrigation

In the wider sense, infrastructure includes all those services which generally are provided by government and they are at a regulated price. This definition allows us to include following services in the concept of infrastructure alongwith those which are mentioned above :

e) Education

f)Health

g) Law and order, etc.

Features of Infrastructure

What kind of investment should be called as the investment in infrastructure? We may be able to answer this question after understanding the following features of infrastructure.

1) Infrastructure generally falls in the category of public good

Private goods are those for which a consumer has to pay himself. The amount of consumption on private goods depend upon the purchasing power of the consumer. Public goods, on the other hand, are supplied by the state and they are for mass consumption. These may be available free of cost (Eg:- roadways, public parks, municipal hospitals) or at a very reasonable cost fixed by the state (electricity, water etc.). Investment in infrastructure, thus, falls in the category of public goods. The government makes the provision of infrastructure so that the masses would be able to avail these services at reasonable cost.

2) Investment in infrastructure is high cost

Generally, investments in infrastructure are beyond the capacity of individual private investor as a huge amount of money is required to be invested in providing for these services. Another reason why the private investors may be reluctant to invest in infrastructure is that these investments have a very long gestation period (Gestation period is a time between actual investment and returns from the period investment). Under these conditions, generally it is the government who takes a initiative to

provide these services to the people. This is also necessary from the point of view of social welfare.

3) Infrastructure provides external economies or advantages.

A development of Konkan railway has led to the commercial growth of many small villages in konkan through which the railway passes. Infrastructure development gives additional benefits to all the people staying in that area. These are called external economies or advantages. Of course, these advantages may not be equally distributed to everyone but such investments certainly help in commercialising these areas.

4) Innovations are possible with infrastructure development.

It is argued by many scholars that an improvement in infrastructure provides a stimulus to the innovations and.discoveries. Investment in education or provision of good health facilities make people think, bring out new ideas and apply these ideas for the practical purposes.

5) Social Overhead Capital or infrastructure leads to directly productive capital.

Investment in roadways, railways, power-generation projects, irrigation etc leads to a condusive environment for the investment in industry, agriculture, trade and other commercial activities. These areas are preferred by the private investors where infrastructure is available in adequate quantities. So it is clear that development of infrastructure is a precondition for the development of other productive activities in the economy.

7.2 IPORTANCE AND ROLE OF INFRASTRUCTURE IN ECONOMIC DEVELOPMENT

As discussed earlier, an investment in infrastructure is a pre-requirement for rapid growth of other productive sectors in the economy. Backward nature of agriculture for example, can be improved only by providing irrigational water throughout the year, using electricity and power for running tractors and other mechanical equipments, having market linkages and by preserving grains to market them at a right time. All this requires an investment in the services like irrigation, power plants, transport and communication, etc. Industrial sector and manufacturing also can be modernised only through adequate materials and marketing finished products, etc. Proper, adequate and quick and regular power supply, proper transport and communication linkages for buying raw transportation is required for the development of trade and commerce in the country. Location of industries is highly affected by the availability of all these services. If country wants to have balanced regional growth, provision of infrastructure itself can be a single influential factor in doing so. Thus, all agriculture, industry and trade and services are dependent on the development of infrastructure for their growth and modernisation. Hence infrastructure plays a vital role in developing on economy at rapid rate.

Over the years, two alternative strategies have been followed by the governments to have infrastructure development in the country. One is to provide such facilities and services in accordance with demand and two, to make arrangements for such services well in advance, even before the demand for them arises. In the following brief analysis, we will try to understand these two alternative strategies and their pros and cons.

a) Providing infrastructure as per the demand.

With rapid industrialisation, agricultural development and implementation of economic planning, demand for power, transport of communication, housing, water, etc. increases rapidly. The country faces acute shortages of these services and hence a huge investment is made in infrastructure. This is demand-based expansion of infrastructure. Five year plans accord highest priority to infrastructure and through allocation of funds governments try to improve the infrastructure facilities in the economy. An advantage of such a demand-based expansion is expansion is demand related & so there is no wastage. The problem with this strategy may be a lack of co-ordination among different types of infrastructure facilities. That is, if a country is going to plan its infrastructure investment based on each project separately, then there is a possibility of lack of integration particularly for providing transport facilities. The road ways, railways and water transport should actually be developed in co-ordination. But a project-wise outlook and not an integrated outlook to infrastructure development may defeat the objective of developing an integrated transport system for the country.

b) Providing infrastructure much before the demand

In the late 19th and early 20th centuries, European countries followed the other kind of strategy of infrastructure development in the underdeveloped countries. With a view to develop trade with the UDCS, these European countries first developed ports, constructed railways routes and built roads, particularly around the big cities. This helped them in having quick and easy market linkages. This strategy implies making the provision of infrastructure first and then the demand for them will automatically follow. According to R. Nurkse, the direct productive investment automatically follows the investment in social Overhead capital. Investment in infrastructure is pioneering or basic investment and other investments (say in agriculture, industry, trade) would follow the investment in infrastructure. So according to this group of experts first infrastructure should be provided all over the country and then the balanced regional development will take place. The problem with this strategy crops up when an underdeveloped country has a limited resources. Whether these limited resources should be first invested in providing 101 excessive infrastructure or whether these resources should be invested in the directly productive activities? Infrastructure first and then more productive investment in agriculture, industry and trade may lead to slow growth with better income distribution. Demand based infrastructure may lead to faster growth of economy with unequal

distribution of wealth and income. Each country has to make its own choice according to its priorities.

Let's Recall

- Infrastructure is important factor in the economic development of any country.
- Investment in infrastructure is special type of investment which requires huge financial resources, has a long gestation period and does not assure immediate returns.

There is a constant debate among the thinkers whether a country should invest in infrastructure first or in other directly productive sectors first.

7.3 ROLE OF TECHNOLOGY IN ECONOMIC DEVELOPMENT

At the outset it is important to understand the factors that led to technical progress in the western world. The technical progress was either competition led or demand led.

Once industrial revolution began, a whole lot of inventions and discoveries followed in the industrial production and other fields. Each producer wanted to give something new and superior to his consumer and in this competition, many innovations took place.

Similarly, industrial revolution in the western countries brought many new commodities in the market. The consumers were highly enthusiastic about these new commodities and hence the demand for goods in the market increased very rapidly. This encouraged the producers to further supply new commodities and this led to the innovations and inventions. Thus, there was a continuous upgradation of technology either out of competition or out of increased demand. This had a very positive impact on the economic growth of the western countries.

Technical progress influences economic development of a country in many wages.

1) Greater output is possible - Industrial revolution and the new discoveries thereafter increased the total output of Western countries very rapidly.

2) Shorter working Hours- The workers have to work with machines and - equipment which reduces their physical efforts and the workers do not have to work for long hours.

3) Job opportunities - Technical progress led to the availability of many skilled jobs in the field of engineering, design, maintenance and other innovative fields.

4) Efficient use of raw materials - Increase in productivity due to the use of modern technology and equipment helped in utilising the existing

resources in a better way. Eg. mines could be extracted more efficiently, from same plot of land more output was possible.

5) Scientific Attitude - Introduction and use of modern technology help in changing the traditional attitude of the people. Generally, it is seen that a person using modern technology is a person with scientific attitude and is less superstitious.

6) Example of Japan- in realising the role of technical progress in economic development, it is important to cite an example of Japan. Japan was a traditional agricultural country about a century ago. But the Japanese undertook deliberate efforts to study modern industrial methods used abroad, modern management techniques that helped the western countries to increase productivity and efficiency. They imported modern equipments, studied them and adopted the foreign techniques to suit the local Japanese conditions. This greatly helped Japan to come up as a highly developed and technological superior nation. Technical progress, is the sole important factor for such a rapid economic growth in Japan.

7) Negative Effect of Technical Progress Technology also affects negatively - According to some experts technological progress may lead to displacement of workers. This results in massive unemployment.

The technical progress, however, is inevitable. In the long-run, it is going to be beneficial to the economy of a country by providing better jobs. The short run problems of labour-displacement can be resolved once the demand conditions in the economy are improved. Hence, technical progress is an important factor that can lead to rapid economic growth.

7.4 LABOUR INTENSIVE VERSUS CAPITAL INTENSIVE TECHNOLOGY

A comparison between capital intensive and labour intensive technology has led to a huge discussion on the topic. It has been proven by many studies that if the policy objective of a country is maximisation of economic growth, then capital intensive technology should be adopted. More surplus is created through the use of capital intensive techniques and hence more investible fund can be generate and thus country can progress further. According to A. K. Sen technology that uses more labour adds output lesser in quantity than it adds consumption. That means when more labourers get employment at a given wage rate, the consumption level in the economy goes up. This leaves less surplus for future investment and whatever is produced is mainly consumed. This maximises the statisfaction in the short period but slows down the growth in the long run.

On the other hand, if capital intensive techniques are used, production increases at a faster rate than consumption, a surplus capital for reinvestment is made available in large quantity and this further leads to rapid growth of economy as a whole.

The labour intensive techniques of production are advocated on the ground that labour is abundantly available in the developing countries and hence

cost of labour is low. The economists like kindleberger point out that in spite of more availability of labour as factor of production, the cost of labour is not low. Collective bargaining by the trade unions and high level of inflation in the domestic country put upward pressure on wages. On the one hand, import of foreign modern technology is subsidised and on the other hand wages are much higher than productivity at least in the organised sector. This compels many capitalists to apply capital intensive techniques of production. Management problems, industrial disputes, difficulty of quality maintenance among the labour make it difficult for the capitalist to use more labour even in the developing countries.

Some also argue that efficiency of labour can be improved only when labour is employed along with the capital. But in the developing countries where scarcity of foreign exchange is a persistent problem, use of labour intensive technology puts limit on the imports. Huge amount of foreign exchange is spent on the import of capital equipment. So if the foreign exchange problem is to be tackled, then labour intensive technology can be a better solution.

In brief.

Why should a county to use capital intensive technology?

i) To have faster economic growth.

ii) To improve the level of efficiency of labour.

iii) To modernise production process.

iv) To have more surplus for future investment.

v). The capitalists can have smooth production without labour disputes and management problems.

Why should a country use labour intensive technology?

i) Labour may be available in plenty.

ii) If labour supply is more, the wage rate is generally low.

iii) Labour intensive techniques require less foreign exchange.

iv) To maximise satisfaction in the short run. v). Those techniques have a short gestation period and the volume of output is enjoyed by th firm much earlier as compared to mechanised production.

Why should a country not use capital intensive technology?

(i) Labour abundant country will have a distorted pattern of utilisation of factors of production.

ii) Unemployment of labour resources will be a major problem.

iii) It requires huge foreign exchange particularly for the developing country which imports capital intensive technology.

Why should a country not use labour intensive techniques?

1) It will maximise satisfaction in the short run but will adversely affect the growth rate in the long run.

2) If the trade unions are successful in keeping wage rates high, the labour abundant countries will have labour available at high cost which will lead to high cost structure in industry.

3) Using labour intensive technology may slow down the process of modernisation of industrial production.

4) Low priced labour may not necessarily be efficient labour. This factor reduces the productivity of labours.

7.5 SUMMARY

Since there are a number of alternative combinations of labour and capital available for producing a particular commodity, choice of technique implies the combination chosen by a particular firm, industry or a country in general to produce a particular commodity. The country will have to choose from two major types of techniques of production.

1) Capital Intensive Techniques - which use more units of capital and less units of labour to produce a given commodity.

2) Labour Intensive Techniques - which use more units of labour and less units of capital to produce a given commodity.

Both these types of techniques have their positive and negative sides. Let us now try to understand the arguments for and against each of these types of techniques.

7.6 QUESTIONS

Q1. Explain the role of infrastructure in economic development.

Q2. What is the role of technology in economic development?

Q3. Write a note on the labour intensive versus capital intensive technology.

8

PLANNING, TECHNOLOGY AND ECONOMIC DEVELOPMENT - 2

Unit Structure:

8.0 OBJECTIVES

- To know the concepts of intermediate and appropriate technology.
- To understand the concept of green technology.
- To study meaning and types of economic planning.
- To study the history and role of planning in economic development.

8.1 SCHUMACHER'S CONCEPTS OF INTERMEDIATE AND APPROPRIATE TECHNOLOGY

The term Intermediate Technology first came into general use following the writings of E. F. Schumacher, and particularly after the setting up by him of the Intermediate Technology Development Group in 1965. 'Intermediate Technology' is now part of the literature of development. Intermediate Technology as conceived by Schumacher was in the context of an economist, that is, he saw I.T. as the stage between the subsistence £1 per work-place economy and the developed, several thousand pound per work-place economy. 'Intermediate' unfortunately has connotations of the inferior or the second rate and also implies that it is a stage to something more desirable. For these reasons 'appropriate' may be a more suitable choice and in fact the I.T.D.G. journal has the title 'Appropriate Technology' "Technology' too could be criticised as implying 'engineering machinery' whereas in fact the Appropriate Technologist is engaged with total development which includes social and cul tural factors, and in practice may be concerned with manage ment, accountancy and marketing rather than engineering or technology. 'Socially Appropriate Technology'

is one attempt to meet some of these objections. 'Low-Cost Technology' also appears in the literature. In the developed countries the increas ing concern over the undesirable results of high technology such as pollution and the drain on resources has led to the setting up of 'alternative' societies who adopt 'soft' technologies. The aims of such groups usually include an attempt to minimise resource use and ecological damage. In this book we are concerned primarily with the small-scale applications in developing countries, in this field. 'Appropriate Technology' is now generally used, and understood, and is substantially equivalent to the older 'Intermediate Technology'. Appropriate Technology, or A.T., will be used as the preferred term in the remainder of this book.

Claims of Appropriate Technology

Appropriate Technology is concerned with all aspects of com munity development leading to a total or integrated develop ment and hence to an improved quality of life for the individual members. Since most of the world's poor live in the rural areas, it is very much concerned with agriculture and agriculture-based activities. However, A.T. is not exclusively for the rural areas but is also applicable to the problems of the urban poor. Appropriate Technology aims include

(1) The provision of employment.

(2) The production of goods for local markets.

(3) The substitution of local goods for those previously imported and which are competitive in quality and cost.

(4) The use of local resources of labour, materials and finance.

(5) The provision of community services including health, water, sanitation, housing, roads and educa tion.

It is important that such developments should be compatible with the wishes, culture, and tradition of a particular community and not have a socially disruptive effect.

8.2 GREEN TECHNOLOGY

The green technology refers to a type of technology that is considered environmentally friendly based on its production process or its supply chain. Green tech is an abbreviation of "green technology" which can also refer to clean energy production, the use of alternative fuels, and technologies that are less harmful to the environment than fossil fuels.

Although the market for green technology is relatively young, it has garnered a significant amount of investor interest due to the increasing awareness about the impacts of climate change and the depletion of natural resources.

Key points:

- Green tech or green technology is an umbrella term that describes the use of technology and science to reduce human impacts on the natural environment.
- Green technology encompasses a wide area of scientific research, including energy, atmospheric science, agriculture, material science, and hydrology.
- Many green technologies aim to reduce emissions of carbon dioxide and other greenhouse gases in order to prevent climate change.
- Solar power is one of the most successful green technologies and is now cheaper to deploy than fossil fuels in the many countries.
- Investors can support the green technology by buying stocks, mutual funds, or bonds that support environmentally friendly technology.

8.3 MEANING OF ECONOMIC PLANNING

Economic planning refers to the planning of subsequent economic actions through the development of certain policy measures. These actions are to be followed in the future in consonance with predetermined economic objectives.

As a banking aspirant, the knowledge of this topic is important for both Mains and Interview round. It is pertinent to know the concept of economic planning and its background to make yourself proficient in your work as a banker. Let us now delve deeper and understand what is economic planning, what are the different types of economic planning and a brief introduction to how economic planning in India is carried out!

What is Economic Planning?

Economists have come up with a number of definitions since the time planning entered the domain of economics. However, a lot of them have agreed that the most significant was formulated by H D Dickinson.According to him, economic planning is - **"the making of major economic decisions - what and how much is to be producedand to whom it is to be allocated by the conscious decision a determinate authority, on the basis of a comprehensive survey of the economic system as a whole".**

After it was introduced by the erstwhile Soviet Union, many countries started adopting the method of economic planning at different levels to achieve faster growth.

Let us now discuss the types of economic planning that emerged.

8.4 TYPES OF ECONOMICS PLANNING

1. Planning by Direction and Planning by Inducement

An integral part of the socialist society, planning by direction entails the absolute absence of a laissez-faire system. This type of economic planning has one central authority that plans, directs, and executes according to pre-determined economic priorities.

Planning by Inducement, on the other hand, is more of democratic planning. It entails planning by manipulating the market. Although there is no compulsion, a certain degree of persuasion is practised in planning by inducement. In this type of planning, the enterprises have the freedom of production & consumption. However, these freedoms are controlled & regulated by the state through policies and measures.

2. Financial Planning & Physical Planning:

In financial planning, resource allocation is done in terms of money; and it is essential to remove the maladjustments between supply and demand. Hence, it is instrumental in ensuring a balance between supply & demand, and in controlling inflation to bring about economic stability in the country.

In physical planning, resource allocation is done in terms of men, machinery, and materials. An overall assessment of the available resources is done to ensure that bottleneck situations are eliminated during the execution of the plan. It is viewed as a long-term planning process.

3. Indicative Planning & Imperative Planning:

Indicative planning is based on the principle of decentralization for the operation & execution of plans. In this type of planning, the private sector is neither completely controlled nor directed to meet the targets of the plan. But it is expected to fulfill those targets. Towards that end, the government facilitates the private sector but does not direct them in any way.

In imperative planning, on the other hand, all economic activities are controlled by the state. There is complete control of the government over the factors of production. Even the private sector needs to strictly abide by government policies and decisions, which are rigid.

4. Rolling Plans & Fixed Plans

In a rolling plan, every year three plans are drawn up and acted upon. One of them is an annual plan, which entails the planning for one year;the second is a 5-year plan;while the third is a 15-year plan in which broader goals and objectives are listed, which are in consonance with the previous year planning.

In contrast to the rolling plan, a fixed plan refers to planning for a certain period of time — say 4, 5, or 10 years ahead. It lays down definite goals and objectives that are to be met in the due course of time. Except under an emergency situation, the annual objectives are met (those listed in the fixed plan).

5. Centralized & Decentralized Planning

Under the centralized planning system, planning is made a restrictive prerogative of the central planning authority. This authority is solely responsible for the formulation of the plan, and fixing its objectives, targets, and priorities. There is no economic freedom; and the entire economic planning is under bureaucratic control.

In contrast, decentralized planning refers to execution of the plan from the grassroots. In this type of planning, the central planning authority formulates the plan in consultation with the different administrative units for the central and state schemes. The state planning authority formulates the plan for district and village levels.

6. Economic Planning in India

Economic planning in India is undertaken by the Planning Commission, which was replaced by NITI Aayog on January 1, 2015. NITI (National Institution for Transforming India) Aayog was established with the objective of achieving sustainable development goals through cooperative federalism.

The first attempt to initiate economic planning in India was made by in 1934 by Sir M Visvesvaraya — who was a civil engineer and ex-dewan of the state of Mysore — in his book "The Planned Economy of India". From then to the establishment of NITI Aayog and the replacement of the 5-Year Plan with a 15-year vision document, the history of economic planning in India is rather interesting.

8.5 HISTORY OF ECONOMIC PLANNING IN INDIA:

Since independence till 2017, the Indian economy was premised on the concept of planning that was carried out by the five-year plans. These plans were developed, executed, and monitored by the Planning Commission from 1951 to 2015; and then by NITI Aayog from 2015 to 2017. In 2017, the five-year planning system was replaced by the NITI Aayog's 15-year vision document. However, to have an insight into the economic planning in India, it is pertinent to know the history of economic planning and the objectives of each of the five-year plans. Let us take a brief look at each of them:

Five-Year Plans	Year	Objective	Achievements
First Five-Year Plan	1951-56	Agricultural development & balanced economic development. It was based on the Harrod-Domar Model.	During this time, 18% of national income & 11% of per capita income were increased. Targeted Growth Rate: 2.1% Actual Growth Rate: 3.6%
Second Five-Year Plan	1956-61	Industrial development, transport& communicationdevelopment. It was based on the P C Mahalanobis model.	Establishment of Durgapur, Bhilai, and Rourkela steel plants. The price level was up by 30%. Targeted Growth Rate: 4.5% Actual Growth Rate: 4.1%
Third Five- Year Plan	1961-66	Both agricultural & industrial development and establishment of a self-reliance & self-reliant economy. The third five-year plan was also called Gadgil Yojana.	The first elections (Panchayati Raj) under the Rajasthan Panchayat Samitis and Zilla Parishads Act, 1959 were held in September 1959. Targeted Growth Rate: 5.6% Actual Growth Rate: 2.8% 1962: Indo-China War 1965: Indo-Pak War 1966: Severe drought These three were the major reasons behind the failure of this plan.

Plan Holiday	1966-69	Three annual plans: 1966-67; 1967-68 and 1968-69 were developed. Equal priority was given to agricultural & related activities	The Green Revolution commenced in 1966 with an objective to increase food grain production by using HYV (High Yielding Variety)seeds. The Father of Green Revolution in India: M S Swaminathan
Fourth Five-Year Plan	1969-74	Growth with stability, and progress towards achieving a self-reliant economy	The plan failed due to the 1971 Indo-Pak War, the arrival of refugees from Bangladesh, and poor monsoon. Targeted Growth Rate: 5.7% Achieved Growth Rate:3.3%
Fifth Five-Year Plan	1974-78	Launched by D D Dhar, the objectives were: Reduction of poverty (Garibi Hatao), attainment of self-reliance, and better distribution of income	Minimum Needs Programme (MNP) was started to provide certain basic needs to improve the living conditions of the poor. Targeted Growth Rate:4.4% Achieved Growth Rate:4.8% The plan was terminated in 1978 when the Janata Party came into power (the only 5-Year Plan that was of 4-year duration)

Rolling Plan	1978-80	Every year the plan would be assessed according to the performance of the previous plan; and a new plan laid out accordingly.	
Sixth Five-Year Plan	1980-85	Increase of national income, removal of poverty, decrease in unemployment, population control through family planning, modernization of technology	NABARD was established in 1982 during this five-year plan. Targeted Growth Rate: 5.2% Achieved Growth Rate: 5.4%
Seventh Five- Year Plan	1985-90	Rapid growth in food grain production, increase in employment opportunities, increase in production of all sectors	There was an increase in per capita income by 3.6% per annum. The Jawahar Rozgar Yojana commenced. Targeted Growth Rate: 5% Achieved Growth Rate: 6.01%
Annual Plans	1990-92	Due to political instability, the two annual plans were rolled out	The New Economic Reforms, including the LPG (Liberalisation, Privatisation, Globalisation) reforms were undertaken in 1991.
Eighth Five-Year Plan	1992-97	Development of human resources, rapid economic growth, high growth of agriculture & allied sectors, growth in export and import, improvement in current account deficit	The Prime Minister's Rozgar Yojana was launched in 1993. Targeted Growth Rate: 5.6% Annual Growth Rate: 6.78%
Ninth Five-Year Plan	1997-2002	Theme: Growth with Social Justice & Equity Objective: Agriculture & rural development	The recession of the global economy was the reason for the failure of this plan.

		with productive employment generation, improvement in quality of life, self-reliance, and generation of employment	Targeted Growth Rate: 6.5% Annual Growth Rate: 5.4%
Tenth Five-Year Plan	2002-07	Eradicate poverty & unemployment (inclusive growth) Double the per capita income in the next 10 years	The Kasturba Gandhi Balika Vidyalaya was established to promote education for girls. The Jawahar Lal Nehru National Urban Renewal Mission was initiated to foster urban development. Targeted Growth Rate: 8.1% Annual Growth Rate: 7.76%
Eleventh Five- Year Plan	2007-12	Poverty eradication, Development of health, education, infrastructure & environment of the country. To increase the literacy rate to 85%	The services sector attained an annual average growth rate of 9.7% vis-à-vis the targeted growth rate of 9.9%. Targeted Growth Rate: 8.6% Annual Growth Rate: 7.9%
Twelfth Five-Year Plan	2012-17	Theme: Faster, sustainable & more inclusive growth Objective: Sustainable development & inclusive growth The main focus areas were health, education, skill development, universal healthcare, and optimum utilization of available resources.	Schemes like Atal Pension Yojana, UJALA, DDU Grameen Kaushalya Yojana, Digital India Programme were launched. Targeted Growth Rate: 8% Annual Growth Rate: -

8.6 ROLE OF PLANNING IN ECONOMIC DEVELOPMENT

1. Accelerating Economic Growth:

There were two main features of India's economic policy that emphasized the role of planning and intervention by the State in the development process of the Indian economy in the first three decades of planning. First, to accelerate economic growth economists and planners recognized that raising the rate of saving and investment was essential to accelerate the rate of economic growth.

It was thought that the private sector on its own would not be able to achieve a higher rate of saving and investment required to break the vicious circle of poverty. Therefore, the state had to intervene to raise resources and increase the rate of saving and investment. This made the planning and the expansion of the public sector essential to accelerate economic growth.

Emphasis on Industrialisation, Second, the strategy of development, adopted since the adoption of Second Five Year Plan which was based on Mahalanobis growth model, laid stress on the industrialisation with an emphasis on the development of basic heavy industries and capital goods industries.

This model implied allocating a higher proportion of investible resources to capital goods industries than to consumer goods industries. Private sector which is driven by profit motive could not be expected to allocate sufficient resources to the growth of capital goods industries.

Therefore, the role of planning and the public sector was considered essential for rapid growth of basic heavy industries. Mahalanobis growth model was wrong in neglecting the role of agriculture and importance of wage goods for accelerating growth of output and employment. In fact, shortage of food, a cheap wage good, rather than machines could act as a constraint on the growth process. This became evident by the time of the Third Plan which laid a relatively greater stress on growth of agriculture to achieve self-reliance.

But rapid growth of agriculture itself requires a good deal of state intervention and planning. The land reforms in agriculture, supply of adequate credit to farmers, development of infrastructure such as irrigation, power, roads were necessary where planning and State could play an important role.

2. To Compensate for Market Failures:112

The dominant view in development economics in the fifties and sixties also laid stress on the planning by the State to compensate for 'market failures'. It was argued that while market mechanism was efficient in distributing a given stock of available goods, it was quite inefficient in allocating resources over time for investment.

This was because of myopic nature of private sector which guided the working of markets. It was therefore asserted that the State and planning could play an important role in allocating resources for investment to bring about rapid economic growth.

Besides, failures of market mechanism and free working of private sector to allocate adequate amount of resources for investment in infrastructure such as power, transport, communication created substantial external economies and also where significant economies of scale existed. Therefore, in the development of infrastructure, the State and planning had an important role to play.

3. Regulatory Role of the State:

There is another important aspect of the role of State and planning in the development of the Indian economy which dominated economic thinking in the pre-reform period. Though the private sector was given an important role to play in the framework of mixed economy, to achieve optimal allocation of resources among different industries according to plan priorities, economic activities in the private sector were required to be regulated by the State. Further, to achieve other objectives of planning such as restraining the concentration of economic power in a few big business houses, the private sector was subjected to industrial licensing controls.

To quote C. Rangarajan, the former Governor of the Reserve Bank of India, "while the private sector was given space to operate in keeping with the concept of a mixed economy, in the field of industry particularly the decisions of the private sector were circumscribed by the licensing mechanism. Hence, while foreign trade was subject to control because of the strategy of import substitution, industrial production and investment were subject to control because of the need to direct resources according to plan priorities".

4. Tackling the Problems of Poverty and Unemployment:

The other problem which makes role of planning and state intervention important is the need to tackle the problems of poverty and unemployment. Since the beginning of the seventies the Indian planners realised, especially in the Fifth, Sixth and Seventh Five Year Plans, that even if growth rate of GDP was raised to 5 to 6 per cent per annum, it was not possible to make a significant dent on the problems of mass poverty and unemployment prevailing in the Indian economy.

Some argued that benefits of economic growth did not trickle down to the poor. Others were of the view that even if the poor get benefits from growth by way of more employment opportunities generated by it, mere economic growth was not enough to eradicate poverty and unemployment. Therefore, role of planning and State was necessary to start and implement special poverty and unemployment schemes such as Food for Work Programme and Employment Guarantee Schemes to help the poor and weaker sections of the society.

8.6 SUMMARY

NITI Aayog | An Institution for Current Economic Planning in India:

NITI (National Institution for Transforming India) Aayog is a policy think-tank of the Government of India that replaced the Planning Commission on January 1, 2015. It aims at involving the states in the policy-making process to foster economic growth & development. It strives to indulge in a 'bottom-up' approach to envisage 'maximum governance, minimum government', echoing the spirit of cooperative federalism. The Prime Minister of India is the ex officio Chairman of NITI Aayog.

8.7 QUESTIONS

Q1. Write a note on –

i) Intermediate and Appropriate Technology

ii) Green Technology

iii) History of Economic Planning

iv) Types of Economics Planning

v) Role of Planning in Economic Development

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