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Economics of Development

SEMESTER - I

ECONOMICS

BLOCK 1

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COURSE INTRODUCTION

This is the fourth course of the first semester programme of M.A. in economics offered by this University. This Course will introduce to a few very important concepts in development economics. The Course starts with the basic concepts of development economics, for example: dimensions of development, development paradigms and its different types. Then we shall discuss the concepts of growth and development. Apart from discussing the various theories of development, this course also deliberates on the emerging concepts globalisation, WTO etc. There are a total of fifteen units in this course. This course has been divided into two blocks. The first block accomodates ten units. The remaining five units has been incorporated in block two.

BLOCK INTRODUCTION

This is the first block of the course and comprises ten units. Unit 1 discusses the paradigm of development. After going through this unit, you will be able to acquire some ideas about the various dimensions of development and types of development paradigms. Unit 2 emphasise to ideantify the development gap by analysing the inequality, Human Development indes and poverty. In Unit 3, we shall discuss about the population and human resorce development. Various issues and problems associated with it like food security, education, health and nutrition are discussed in this unit. Unit 4 deals with the classical theories of economic development. In this unit covers the features of classical theory of economic development, Karl Marx's theory of economic development and Schumpeter theory of economic development. Units 5 and Unit 6 shall explain the approaches to development. The approaches like unlimited supply of labour theory, Big posh theory, theory of balanced and unbalanced growth, critical minimum effort thesis, Fei-Ranis model and dependency theory of development will be discussed under these two units. In Unit 7 we shall discuss Labour Market distortion. Here, we shall discuss the Harris Todaro migration mechanism and urban unemployment, the concepts of wage efficiency and fair wage effort hypothesis among others. In Unit 8, we shall discuss a few burning issues like globalisation and inequality, globalisation and employment as well as the WTO and the nation state trade liberalisation among other important concepts. In Unit 9 we shall discuss another burning issue of development, viz., globalisation and unemployment. Here, the issues like tariff reforms, informal sector, International migration of labour and unskilled labour have been discussed in the context of globalisation. Unit 10 will discuss the role of agriculture in economic development. Here we will discuss about the modernization of agriculture and effects of green revolution.

Block 2 discusses the remaining 5 Units of the course, starting with Industry and Development and shall conclude with the discussion on Environment and Development.

While going through a unit, you will notice some along-side boxes, which have been included to help you know some of the difficult, unseen terms. Some "ACTIVITY' (s) have been included to help you apply your own thoughts. Again, we have included some relevant concepts in "LET US KNOW" along with the text. And, at the end of each section, you will get "CHECK YOUR PROGRESS" questions. These have been designed to self-check your progress of study. It will be better if you solve the problems put in these boxes immediately after you go through the sections of the units and then match your answers with "ANSWERS TO CHECK YOUR PROGRESS" given at the end of each unit.

UNIT 1: THE PARADIGM OF DEVELOPMENT

UNIT STRUCTURE

1.1 Learning Objectives

1.2 Introduction

1.3 Emergence of the Development Paradigm

1.4 Capital Accumulation through Planned Industrialization in Traditional Agrarian Economy

1.5 The Role of the Developmental State

1.6 The Role of International Organizations

1.6.1 International Monetary Fund (IMF)

1.6.2 World Bank (WB)

1.6.3 International Labour Orgaization (ILO)

1.7 Alternative Strategies for Industrialization: Import Substitution and Export Promotion

1.8 Let Us Sum Up

1.9 Further Reading

1.10 Answers to Check Your Progress

1.11 Model Questions

1.1 L EARNING OBJECTIVES

After going through this unit, you will be able to

- discuss the traditional and new perspectives on development
- outline the emerging paradigms (Economic, Human & Sustainable) of development
- describe the significance of capital accumulation for development
- explore the role of theState in the development of an Economy
- know the role of international organizations like -International Monetary Fund(IMF), The World Bank(WB) and International Labour Organization (ILO) in economic development
- elaborateon the alternative strategies for economic development i.e. import substitution and export promotion.

1.2 INTRODUCTION

There are two broad perspectives which explain the process of economic development, viz., the traditional perspective and the new welfare perspective. The traditional/conventional perspectivedefines developmentas an economic phenomenon. This phenomenon happens when economy of a nation-state shows constant improvement in its Gross National Product (GNP). If the GNP increases more than 5 to 7 percent then there is strong possibility that the share of agriculture would come down and share of manufacturing and tertiary sector would increase. The second perspective i.enew welfare perspectiveemerged during 1950s.During the 1950s, economist like Jacob Viner links the process of economic growth with declining poverty ratio. Economists like - Charles P. Kindleberger and Bruce Herrick have said that 'The process of economic development includes some material welfare gains especially for those who belong to lower income section of society'. Overall, the process of economic development includes eradication of poverty, illiteracy, diseases, early deaths etc. Economic development changes the composition of input and output that leads to shifting the production pattern from agriculture to industry, increased in employment for masses and participation of masses in decision making of policies that finally leads to increase in welfare of people.

This Unit introduces you to the course Development Economics. In this Unit, we shall briefly discuss the different development paradigms and some of the related issues like the role of the State, the role played by the international institutions as well as certain alternative strategies for industrialization.

1.3 EMERGENCE OF DEVELOPMENT PARADIGM

The theory of development explains that why there are some countries that are less developed and the ways and means to develop these countries. In this context, some theoretical postulates have been put forwarded by development economists. These criteria / postulates are mainly based on the vision and direction of the process of development.

The word 'development paradigm' means a set of modalities or ways that needs to be followed to achieve the path of development. This path depends on a set of activities in the socio-economic system.

What is development?

First, let's us define what is development. In general, the concept comprises two elements i.e. society and economy. Development means some elements of the society oreconomy have shown improvement. Development, being a multi-dimensional concept exhibits changes in the complex socio-economic system. In short, development of socio-economic system is viewed as a holistic exercise and its possible dimensions include: (a) economic development, (b) human development, and (c) sustainable development.

Economic Development: In a conventional sense, development is considered purely as a form of economic development that is primarily associated with economic growth. Economic growth is primarily a result of increase in per capita incomein the economic system. Several economists are in favor of 'increase per capita income' as a major criterion of development. First among these was Joseph Schumpeter (1911). He believes that entire economic system evolves through several equilibria. The key economic agent responsible for emergence of several equilibria is 'innovation'. Ramsey (1928),who set a model that optimizes consumption of future generations with the help of endogenous saving, disutility of work &infinite time that individual has. Solow (1956) presented 'Long Run Growth Model' that depicts when there is an increase in capital the productivity of labour increases and that result in to economic growth. Countries where the process of industrialization has just begunwill enjoy lower labour/capital ratio and will certainly benefit if they increase capital (investment) as compared to the industrialized advanced nations. In case of industrialized countries, the return on investment (Capital) is less. Only the exogenous technology can improve the shift in output in positive direction. Romar (1986) put forwarded an 'Endogenous Growth Model' and raised the questions of the validity of 'Exogenous Model'that proposed the role of investment and human activities would have positive impact on knowledge.He argued that

technology is basically an application of knowledge in process of production and becomes endogenous factor of the economic system.

Human Development: The concept of development is also expressed in terms of 'Human Development Index'. This new criterion and its parameters have changed the traditional idea of development. In human development, the component of knowledge remains only one component that accelerates the process of development. Different human development parameters make this concept multi-dimensional. In this regard, the role of United Nations Development Program (UNDP) is crucial in providing new dimensions to the concept of development. According to UNDP, the development of human beings primarily consists of three parameters, viz., (a) long and healthy life (life expectancy at birth), (b) knowledge (education/ enrolment ratio), and (c) a decent standard of living (per capita income).The entire literature in economics about the conceptual framework of development has started from economic development and currently resting on the comprehensive approach focusing on people at the center of development. Hector Rocha, professor from IAE Business School, University of Austral has given explicit chart of development paradigm.



LET US KNOW

Dudley Seers is of the view that any process of economic development needs to address the issues like - Poverty, Unemployment and Inequality. Whereas, Michel P. Todaro and Stephen Smith are of the view that development is a multi-dimensional process. This process comprises major changes in social structure, popular attitudes, national institutions, eradication of poverty, and inequality through increase in rate of economic growth. In short, development shows major changes in social system that addresses the needs of common people and improves the life conditions (Material & Spiritual).

Table 1.1: Development Paradigms:

Reference	Notion	Definition	Metrics
Allen & Thomas (2000)	Economic Growth	A continued increase in the size of an economy – i.e. a sustained increase in output over a period of time	Variations in Gross Domestic Product (GDP)
U.S. Dept. of Commerce	Economic Development	Economic development is …enhancing the factors of productive capacity – land, labour, capital and technology – of a national, state, or local economy.	GDP and Employment Creation.
Bernstein (1983), cited in Allen & Thomas	Economic Development	Increase of society's productive capabilities, in terms of their technologies, technical culture and capabilities and the capabilities of physical, technical and organizational tools of those involved in the production.	Increased in Labour Productivity.
Bruntland Repot, 1987	Sustainable Development	Satisfying the needs of present generations, without compromising the possibilities of future generations to meet their own needs.	Environment, Society & Economy
UNDP (1992)	Human Development	The purpose of development is to create an environment where all individuals can expand their capabilities and opportunities can be enhanced for present and future generations.	Human Development Index (HDI). This index includes the components like – life expectancy at birth, education & per capita income.
Amartya Sen (1990, 1997, 1999)	Human Development	The expansion of human freedom to live the kind of lives that people have reason to value. This freedom is achieved by an expansion of people's capabilities.	Literacy, health, farming expansion, industrial development, people's political participation & real per capita income.
Rocha (2006), based on North Ostrom	Socio-institutional Development	Enhancement of the socio – institutional environment, organization and capabilities.	Proxy indicators, such as organizational transparency & sub indexes, like World Economic Forum's Institution Index.
Monetary Consensus (UN, 2002)	Development Agenda	Our aim is to eradicate poverty, achieve sustained economic growth and promote sustainable development as we advance to fully inclusive and equitable global economic system.	Indicators used for measuring the Millennium Development Goals.

Source: Author's Own Presentation

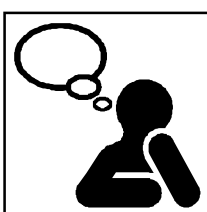
Table 1.1 isself explanatory and highlights the historical growth of the conceptual framework called 'development'. So far, we as a human being have reached the uniform understanding of the concept of 'development' that is exactly reflected in the United Nations Millennium Development Goals (MDG).

The United Nations Millennium Summit (2000) decided to meet the eight development goals for the betterment of entire humanity by the year 2015. These eight developmental goals are actually measuring 18 targets of human developments. All members (191) members of the UN and more than20 international organizations have agreed to fulfill these objectives in the given time period. United Nations is of the view that fulfillment of these objectives would certainly increased the standard of living across the globe. India is signatory of this agreement and has obligation to fulfill these Millennium Development Goals in the stipulated time period. In order to fulfill these developmental goals organizations like - G8, World Bank (WB) and International Monetary Fund (IMF) have provided generous funds especially for the heavily indebted poor countries. Hector Rocha has details description of these millennium development goals.

Table1.2: Millennium Development Goals

Sr. No.	Goals No.	Description
1.	Eradicate of extreme poverty & hunger	1. Halve the proportion of people wholive in extreme poverty.2. Halve the share of people who suffer hunger
2.	Achieve universal primary education	Ensure complete primary schooling for all boys and girls everywhere
3.	Promote gender equality and empower women	Eliminate gender disparity in primary education
4.	Reduce child mortality	Reduce by two third the under-five mortality rate
5.	Improve mental health	Reduce by three – quarters of maternal mortality ratio
6.	Combat HIV/AIDS, malaria, and other diseases	1. Halt and reverse HIV/AIDS spread 2. Halt and reverse tuberculosis spread.
7.	Ensure environmental sustainability	1. Reduce bio – diversity loss 2. Improve living conditions for slum dwellers
8.	Develop a global partnership for development	Make available benefits of technology, Internet users per 100 populations

Source: UN Millennium Development Goals



ACTIVITY 1.1

Write an essay on the UN Sustainable Development Goals.

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CHECK YOUR PROGRESS

Q 1: Define the term development. (Answer in about 50 words)

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Q 2: Why were the MDGs adopted? (Answer in about 20 words)

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1.4 CAPITAL ACCUMULATION THROUGH PLANNED INDUSTRIALIZATION IN TRADITIONAL AGRARIAN ECONOMY

The phenomenon of capital accumulation takes place when an asset increases as a result of increase in investment or profit. Most of the time an individual or a company accumulates capital through investment. Increase in investment results in enhancement of profit that enlarges the scope of capital base.

There are several ways that an individual or a company accumulates capital. This includes investment purchases and investment savings. A return from the investment also leads to accumulation of capital. Capital base is often widened because of regular investment. Therefore, we can say that capital accumulation is a productive process. Capital accumulation primarily involves three aspects, viz., (a) Investment in fixed capital (Example - factories, machines etc), (b) Portfolio investment - purchase of bonds, shares etc., and (c) Investments in assets like - housing.

Capital accumulation in planned Industrialization of an agrarian economy: Developing countries heavily depend on agricultural economy in terms of the share of agriculture in GDP and employment opportunities

for both men and women. Last five decades of Indian economy is not an exception to this logic.

Now let's understand the rules of capital accumulation in the neo-classical economics. Professor Joan Robinson in her book 'The Accumulation of Capital' has given rules for capital accumulation. This model is based on following assumptions: -

- There exists laissez-faire economy
- There are two factors of production i.e. capital and labour.
- The fixed proportion of capital & labour gives us desired level of production.
- Technological progress is neutral.
- There is no scarcity of labour.
- There exist only two classes i.e. working class and entrepreneur's class and the national income is distributed among them.
- Working class do not saveand spend their entire income on consumption.
- On the contrary, entrepreneur class does not consume and invest entire income from profit for capital formation. In short, if there is no profit, entrepreneur class would not accumulate, if they do accumulate, they will have no profit. Therefore, there are no changes in the price level.

1.5 THE ROLE OF THE DEVELOPMENTAL STATE

The characteristics of the economic system are determined by two organizations i.e. Market and State. While explaining the difference between organization and institution, Douglass North said that institutions are basically a 'rule in society' where as 'organization' is the functional body that acts on specific purpose. In practice, both institution and organization are inseparable. According to this definition, an institution consists of set of rules for governance. For the implementation of these rules a functional body has several agencies like - bureaucracy. Similarly, there is another institution called 'Market' that includes rules that controls voluntary transactions based on price mechanism in the market. In this context, an

organization is a functional body organized by a set of rules. In this way, both Market and State are primarily organizations.

Now, let's understand the role of both the organizations & their functioning in detail.

Market: Market is a kind of an organization where production and consumption of goods and services take place voluntary. In India, the best example of market is a 'Bazaar' of vegetable in local place, where producer and consumers comes together and have direct transactions with each other. In this market, transactions are voluntary and based on free will of consumer and producer. Similar transactions may occur without the direct interactions between producers and consumers over telephone/net in a virtual market. A non-market transaction happens against the will of consumer and producer.

State:State is an organization that monopolizes the legitimate power. State applies its power to coordinates the activities of people in accordance with the rules & regulations. The rules of state involve taxation, military draft etc where individual opinion hardly matters. State also takes the responsibility of supplying public goods like - national defense, courts, police and public roads which market is unable to provide.

It needs to be mentioned that market organization operate on the fundamental principles like - right to property and efficiency in the market system. Property rights are ensured by the set of laws made by state and monitored by police and courts. It's the nature of the economy that decides the functions of market and state. No matter which form of economy a nation state propagates, the role of both state and market remains significant.

The classical economist like Adam Smith (Father of Economics) and neo-classical economists had advocated a market system where there is free competition thatwillensure the optimum allocation of resources. Adam Smith had said that a free market system would promote economic welfare in the society. Therefore, there is a need to remove trade restrictions in order to maximize the wealth of nation through efficient allocation of resources. Neo-classical economists believed that demand and supply in a free market economy would allocate the resources efficiently to maximize

the welfare of society.

On the basis of these theoretical postulates, if we assume that market is able to allocate the socially desirable allocation of resources in the economy, why we need a government / State to intervene? To answer this question, we must admit that we need a government to correct the actions of market because there is a phenomenon called 'Market Failure'.



ACTIVITY 1.2

Write an essay on the concept 'market failure'.

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Role of a Developmental State:The state needs to be active in guiding economic development to all stakeholders in the economy and ensure optimum use of resources to meet the needs of its citizens. State as a responsible agency strikes balance between socio-economic developments of the society. In short, the development state uses its resource to reduce poverty and expands economic opportunities for all. There is no doubt that state plays significant role in shaping the structure of an economy. State has policy instruments like - fiscal & monetary policy, industrial and trade policies for redistribution of income and assets in the economy. A development state actively encourages economic development through constructing strong public services, investment friendly environment and encouragement to small and medium enterprises, effectively using the state owned enterprises to meet the most urgent needs of population. The development state keeps the economy in a competitive mode to draw maximum benefits from the global business environment.

The role of the state depends on what kind of economic system state has adopted. If people have decided to have market or capitalist form of economy that requires to fulfill the requirements of people, the role of state in this economy would be minimal. On the contrary, if people decided to have a controlled / Marxist / Socialist / Welfare

economy, the role of state in these kinds of economies would be greater to ensure the needs of all its citizens. It means state intervention in the economy depends on the form of economic system people have accepted. In order to meet the aims, development state adopts following strategies.

- First defines the common national agenda.
- Motivates the people to think about this agenda and encourage them to be a part of implementation of this agenda.
- Direct the precious resources towards fulfilling this agenda.
- A development state strikes fine balance between public and private sectors in the economy.
- A development state brings all stake holders i.e. working class, civil society, enterprises and initiates partnership among them for the fulfillment of common agenda.
- A development state plans to have a time-bound measurable mechanism (Monitoring) that would map the success and failure of common agenda.
- A development state ensures economic growth / development in terms of safe drinking water, sanitation, electricity, efficient transportation facilities that are most urgent requirements of the masses.
- It must be noted that the success of a development state depends on organizations, especially social organizations. A development state must have good coordination between trade unions and business firms. Besides, the coordination among religious organizations, women's and youth organization, sport and cultural organizations are the key elements of development state. These organizations are also known as social partners of development states.



CHECK YOUR PROGRESS

Q 1: What monopoly does a State have? (Answer in about 20 words)

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Q 2: Define the term market. (Answer in about 40 words)

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1.6 THE ROLE OF INTERNATIONAL ORGANIZATIONS

Economist Deepak Nayyar while defining globalization said that 'It can be defined, simply, as the expansion of economic activities across political boundaries of nation state. More importantly, perhaps, it refers to a process of deepening economic integration, increasing economic openness and growing economic interdependence between countries in the world economy. This process occurs not only with a phenomenal spread and volume of cross border economic transitions, butalso with an organization of economic activities which straddle national boundaries'.

In order to facilitate the process of globalization, the role of international organization is significant. Though most of these organizations were founded much before the process of globalization, but in the new environment these organization have played crucial role in facilitating the process of globalization. These organizations include, the IMF (International Monetary Fund), the WB (World Bank), ILO (International Labour Organization) and other organizations related to United Nations. Now let's understand the role and functions of these three organizations.

1.6.1 International Monetary Fund (IMF)

The IMF was established according to the Bretton Woods

agreement. The aim was to maintaining exchange rate mechanism that facilitates free international trade. In this regard, IMF provided an opportunity to the member countries to correct the imbalance in the balance of payment without disturbing the national and international prosperity that was gained through free international trade. Later, the IMF changed its major operations from merely regulating currencies to managing the balance of payment problems.

At present there are 183 countries have accepted the membership of IMF and have deposited their contribution to the IMF. The contribution of individual country is depends on the size of the economy. The biggest the economy, the largest would the size of the contribution and this is called as 'Quota'. The quota determines the share of vote, therefore, larger economy would have more share in voting. The collected funds are utilized to lend the member countries that are in difficulties like - balance of payment crisis or in a shortfall of foreign exchange reserves. IMF is like a last resort that provides assistance to the member countries that are facing the problems of crisis in Balance of payment.

Now the question is how the balance of payment crisis arises? Is it because of normal trading or because of bad economic policies? The evidences shows that normal trade polices results in to small amount of balance of payment (BoP) crisis where as the bad economic policies causes the damage to BoP crisis. Therefore, there is need to correct the balance of payment that arises due to bad economic policies. If a country wants to draw more than 25 per cent of its quota it shows that this balance of payment (BoP) crisis has arises due to bad economic policies. In this condition, IMF calls for changes in policies of nation that encourages taking an assistance from external sources like an - IMF. For this purpose, IMF has imposed several conditionalties. The conditionalities enable a member country to draw funds from IMF to correct the disequilibrium in balance of payment (BoP).

Why IMF does this?The IMF aims to follow these measures because to promote economic stability among the member countries. If economies are not stable, they would plunge in to financial crisis, disturbance in economic activities, high inflation and greater volatility in foreign exchange in financial markets. Instability in the economy is dangerous and can lead to uncertain economic environment and that needs to be addressed. Similarly, high inflation, excessive volatility in foreign and financial markets is dangerous to the economy. The unstable environment in the economy discourages investment, hampers overall economic growth and negatively affects the standard of living of the people.

On the other hand, a dynamic market economy may affect volatility in some degree. But it will certainly minimize the instability in the economy without compromising the size, scope and ability of the economy. These changes in the economy would be without affecting the current standard of living of the people. This is possible because of rising productivity, employment and sustainable economic growth.

1.6.2 World Bank (WB)

The main objective of the World Bank (WB) is to promote long-term economic development and poverty eradication. For this purpose, WB provides financial and technical help to the member countries. The WB recommends a specific project that needs to be implemented to achieve the stated goals of the World Bank. These projects involve building of schools and health centers, providing safe drinking water and electricity, fighting diseases and protection of environment.

The organizational structure of the World Bank consists of over 10,000 employees in all five institutions. The World Bank is also completed 12,000 development projects so far. The World Bank has also decided to reduce the poverty in the world and bring it to

only 3 per cent by the year 2030.

The World Bank was established in year 1944 and its headquartered is in Washington, D.C. The World Bank is having more than 10,000 employees and having its offices in more than 120 countries in the world.

Development Role of the World Bank: Post war reconstruction of Europe was the main objective but gradually the scope and area of operation has expanded drastically in last 70 years and reached to the most of the developing countries. At present, more than 2,600 projects of World Bank are running all over the world. But the supporter of the World Bank highlighted the role of bank in global economic development and as an arbiter of best practices. In order to removed poverty, the World Bank has shifted its focused from middle - income countries on growth related programs and trade liberalization for alleviation of global poverty. India and China are the countries where a largest poor person exists followed by African countries. The other priority of World Bank includes, reconstruction of post - conflict nations, issues related to public health and concern for environmental issues in the world.

Today, the role of World Bank is all over the globe and its repository of best practices, financial expertise and leadership in global public goods is well recognized. Therefore, World Bank is like catalyst agency to promote the economic development among the member countries. For example, China has used the World Bank assistance to utilize in small projects with the objectives of learning best practices.

As we know that the main function of World Bank is to provide long -term financial assistance to less developing countries. The area where World Bank provides loan includes - education, energy, trade and urban development. The World Bank also facilitates regular interactions among the countries who are willing to donate financial assistance and those who need it. The World Bank also conducting research on several socio-economic issues and provides

technical advice to the member countries. The World Bank is keen in improving the infrastructure in less developing countries through transparent services, tax reduction, free trade and socially sustainable development.

Looking at way forward, the World Bank has decided to meet the policy goals 2030 and that includes:

- Reduction of poverty especially for the population who lives in less than two dollars ($1:90) a day. This population needs to reduce up to 3 per cent of total poverty.
- Promote shared prosperity by increasing the income growth of bottom 40 per cent of each and every country in the world.

The focus of World Bank towards less developed countries is worth knowing. For example, World Bank provides low - interest loan, zero to low - income interest credit and grants to developing countries. The World Bank invests in wide areas of economy especially in the developing counties. These areas mainly consist of education, health, public administration, infrastructure, financial and private sector development, agriculture and environmental and natural resource management. Besides, World Bank also helps for capacity building in developing countries. World Bank believes in innovative knowledge sharing and global expertise to help to generate cutting -edges knowledge with the member countries.

1.6.3 International Labour Organization (ILO)

International Labour Organization (ILO) was established in year 1919 as a part of the Treaty of Versailles. First World War was put to an end by this agreement. International Labour Organization (ILO) headquarter is in Geneva, Switzerland. The preliminary objective of ILO at the initial period was to promote social justice and human rights.

In order to protect the interest of labour class, the ILO framed a set of international labour standards and conventions. The member

countries need to ratify these conventions & ensure the implementation of these conventions in their economy. The only weak link in this regards is that these conventions are not binding on member countries. Many member countries believe that ILO conventions are the basic standards to protect the interest of labour class and amended their national laws at par with the ILO conventions.

ILO (History): The ILO was created in year 1919 with the objective of social justice and improved standard for working class. Today, ILO has been recognized as one of the significant and specialized agency of United Nations. The ILO initially started with 45 countries in year 1919 and has grown to 187 members today. The ILO ensures that equal weight is given to both workers and employers while formulating the policies. The office of ILO is located in Geneva, Switzerland and this is regarded is the operational headquarter of ILO where more than 3000 employees are working from 100 nationalities. In order to decentralize it functioning, various regional branches are established in more than 40 countries.

Developmental Role of ILO: In any economy, the role of labour market is significant in determining socio-economic progress of the economy. The socio-economic status of the economy is depends on the status of employment created in the economy. If economy boosts only informal sector, the socio-economic status of economy and standard of living would be low. If economy creates more formal jobs, the standard of living of the citizens would be higher and therefore, the status of economy. But the matter of fact is that most of the economies in developing counties are able to generate employment in informal sector and that is the cause of concern. In order to address this issue, ILO has constructed the decent labour framework that is expected to be implemented by all member countries in order to protect the dignity of labour as well as to enhance the standard of living. If the decent labour framework is adopted as it is by the developing countries, the labour market

outcome would not only be different but also sustainable. ILO, from its inception is constantly raising the issues related to all forms of labour and issued conventions that would guide the developing countries for domestic labour legislation. The ultimate objective of ILO is to protect the dignity of labour and ensure social justice.

ILO believes that the most urgent need is creation of formal jobs. But unfortunately, the informal economy absorbs more than half of the global population working in small and medium enterprise. This results in to poor working conditions and absence of rights, low quality of employment and absence of social protection. This kind of working condition obviously turns in to low productivity. Low productive units are not sustainable in the competitive economic environment. Therefore, for sustainable economic growth, the decent labour framework of ILO is significant.

In short, ILO firmly believes in 'Right to Work' in order to fight all kinds of discrimination that exist across the world. To address these issues, ILO dialogue, negotiations on policy and programs is basically designed for the inclusive a sustainable development of the economy.

1.7 ALTERNATIVE STRATEGIES FOR INDUSTRIALIZATION: IMPORT SUBSTITUTION AND EXPORT PROMOTION

The status of economy whether it is developed or developing by and large is depends on the industrialization patters the country has adopted in the due course of time. There are two ways of Industrialization i.e. import substitution and export promotion strategies. A strategy means general approach, perspective or model that has greater scope than a policy. A strategy is implemented through a set of policies. Import substitution and export promotion strategy is also known as inward-looking and outward - looking policies. The economic literature shows that there are countries they adopted import substitution patterns up to 1960s. But after that, they

switched towards export promotion.

According to Edward (1993) in his paper title 'Openness, Trade Liberalization, and Growth in Developing Countries', import substitution means producing substitute goods / local goods for imported goods. Usually, an import substitution starts with the production of goods that do not required advanced technology because less developing economy are not well equipped with these technology. On the contrary, export promotion means to produce goods for export purpose. During the decade of 1950s & 1960s, less developing countries (LDCs) started witnessing decline in their primary markets and started experiencing balance of payment problem. This phenomenon has encouraged them to opt for a suitable strategy for industrialization.

Policies of Import substitution & Export promotion:The concept of import substitution aims to reduce the consumption of imported goods by imposing trade barriers like - tariff, quota and other forms trade restrictions. Similarly, these countries decided to produce similar goods in the domestic economy that will encourage domestic production. On the contrary, the export promotion policies are neutral towards trade. In export promotion, government offers several subsidies / concessions (Tax and Non-tax benefits) to produce goods that are exportable and subsequently will earn foreign exchange.

In this regard, an argument put forwarded by German economist Friedrich List (1841) needs consideration. His argument was all about 'Infant Industry Argument'. It means in the initial stage of economic development small producers in the domestic economy need protection from the government because of their inability to produce goods at competitive prices. This infant state is all about learning - by doing. But once they cross this learning phase, they would be able to sell their commodities in the international market. Therefore, the import substitution and export promotion would certainly beneficial for these infant industries.

Strategies for Import Substitution: The countries that opted for import substitution as a strategy for industrialization must opt for restricted foreign trade by imposing high trade barriers in the form of tariff and quotas. This

strategy also provided protection to domestic industries and encouraged them to flourish and enjoy comparative advantage in market. This strategy of industrialization is known as Import Substitution (IS). This strategy believes that economic growth would enhance economic activities from traditional agriculture to manufacturing sector. By and large, the import substitution policy aims to protect the infant industries.

Strategies for Export Promotion: Some developing countries opts Export Promotion (EP) as a way forward to industrialization of the economy. This strategy involves identifying sectors of the economy where there exists comparative advantage. In terms of factor endowment, each country has certain advantages. For example, India and China are having abundant supply of cheap labour force. If they want to utilize this labour for industrialization, they would encourage labour intensive industries to flourish and capitalize the comparative advantage and export commodities in the international market. In this strategy government would have minimum interference on factor market. Similarly, maximum facilities in terms of infrastructure, tax concession, financial assistance and communication etc, are provided to boost the export sector in the economy.



CHECK YOUR PROGRESS

Q 1: Mention the strategies followed to implement import substitution. (Answer in about 60 words)

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Q 2: Mention the basic objectives of ILO at its establishment. (Answer in about 20 words)

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1.8 LET US SUM UP

- There are two broad perspectives which explain the process of economic development, viz., the traditional perspective and the new welfare perspective.
- The theory of development explains that why there are some countries that are less developed and the ways and means to develop these countries. In this context, some theoretical postulates have been put forwarded by development economist.
- The word 'development paradigm' means a set of modalities or way that needs to be followed to achieve the path of development. This path depends on a set of activities in the socio-economic system.
- Development means some elements of the society or economy have shown improvement. Development, being a multi-dimensional concept exhibits changes in the complex socio-economic system. In short, development of socio-economic system is viewed as a holistic exercise and its possible dimensions include: (a) economic development, (b) human development, and (c) sustainable development.
- In a conventional sense, development is considered purely as a form of economic development that primarily associated with economic growth.
- According to UNDP, the development of human beings primarily consists of three parameters, viz., (a) long and healthy life, (b) knowledge, and (c) a decent standard of living (life expectancy at birth)
- The United Nations Millennium Summit (2000) decided to meet the eight development goals for the betterment of entire humanity by the year 2015. These eight developmental goals are actually measuring 18 targets of human developments.
- The phenomenon of capital accumulation take place when an assets increases as a result of increase in investment or profit.
- The characteristics of the economic system are determined by two organizations i.e. Market and State.
- State is an organization that monopolizes the legitimate coercive power.

State applies its coercive power to coordinates the activities of people in accordance with the rules & regulations. The rules of state involve taxation, military draft where individual opinion hardly matters.

- In short the development state uses its resource to reduce poverty and expands economic opportunities for all.
- The status of economy whether it is developed or developing by and large is depending on the industrialization patters the country has adopted in the due course of time. There are two ways of Industrialization i.e. import substitution and export promotion strategies.



1.9 FURTHER READING

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2) Ray, D. (2008). *Development Economics.* New Delhi: Oxford University Press.
3) Raj, F., Mukheree, M., Ghose, A. & Nag, R.N. (2011). *Contemporary Development Economics.* Kolkata: New Central Book Agency (P) Ltd.
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7) Human Development Report 2014, UNDP



1.10 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Development means some elements of the society or economy have shown improvement. Development, being a multi-dimensional concept exhibits changes in the complex socio-economic system. In short, development of socio-economic system is viewed as a holistic exercise and its possible dimensions include: (a) economic development, (b) human development, and (c) sustainable development.

Ans to Q No 2: United Nations is of the view that fulfillment of these objectives would certainly increased the standard of living across the globe.

Ans to Q No 3: TheState enjoys the monopoly power to legislate. State applies its power to coordinates the activities of people in accordance with the rules & regulations.

Ans to Q No 4: Market is a kind of an organization where production and consumption of goods and services take place voluntary. In a market, transactions are voluntary and based on free will of consumer and producer.

Ans to Q No 5: The concept of import substitution aims to reduce the consumption of imported goods by imposing trade barriers like - tariff, quota and other forms trade restrictions. Similarly, these countries decided to produce similar goods in the domestic economy that will encourage domestic production.

Ans to Q No 6: The basic objectives of ILO at is establishment were to promote social justice and human rights.



1.11 MODEL QUESTIONS

Long Questions (Answer each question in around 300-500 words)

Q 1: Discuss the emergence of the different development paradigms.

Q 2: How is capital accumulation generated through planned industrialization in traditional agrarian economy? Describe briefly.

Q 3: Discuss the role of the developmental state in the process of development.

Q 4: Critically evaluate the role played by various international organizations in the economic development process of the developing countries.

Q 5: Describe how can import substitution & export promotionact as alternatives strategies for industrialization.

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UNIT 2: MEASUREMENT OF DEVELOPMENT

UNIT STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Measuring Development and Development Gap

2.4 Inequality of Income

- 2.4.1 Inequality and Economic Growth
- 2.4.2 Measuring Inequality
- 2.4.3 Other Measures of Inequality

2.5 Human Development Index

2.6 Poverty

- 2.6.1 Absolute and Relative Poverty
- 2.6.2 Poverty Line

2.7 Let Us Sum Up

2.8 Further Reading

2.9 Answers to Check Your Progress

2.10 Model Questions

2.1 LEARNING OBJECTIVES

After going through this Unit, you will be able to:

- discuss the various measures of economic development
- describe inequality and economic development
- discuss human development and related social development and deprivation index which would reflect economic development of a country or a region
- explain the concept of poverty and its depth in various economies.

2.2 INTRODUCTION

From our discussion in the previous unit, we have learnt that economic growth merely refers to the growth of output where as economic development refers to all the social, political and institutional changes that accompany growth in output. The main goal of economic development is to

expand the freedom and opportunities of individuals. Development is a multidimensional concept and there are number of tools to measure to what extent a country or region or an economy has succeeded to achieve the developmental goals. Had they been completely quantitative, measuring these achievements would have been easier. But there are some value and qualitative aspects which are difficult to measure. However, economists and researchers have been keeping trying to measure the growth and development from different angles from time to time using different methods. In this chapter we would try to focus on some of such measures and some other related aspects to measuring development.

2.3 MEASURING DEVELOPMENT AND DEVELOPMENT GAP

The meaning of economic development has changed with time. During 1960s, most of the economists gave emphasis on income to measure economic development. If national incomes of a country along with per capital income increase then economic development is thought to be secured. Today we give more importance to three major problems of the economy - (i) absolute poverty (ii) inequality in income distribution and (iii) rising unemployment problem. Thus now economic development requires an increase in the size and change in the composition of production and a new set of public and private institutions to accomplish the task. Therefore for rapid economic development, resources are transformed from less productive uses to more productive uses.

These ideas of development have become important because most challenging feature of development of the world in the last two decades has been the widening of the gap between the rich and the poor. This is known as the income gap. Due to the existence of income gap among the various nations of the world the rich countries are getting richer and the poor are becoming poorer. Since standard of living in all the countries tends to rise absolutely over time, it refers to the comparative position of poor countries. There are various factors which are responsible for this. Some of them are- technological backwardness, quality of labour force, etc.

2.4 INEQUALITY OF INCOME

By inequality we mean a relationship of domination by an individual, group, or class over another. It exists in the society because people in an economy differ from each other in many ways. The most important and relevant aspect is income. There are various causes which are responsible for arising inequalities in income distribution in a society such as the system of inheritance, the system of private property, differences in ability, exploitation, etc.

Professor Joe Feagin has listed eleven reasons that lead inequalities of income and poverty in a society or a country. These are-

- Lack of thrift and proper money management by poor people.
- Lack of ability and talent among the poor people.
- Sickness and physical handicaps.
- Low wages in some business and industries.
- Failure of society to provide good schools for many especially those belonging to poor families.
- Prejudices and discrimination amongst certain classes.
- Loose morals and drunkenness.
- Lack of efforts by the poor themselves.
- Failure of private (and Government) industries to provide enough jobs
- Being taken advantage of by rich people.
- Just bad luck.

2.4.1 Inequality and Economic Growth

From the point of view of various statistical data, the relationship between growth and inequality is not conclusive. The correlation between high growth rate and more inequality is not necessarily true and vice versa. When we study countries individually, then we find a number of such examples. For example, Sri Lanka is a country which has relatively equal income distribution, but is a lower income country. Similarly Latin American countries are known for high inequality with low income.

Is inequality harmful for growth?

Although some believe that inequality promotes growth by giving more to the rich who then save more and add to capital accumulation, inequality in a modern welfare society is unacceptable. There are various reasons why inequality is harmful for growth.

- It leads to policies that don't protect property rights and full private appropriation of returns from investment.
- Inequality of income distribution is reduced through distortionary taxes and distortionary government spending and hence growth.
- It also may lead to socio-political instability. As a result investment declines and hence growth.
- Due to the presence of imperfect capital market, investment on human capital remains low; this in turn reduces economic growth.
- Again human capital investment falls due to the increase in the family size caused by inequality. As a result growth rate reduce.

2.4.2 Measuring Inequality

Following criteria are usually used to measure inequality in income distribution:

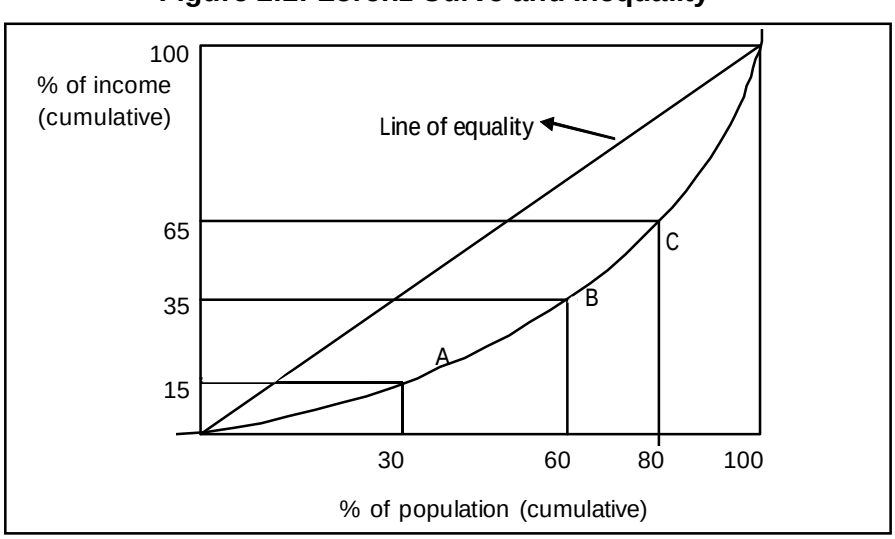
- **Anonymity Principle:** According to this principle, individuals are arranged from highest to lowest depending upon the earning income.

  $Y_1 < Y_2 < \ldots\ldots\ldots\ldots\ldots\ldots < Y_n$, where Y = income and n = nth person.
- **Population principle:** To measure income distribution, the size of the population is not important, but the proportion of the population is actually relevant.
- **Relative income principle:** If one income distribution is obtained from another by measuring everybody's income increase or decrease by same rate then inequality will be the same across the two distributions.

- **The Dalton principle:** If one distribution of income can be formed from another through regressive transfers then the former distribution has to be more unequal than the later. If Y_1, y_2, ...Y_n be an income distribution and suppose $Y_j > Y_i$, then the transfer of income from 'not richer' to the 'not poorer' individual will be called a regressive transfer.
- **The Lorenz curve:** The most popular and common method for measuring inequality of income distribution is Lorenz curve. By using this curve one can get an intuitive idea of how much inequality exists in a specific society.

In Figure 2.1, Lorenz Curve is drawn on the basis of actual data on income distribution. X-axis represents the cumulative % of people in increasing order of income and y-axis measures the % of national income accounting to a certain % of the population (cumulative). In figure, point A shows that 30% of the people get only 15% of the national income. Similarly, point C corresponds to 80% of the population and 65% of income. This means the richest 20% have 35% of the national income. The 45 degree line shows the line of equal distribution where each individual has the same income. Higher the gap between Lorenz curve and line of equal distribution, higher will be the inequality exists in the economy.

Figure 2.1: Lorenz Curve and Inequality



2.4.3 Other Measures of Inequality

In recent time, a number of other measures of inequality are used.

- **The Range:** It is given by

  $R = \frac{1}{\mu}(Y_m - Y_1)$

  Where, R = range, μ = mean, Y_m = income of richest and Y_1 = income of the poorest

  It indicates the difference in the incomes of the richest and the poorest, divided by the mean. Therefore it is independent of units in which the income is measured.

- **The Kuznets Ratio:** It refers to the shares of income of the richest y % to the poorest z %, where y and z shows the numbers such as 10, 20 or 30.

- **Mean absolute deviation:** This method shows that inequality is proportional to distance from the mean value. It is defined as,

  $M = \frac{1}{\mu^n} \sum_{i=1}^{n} n_j (Y_i - \mu)$

  Where, M = mean absolute deviation

  μ = mean

  Y = Income

  n = individual

  It doesn't satisfy Dalton principle

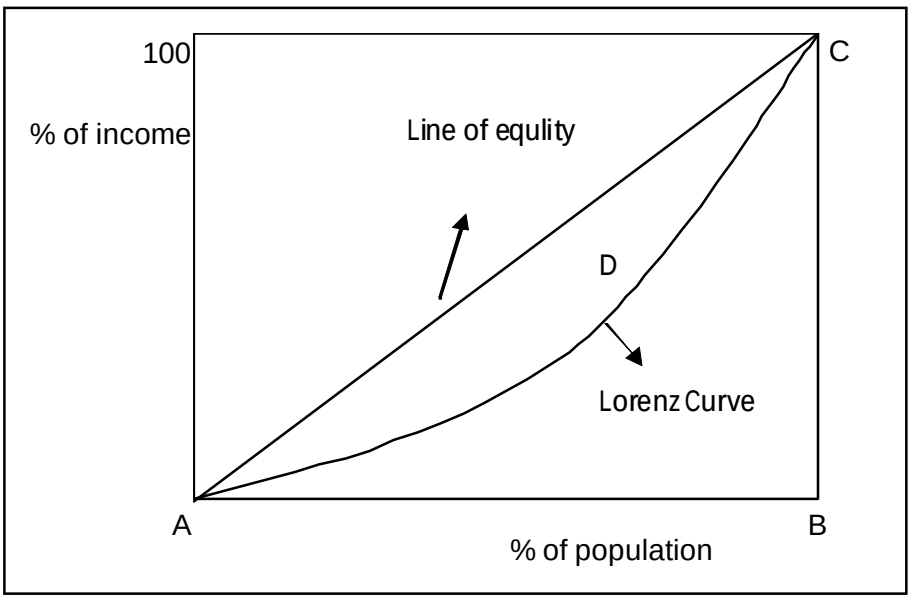
  The coefficient of correlation: It is nothing but standard deviation divided by mean, and defined as -

  $$C = \frac{1}{\mu} \sqrt{\sum_{i=1}^{n} \frac{n_j}{n} (y_i - \mu)^2}$$

  It satisfies Dalton principle

- **The Gini Coefficient:** The most acceptable definition of measuring inequality of income distribution is Gini coefficient. It is obtained by the ratio of the area between diagonal line and Lorenz curve to the total area of half square in which the curve lies. The coefficient has been named after C. Gini who first formulated it in 1912. How Gini coefficient is calculated with Lorenz curve is shown in Figure 2.2.

Figure 2.2: Lorenz Curve and Gini Coefficient



In Figure 2.2, Gini coefficient would be the ratio of shaded area D to the total area of the triangle ABC. The ratio is known as the "Gini Concentration Ratio". Thus,

$$\text{Gini Coefficient} = \frac{\text{The Shaded area D}}{\text{The triangle ABC}}$$

Gini coefficient can vary between 0 and 1. In case of perfect equality, it is 0 and in case of perfect inequality, it is 1. Thus larger the value of the Gini coefficient, greater will be the extent of inequality and vice versa. From the diagram, closer the Lorenz curve to the line of equality, lesser will be the value of the Gini coefficient and vice versa. In turn, we can say that closer the Lorenz curve to the line of equality diagonal line, lesser the inequality. If the Lorenz curve coincides the Line of equality, it indicates that there is no inequality.

It is normalised by dividing by both population squared and by mean income. It is expressed as,

$$G = 1 \Big/ 2n^2 \mu^n \sqrt{\sum_{y=1}^{n} \sum_{k=1}^{n} n_{ij} n_k (y_j - y_k)}$$

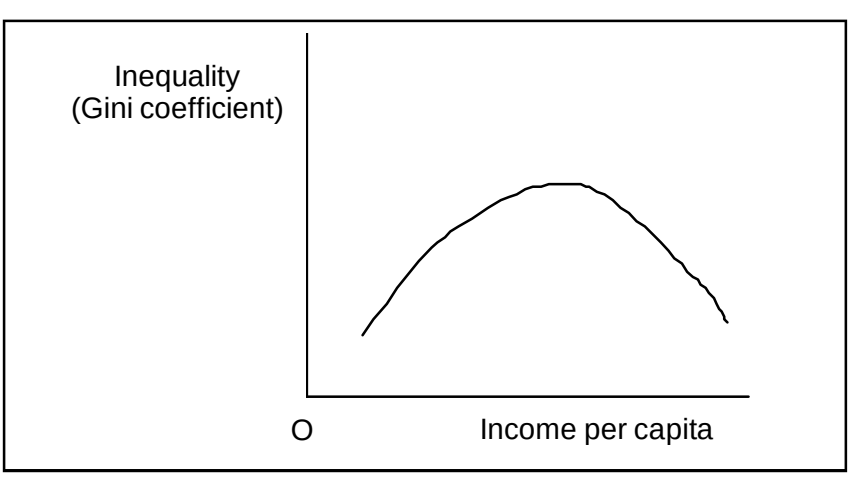
The double summation sign indicates that first sum over all kj, holding each j cost, and then sum over all the js. Like the coefficient of correlation, it satisfies all the four principles.

Inequality and Development: Kuznets inverted U hypothesis:

The relationship between inequality and development has been experimented by economists and development thinkers. Though the one of the basic goals of economic development is to reduce inequality of income among the various sections of the people, it has been proved by statisticians and economists that the objective has been belied. It is now acknowledged that economic growth in most of the Third world countries is not benefiting the poorest people because of the rising inequalities of income along with growth.

It was Simon Kuznet in 1955, through his study based on time series as well as cross section data on income distribution for five countries - India, Sri Lanka, Puerto Rico, UK and USA observed that inequality has a tendency to rise at the early stages of development. However, when the country reaches a high level of development, inequality starts declining. Thus he suggested that the relationship between per capita income and inequality may take the form of an inverted U. In other words, economic growth initially exacerbates the original inequality. However, as it arrives in a modern mixed or industrialised economy, inequality gets reduced. This is known as the Kuznets inverted U hypothesis and diagrammatically can be presented as below.

Figure 2.3: Inverted U Sheped Hypothesis



As we see in the diagram, when per capita income increases through times, inequality of income measured by Gini coefficient increases upto a certain stage and then falls. The main reason for this, as pointed out by A. P. Thirlwall, is that the transformation of the economies from a primitive state into industrial societies within a basically capitalist framework, should be accompanied, in the early stages by widening disparities in the personal distribution of income

2.5 HUMAN DEVELOPMENT INDEX (HDI)

Human Development Index is the most ambitious attempt to analyze the comparative status of socio-economic development of the country throughout the globe undertaken by United Nations Development Programme (UNDP) in its annual series of Human Development Report. It is a composite index focusing on three basic dimensions of human development: to lead a long and healthy life, measured by life expectancy at birth; the ability to acquire knowledge, measured by mean years of schooling and expected years of schooling; and the ability to achieve a decent standard of living, measured by gross national income per capita adjusted for Purchasing Power Parity (PPP). HDI attempts to rank all countries on a scale of 0 - 1 based on the above three fundamental dimensional goals, Based the value of HDI countries are categorized under four groups - Very High Human Development (0.800 - 1.00), High Human Development (0.700 - 0.799), Medium Human Development (0.550 -0.699), and Low Human Development (0.00 - 0.499).

To measure human development more comprehensively, the Human Development Report also presents four other composite indices. The Inequality adjusted HDI discounts the HDI according to the extent of inequality. The Gender Development Index compares female and male HDI values. The Gender Inequality Index highlights women's empowerment. And the Multidimensional Poverty Index measures non-income dimensions of poverty. As per present methodology, HDI is the Geometric Mean of three dimensional Indices viz. Health Index, Education Index and Income Index. Thus,

$HDI = (I_{Health..} I_{Education.} I_{Income})^{1/3}$

Present methodology to construct HDI

Since its inception to 2009, same methodology was followed to construct HDI which was an simple arithmetic mean of three dimensional indices. The current methodology is followed since 2011 according to which it is the Geometric mean of three dimensional indices. There are two steps in constructing the HDI -

Step 1: Creating dimensional Index: Minimum and maximum values (goalposts) are set in order to transform the indicators expressed in different units into indices between 0 and 1. Thus the Dimensional Index is calculated as, Dimension index = $\frac{\text{actual value - minimum value}}{\text{Maximum value - Minimum value}}$ ..... (1)

For health index minimum value of life expectancy is 25 years and maximum life expectancy is assumed to be 85 years.

The maximum for mean years of schooling, 15, is the projected maximum of this indicator for 2025. The maximum for expected years of schooling, 18, is equivalent to achieving a master's degree in most countries. The Education index is the average of Mean years of schooling Index and Expected years of schooling Index.

Similarly, for Income Index, maximum GNI per capita in terms of PPP is 100 dollar and maximum values of GNI Per capita (PPP) is 75000 dollar.

After obtaining the three dimensional Indices through the equation (1), step 2 is followed.

Step 2: Aggregating the three dimensional Indices for the composite index called HDI. For that the Geometric Mean of the three is taken and thus,

$HDI = (I_{Health.} I_{Education.} I_{Income})^{1/3}$

Since 2010, the HDR introduced new approach to measure the extent of deprivation through the Inequality adjusted Human Development Index (IHDI), Gender Development Index (GDI) and Multidimensional Poverty Index (MPI). IHDI takes into account not only a country's average human development as measured by health, education and income

indicators, but also how it is distributed. It accounts for inequalities by discounting each dimensional average value according to its level of inequality. Therefore, IHDI will be equal to HDI, when there is no inequality and will be low if there is inequality.

The IHDI draws on the Atkinson (1970) family of inequality measures and sets the aversion parameter $\in$ equal to 1. In this case the inequality measure is $A = 1 - {}^{g}/_{\mu}$, where g is the geometric mean and μ is the arithmetic mean of the distribution. This can be written as:

$$Ax = 1\frac{\sqrt[n]{X1...Xn}}{X}$$

Where $\{X1,...,Xn\}$ denotes the underlying distribution in the dimensions of interest. Ax is obtained for each variable (life expectancy, mean years of schooling and disposable income or consumption per capita).

Gender Development Index (GDI) is a relative concept to the HDI depicting the male female gap in terms of human development of a country. Higher the value of GDI, lower the gap between male and female. It measures gender inequalities in achievement of three basic dimensions of human development: health, measured by female and male life expectancy at birth; education, measured by female and male expected years of schooling for children and female and male mean years of schooling for adults ages 25 and older; and command over economic resources, measured by female and male estimated earned income. Similar to GDI, Gender Empowerment Measure (GEM) is also a comprehensive measure to judge the status of gender empowerment of a country.

On the other hand Human Poverty Index (HPI) is a reverse concept reflecting the degree of deprivation where it happens that higher the value of HPI, higher the incidence of poverty and vice versa. From HDR 2010, HPI was replaced by new concept of deprivation index, Multi Dimensional Poverty Index (MPI). The Multidimensional Poverty Index (MPI) identifies multiple deprivations at the household level in education, health and standard of living. It uses micro data from household surveys, and-unlike the Inequality-adjusted Human Development Index-all the indicators

needed to construct the measure come from the same survey. Thus the MPI is the product of the multidimensional poverty head count and the average number of deprivations each multidimensionally poor households reflecting the intensity of their poverty.

Recently some countries such as Bhutan, have started constructing a Human Happiness Index (HHI). This is an alternative way to measure the degree of achievement of developmental goals especially related to human being. These are associate concepts of HDI which are reflected in Annual series of Human Development Report published by UNDP. Similar indices are also prepared for the countries individually and rank their states.

2.6 POVERTY

The most important characteristic of economic underdevelopment is poverty. The adverse effects of poverty are illiteracy, unemployment, ill health, under nutrition, etc. The World Bank defines poverty as "the inability to attain a minimal standard of living". In general, poverty is defined in two ways (i) lack of means in relation to needs and (ii) lack of means in relation to means. According to Debraj Ray, " poverty strikes not only at the core of ongoing existence, by effectively taking away the rights of a human being to live in good health, to obtain education and to enjoy adequate nutrition, poverty destroys the aspirations, hope and enjoyment of the future as well." Therefore poverty reduction is the major goal of economic development in a developing country. Poverty may be conceptualised in two ways - (a) Absolute poverty and (b) Relative poverty.

2.6.1 Absolute and Relative Poverty

When the minimum requirements for survival are not received by the people it is regarded as Absolute poverty. It is always expressed in terms of calories and nutritional levels. It normally occurs when people fail to receive sufficient resources to support a minimum of physical health and efficiency.

Relative Poverty, on the other hand, is defined as the general standard level of the people living in different societies. It generally refers to individuals or household at the lower end of the household income distribution scale relative to those at the higher end (e.g., those at the bottom 30% compared to those at the top 30%).

The comparison is normally made in terms of average expenditure, average income or average consumption. Relative poverty can differ across countries or across time for a particular country.

2.6.2 Poverty Line

Poverty line is a line of access to goods and services necessary for an individual's survival. It normally refers to the income necessary to purchase the minimum requirement of calorie intake and essential non-food items for survival. The poverty line is different for different countries depending on income and cultural value. People who are living below poverty line are far away from the various developmental issues such as education, health, etc. that means their standard of living are quite low. Absolute poverty is normally estimated by this poverty line.

Poverty is measured by different methods under different contexts. Poverty Head count ratio is one of such measures. This is calculated by counting the number of people below the poverty line and then dividing it by the total population of the country. Poverty head count ratio is widely used to measure the number of people living below the poverty line. But, the method fails to measure the extent to which the individual falls below the poverty line. Or the relative position of the people who are closer to the line and who are placed at the bottom. Poverty Gap measures the total amount of income necessary to lift everyone living below the poverty line to that line. Two countries with same poverty head count may different in the incidence of poverty. A country with more poverty gap with same number of people living under the poverty line suffers more

and hence has to fight more to overcome the burden of poverty. Thus the total income shortfall or total poverty gap of a country is defined as,

$$TPG = \sum_{i=1}^{m}(y_p - y_i)$$

Where Yp is the absolute poverty line and

Yi is the income of the ith poor person.

It can be simply interpreted as the amount of money needed per day to bring every poor person in a country upto the defined minimum income standards.

We all agree that removal of poverty is a fundamental goal of economic development. Therefore the policy measures should be to target the poor most. Poverty has enormous implications for the way in which entire economies function. Some of these functional implications are tied up with inequality and some are very specific to the poverty itself.



CHECK YOUR PROGRESS

Q 7: It there is no gap between lorenz curve and line of equal distribution then what happen? (Answer in about 20 words)

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Q 8: Define absolute poverty. (Answer in about 30 words)

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Q 9: What does poverty gap measure? (Answer in about 20 words)

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2.7 LET US SUM UP

- Development is a multidimensional concept and there are number of tools to measure the degree to what extent a country or region or an economy been succeed to achieve the developmental goals.
- There is a shift of emphasis from raising per capita income to directly giving importance on three major problems of the economy - (i) Absolute poverty (ii) inequality in income distribution and (iii) rising unemployment problem. Thus now economic development requires an increase in the size and change in the composition of production and a new set of public and private institutions to accomplish the task. Therefore for rapid economic development, resources are transferred from less productive uses to productive uses.
- Due to the existence of income gap among the various nations of the world, the rich countries are getting richer and the poor are becoming poorer. Since standard of living in all the countries tends to rise absolutely over time, it refers to the comparative position of poor countries. There are various factors which are responsible for this. Some of them are- technological backwardness, quality of labour force, etc.
- By inequality we mean a relationship of domination by an individual, group, or class over another. It exists in the society because people in an economy differ from each other in many ways. The most important and relevant aspect is income. There are various causes which are responsible for arising inequalities in income distribution in a society such as the system of inheritance, the system of private property, differences in ability, exploitation, etc.
- The most popular and common method for measuring inequality of income distribution is Lorenz curve. By using this curve one can get an intuitive data of how much inequality exists in a specific society. Higher the gap between Lorenz curve and line of equal distribution, higher will be the inequality exists in the economy.
- The most acceptable definition of measuring inequality of income distribution is Gini coefficient. It is obtained by the ratio of the area

between diagonal line and Lorenz curve to the total area of half square in which the curve lies. The coefficient has been named after C. Gini who first formulated it in 1912. Gini coefficient can vary between 0 and 1. In case of perfect equality, it is 0 and in case of perfect inequality, it is 1. Thus larger the value of the Gini coefficient, greater will be the extent of inequality and vice versa.

- It was Simon Kuznet in 1955, through his study based on some time series as well as cross section data on income distribution for five countries - India, Sri Lanka, Puerto Rico, UK and USA and observed that inequality has a tendency to rise at the early stages of development, however, when the country reaches a high level of development, inequality starts declining. Thus he suggested that the relationship between per capita income and inequality may take the form of an inverted U. In other words, economic growth initially exacerbates the original inequality. However, as it arrives in a modern mixed or industrialised economy, inequality gets reduced. This is known as the Kuznets inverted U hypothesis.
- HDI is a composite index focusing on three basic dimensions of human development: to lead a long and healthy life, measured by life expectancy at birth; the ability to acquire knowledge, measured by mean years of schooling and expected years of schooling; and the ability to achieve a decent standard of living, measured by gross national income per capita adjusted for Purchasing Power Parity (PPP). HDI attempts to rank all countries on a scale of 0 - 1 based on the above three fundamental dimensional goals, Based the value of HDI countries are categorized under four groups - Very High Human Development (0.800 - 1.00), High Human Development (0.700 - 0.799), Medium Human Development (0.550 -0.699), and Low Human Development (0.00 - 0.499).
- Since 2010, the HDR introduced new approach to measure the extent of deprivation through the Inequality adjusted Human Development Index (IHDI), Gender Development Index (GDI) and Multidimensional Poverty Index (MPI).

- IHDI takes into account not only a country's average human development as measured by health, education and income indicators, but also how it is distributed. It accounts for inequalities by discounting each dimensional average value according to its level of inequality. Therefore, IHDI will be equal to HDI, when there is no inequality and will be low if there is inequality.
- Gender Development Index (GDI) is a relative concept to the HDI depicting the male female gap in terms of human development of a country. Higher the value of GDI, lower the gap between male and female.
- On the other hand Human Poverty Index (HPI) is a reverse concept reflecting the degree of deprivation where it happens that higher the value of HPI, higher the incidence of poverty and vice versa. From HDR 2010, HPI was replaced by new concept of deprivation index, Multi Dimensional Poverty Index (MPI). The Multidimensional Poverty Index (MPI) identifies multiple deprivations at the household level in education, health and standard of living.
- The World Bank defines poverty as "the inability to attain a minimal standard of living". In general, poverty is defined in two ways (i) lack of means in relation to needs and (ii) lack of means in relation to means. Poverty may be conceptualised in two ways - (a) Absolute poverty and (b) Relative poverty.
- When the minimum requirements for survival are not received by the people is regarded as Absolute poverty. It is always expressed in terms of calories and nutritional levels. Relative Poverty, on the other hand, is defined as the general standard level of the people living in different societies. It generally refers to individuals or household at the lower end of the household income distribution scale relative to those at the higher end.
- Poverty line is a line access to goods and services necessary for an individual's survival. It normally refers to the income necessary to purchase the minimum requirement of calorie intake and essential non-

food elements for survival. The poverty line is different for different countries depending on income and cultural value.

- Poverty Head count ratio is one of such measures. This is calculated by counting the number of people below the poverty line and then dividing it by the total population of the country. Poverty head count ratio is widely used to measure the number of people lie below the poverty.
- Poverty Gap measures the total amount of income necessary to lift everyone living below the poverty line to that line. Two countries with same poverty head count may different in the incidence of poverty. A country with more poverty gap with same number of people living under the poverty line suffers more and hence has to fight more to overcome the burden of poverty.



2.8 FURTHER READING

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6) Somashekar, N. T. (2003). *Developmental and Environmental Economics.* New Delhi: New Age International Publishers.
7) Human Development Report 2014, UNDP



2.9 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Then there is no inequality exist in the economy.

Ans to Q No 2: When the minimum requirements for survival are not received by the people it is regarded as Absolute poverty. It is always

expressed in terms of calories and nutritional levels. It normally occurs when people fail to receive sufficient resources to support a minimum of physical health and efficiency.

Ans to Q No 3: Poverty Gap measures the total amount of income necessary to lift everyone living below the poverty line to that line.



2.10 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: What is inequality? Mention some reasons for arising inequality.

Q 2: Explain some inequality measuring tools.

Q 3: What is Lorenz curve? Explain how is inequality measured with Lorenz curve?

Long Questions (Answer each question in around 300-500 words)

Q 1: Explain the Gini coefficient as a measure of inequality. What is the relationship between Lorenz curve and Gini coefficient?

Q 2: Explain the relationship between inequality and economic development with the help of Kuznets inverted U shaped curve.

Q 3: How HDI is constructed? Mention the difference between IHDI and HDI.

Q 4: How Multidimensional poverty index is differs from simple poverty index?

Q 5: Distinguish between absolute and relative poverty. Which between poverty head count and poverty gap is more effective to measure poverty?

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UNIT 3: POPULATION AND HUMAN RESOURCES IN DEVELOPMENT

UNIT STRUCTURE

3.1 Learning Objectives

3.2 Introduction

3.3 Population: Some Basic Concepts

- 3.3.1 Birth Rate and Death Rate
- 3.3.2 Age Distribution
- 3.3.3 Theory of Demographic Transition

3.4 Food Security

3.5 Education, Health and Nutrition

3.6 Human Resource Development

3.7 Population as Limits to Growth

3.8 Let Us Sum Up

3.9 Further Reading

3.10 Answers to Check Your Progress

3.11 Model questions

3.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- discuss the relation of population to economic growth and development
- explain the various concepts and issues related to population growth
- discuss the problems of food security, education, health and nutrition
- define Human Resource Development and some related concepts
- describe population as limit to economic growth

3.2 INTRODUCTION

How population is related to economic growth and development is not a simple issue to discuss. At the one end, development is meant for better living condition of the every section of the people, while at the other end the process of development is differently affected by the growth of

population. Therefore it is imperative to study the nature of growth of population to understand economic development.

The United Nations (UN) shows that estimates 7.4 billion world populations as on August 2016 grew at the rate of 1.81 % during the period 2010-2015. It is important that almost all increase happens in the developing countries making 97% net additions to the world populations. The developing countries are in a stage of demographic transition that large number of them is facing population explosion at present. Proper human resource development through effective manpower planning is necessary for development not only for present generation, but for the future generation as well. "If development entails the general well-being - and if it is to encompass their self-esteem, respect, dignity and freedom to choose, then the really important question about population growth is this: How does the contemporary population situation in many developing counties contribute or detract from their chances of realizing the goals of development, not only for the present generation but also for future generation?"(Todaro & Smith: Economic Development, Tenth Edition, Pearson, page 274)

Thus it can be seen that there is mutual relationship between economic growth and population - on one end economic growth affects the population growth and at the other end pace of population growth affects the economic growth. Putting the importance of the population growth to economic growth and development, classical economists were of the view for an optimum level of population. The size of the population at which the per capita income of consumption goods is highest with existing resources is called the optimum population up to which population growth is desirable.

Before going through the aspects of human development, education & nutrition and question of food securities, the present chapter will discuss some concepts and theories relating to population.

3.3 POPULATION: SOME BASIC CONCEPTS

Population of a place at a particular time is determined by the net addition to the existing population which was estimated at previous estimates or census. Statistically, the population at current period t is:

$P_t = P_0 + (B - D) + (I - E)$

Where, P_t = population at time t

P_0 = Population at previous census (existing population)

B = Total births during the period

D = Total deaths during the period

I = Total Immigration to the place

E = Total emigration from the place

Thus, it is seen that the birth rate, death rate and net migration plays important role in population growth of a country. Again, the birth rate death rate and net migrations are also affected by some other factors which will also be covered in short in our discussion.

3.3.1 Birth Rate and Death Rate

Birth rate is the number of live births per thousand populations during the period while the death rate or mortality rate counts the number of lives lost per thousand populations for the period concerned. Thus if we say that the birth rate in India is 10 per thousand, it indicates that, in every year India adds new 10 babies per thousand populations. The increase in population due to difference in birth rate and death rate is called the natural increase in population. Total increase or growth in population is the sum of natural increase and net migration. Most of the developing countries experience high rate of the natural increase due to high birth rate accompanied by declined mortality rate. High birth rate is caused, though by many factors, fertility rate determines the new births to every woman at a particular age. Fertility is the child bearing ability of a woman which is high in the developing countries due to early age of marriage. Some of the reasons for high birth rates in developing countries are:

- Early age of marriage providing long duration of fertility period of woman
- Lack of education to adopt birth control means, awareness and motivation for birth control

- Occupational pattern and employment provision where traditional society believes that children are assistance to the parents in their works.

  Conversely death rate is declining in the developing countries for number of factors such as -

- Raising level of incomes
- Improvement in the medical science and technologies
- Control and eradication of some diseases and epidemics such as malaria, cholera, etc.
- Development of infrastructures making it easier to avail modern facilities
- Growing awareness for health and nutrition

The declined death rate is also increasing the life expectancy of the people which another factor of population growth.

3.3.2 Age Distribution

The age distribution of a population is the proportion of population in different age groups. The list of population tabulated as per age group may be categorized in different slabs such age 0 - 6 years of age, 6 - 14 years of age, 14 - 60 years of age, etc. depending upon the need of analysis. It is to be noted that age distribution of the developing counties are significantly younger than the developed counties indicating a higher proportion of young population. Except China, children less than 15 years of age constitute 35% of total population of the developing countries against 17% child population in developed countries. Higher proportion of child population indicates a higher dependency ratio (ratio of population below 15 years of age to economically active populations). Portion of working population is also called the population dividend proportion of which indicates an advantage for the country.

Age structure is also important to study population growth for the reason that it can be proved that even after controlling the birth rate, population growth will not stop immediately, rather it will

take time like applying brake for a speedy running automobile. The population pyramid can express the reason little clear. A population pyramid shows the age and sex distribution of population and how it is growing. We can say the nature of age as well as the sex distribution from the shape of the pyramid which is a diaphical presentation depicting male-female on two sides of a vertical line. Age group starts from the origin to the pick of the pyramid. Less width of the lower part indicates after few decades, growth of population is expected to be stopped. Higher width of middle part then lower part represents favourable population dividend, lower dependency ratio and less time to stop the growth of population. Depending on the developmental phase of a country, the population pyramid takes different shapes.

Theories of population: Most widely discussed theories of population are - Malthusian Theory of population and Theory of demographic Transition. The famous Malthusian Theory of population though theoretically not so sound, has been quite popular and relevant in the developing countries. The theory states that population tends to increase in geometric progression (1, 2, 4,8,16.....) while food supply increases in arithmetic progression (1, 2, 3, 4,.....) and thus population doubles every twenty five years creating food scarcity. This leads to poverty and misery in the society. Malthus was of the view that the only way is to moral restraint. That is why Malthus is called the father of modern family planning.

3.3.3 Theory of Demographic Transition

The theory of demographic transition attempts to explain the fact and reason why every contemporary developing nation passes through a same three states of demographic transition. The stage 1 is identified when the country has a stable population as a result of a combination of high birth rate and high death rate. Stage 2 began with modernized health care, spread of education and improved

living conditions bring down the death rate and obviously there is high growth of population. In this stage, there is divergence between birth rate and death rate because the improved living conditions though bring down death rate; it can't bring down the fertility rate immediately. Of course, these modernizations bring the final stage (stage 3) of demographic transition when the decline in fertility rate brings down the birth rate also and again makes the population growth to a stable position. The three states of demographic transition can be graphically presented as below where the horizontal axis represents the time and vertical axis measures the birth and death rates.

Figure 3.1: Demographic Transition

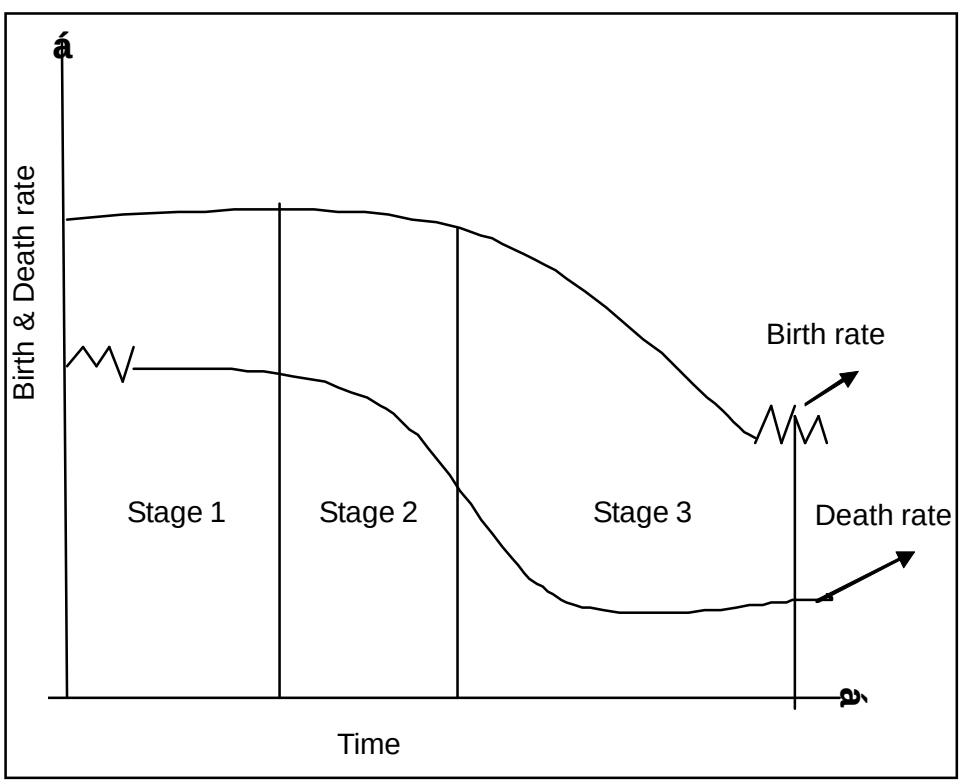


Figure 3.1 depicts that while birth rate starts declining only after stage-2 of transition, death rate starts falling earlier than it and also more rapidly for which there is divergence between the two from the stage-2. However, by the later part of 3rd stage, the gap reduced due to fall in birth rate and stable death rate.

3.4 FOOD SECURITY

Issue of food security is the primary concern for every individual. Availability of foods is the priority for the Government and also the controller of any society. However, the supply and availability of food to every section of people was not as important before as it is now. Food security and availability of food has been considered as the issue related to the poverty. That is, the people who are poor do not have sufficient food to fulfil their need for nutrition to grow up with sound health. It is a general tendency that with development, a country moves from an agrarian to industrialized economy, from rural dominated one to an urbanized economy. And thus, the issue of food security is no more a problem of hunger for the poor, rather it has become a developmental issue for modern urbanized and industrialized economies. However, producing only agricultural goods is not the only answer to the food supply. According to World Bank, agriculture also causes emissions and 25% of the greenhouse gas is produced by the agriculture sector. Thus the sustainability is threatened by the method of agro-based activities.

The Millennium Development Goal (MDG) initiated by UNDP in 2000, had set their first goal to eradicate the extreme poverty and hunger and accordingly highlighted the issue of hunger and food security for the poor. Prior to that, the World Food Summit 1996 had observed, "food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life". Thus food security not only means the physical access or availability, but also economic accessibility for all sections of people. Moreover, the use of existing supply of food should be optimal so wastage is kept at the minimum.

3.5 EDUCATION, HEALTH AND NUTRITION

It is accepted by all that education and sound health can boost the overall development by an enhanced quality of an individual. Therefore education is considered one of the most important indicators of development.

It represents a developed manpower which is capable of providing better service to the society . As Prof. Amartya Sen stated, "education can add to the value of production in the economy and also to the income of the person who has been educated. But even with the same level of income, a person may benefit from education - in reading, communicating, arguing, in being able to choose in a more informed way..."(Development as freedom, 1999). According to Todaro, education contributes to economic growth in the following ways:

- It helps in providing widespread employment and income earning opportunities.
- It helps in creating a more productive labour force and endowing it with increased knowledge and skills.
- It helps in providing basic skills and encourages modern attitudes in the diverse segments of the population.

Summarily, the role of education to economic development can be objectively pointed as under:

- Education for reducing income inequalities
- Education for rural development
- Education for family planning
- Education for better health and life style
- Education for adopting modern and scientific thinking.

Nutrition is one aspect of overall health condition of a person's physical development. Better nutrition increases the physical capability of the person which also leads to an increase in the productive capacity. Nutrition is related to the food availability. Thus better nutrition demands there should not be food scarcity. People should have physical and economic accessibility to sufficient food so that they can meet their dietary needs for an active and healthy life.

Education and health are ends as well as means of development and therefore they are considered vital component of growth and development. "At the same time, education plays a key role in ability of developing country to absorb modern technology and to develop the capacity for self-sustaining growth and development. Moreover, health is pre-requisite

for increase in productivity while successful education relies on adequate health as well" (Todaro & Smith: Economic Development, 2014).

The role of Education and health are often examined together because of their close relationship as issues of human capital. Thus while talking about the pace of development we take income in one side while health and education in the other. Even a high income may not guarantee better health and education. For a holistic development, education and health may be equally distributed like the income. This may break the vicious circle of poverty though poverty itself causes inaccessibility to improved health and education facilities to the trapped families. But, in developing countries, considering these two as capital in the form of human resource, state can make these facilities available to the poor and also can ensure equal distribution to the all sections of the people.

Since education and health are closely related as components of development indicators, the society needs to invest in both. Better health may ensure greater return to the investment in education through increased school attendance and longer lives. Similarly, greater education capital may improve the return to investment in health because many health programmes need specialized skills which are taught in schools, colleges and also because specialisation creates awareness and knowledge of hygiene etc.

Better education and health help in increasing the income earning capacity of a person. Similarly, income contributes to improve education and health. A high income earner will definitely invest more on education and health.

3.6 HUMAN RESOURCE DEVELOPMENT

The core importance of the present day development thinker is not only the economic development; it should be accompanied by human resource development or human development. Though in general the term "Human Resource" is taken to mean the population of a country, strictly mere population or the number of people cannot represent the meaning of the term. The human beings become economic resource when they have quality or productivity or potentiality to be so can be considered as human

resource. Thus human resource development refers to the development of quality of human being such as knowledge and skill enhancement, health as well as a better living standard.

The concept of studying Human Development or Human Resource development started with the United Nations Development Programme (UNDP) initiative to prepare the Human Development Report for the countries throughout the globe during the 90's. It was the Pakistani economist Mahbubul Haq, who is considered to be the founder of the studies of Human Development. The first Human Development Report was published in 1990 and till 2009; same conceptual frameworks have been used to compute Human Development Report. Since 2010 some new dimensions have been incorporated with the methodology. It emphasized that the true aim of development is not only to boost incomes, but also to maximize human choices-by enhancing human rights, freedoms, capabilities and opportunities and by enabling people to lead long, healthy and creative lives. The human development concept is complemented with a measure-the Human Development Index (HDI) - that assesses human well-being from a broad perspective, going beyond income.

Concept of human development: Human development is a process of enlarging people's choices so that they acquire more capabilities and enjoy more opportunities to use those capabilities. According to Mahbubul Haq Human development can be simply defined as a process of enlarging choices. "The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives." As Prof. Amartya Sen defined, "Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life,

rather than the richness of the economy in which human beings live, which is only a part of it." Thus, human development has number of dimensions such as long healthy life, knowledge or education, resource for decent standard of life, guaranteed human rights, political, cultural and economic freedom, sustainability, gender equality, etc. However, first three viz. long healthy life (Health), knowledge (education) and access to resource for decent standard of living (income) are the most prioritized.

Human development implies that people must influence the process that shapes their lives. In all this, economic growth is an important means to human development, but not the goal. Human development is development of the people through building human capabilities, for the people by improving their lives and by the people through active participation in the processes that shape their lives.



LET US KNOW

According to HDR 2015, India is placed 130th position out of 188 countries with 0.609 HDI value. It was ranked 135th in previous report. Norway leads the table followed by Australia in both reports.

4.7 POPULATION AS LIMITS TO GROWTH

There is no doubt that population growth has impact on the economic growth. Most of the individuals and Governments would consider it as a problem to growth process and thus for a policy for controlling population. However, there are countries like Portugal and Romania who consider their population growth is too low and even countries like Croatia prepares policy for promoting fertility rates. But leaving these exceptions, most of the developing countries consider population growth that they are experiencing are obstacle to economic growth and development and therefore are trying to build policies to arrest population growth.

Thus, population is one of the most important factors which play vital role in accelerating the growth process of a country or region. A highly

skilled and educated population may affect the growth initiatives very positively while an illiterate, backward and unhealthy population wouldslow down the process. Population has negative impact on economic development on the following grounds:

- Adverse impact on employment and agricultural productivity
- Shortage of food supply compared to needs
- Impact on per capita income
- Poverty and inequality
- Adverse impact on capital formation and building socio-economic overheads.
- Impact on environment and ecological balance

The above does indicate that population is a factor that can limit growth or can appear as a constraint to growth.



LET US KNOW

According to UN, by 2022 India will be the most populous country in the world with 1.4 billion populations surpassing China. It is to be noted that, India is three times as smaller than China in terms of geographical area. UN further forecasts that with significant increasing population, India will have shortage of basic amenities at the current pace of economic development



CHECK YOUR PROGRESS

Q 10: Mention the three determinant factors of population growth of a country. (Answer in about 20 words)

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Q 11: Mention the first goal of MDG initiated by UNDP in 2000. (Answer in about 30 words)

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Q 12: What is meant by human development? (Answer in about 40 words)

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3.8 LET US SUM UP

- Population is both end and means of development. At the one end, development is meant for better living condition of the every section of the people, while at another end the process of development is differently affected by the growth of population.
- Most of the developing countries are in the stage of demographic transition of facing population explosion at present.
- Population of a place at a particular time is determined by the net addition to the existing population which was estimated at previous estimates or census.
- Birth rate is the number of live births per thousand populations during the period while the death rate or mortality rate counts the number of lives lost per thousand populations for the period concerned.
- Most of the developing countries experience high rate of the natural increase due to high birth rate accompanied by declined mortality rate. High birth rate is caused, though by many factors, fertility rate determines the new births to every woman at a particular age. Fertility is the child bearing ability of a woman which is high in the developing countries due to early age of marriage.
- The age distribution of a population is the proportion of population in different age groups. It is to be noted that age distribution of the developing counties are significantly younger than the developed counties indicating a higher proportion of young population.
- A population pyramid shows the age and sex distribution of population and how it is growing. We can say the nature of age as well as the sex distribution from the shape of the pyramid which is a diaphical

presentation depicting male-female on two sides of a vertical line. Age group starts from the origin to the pick of the pyramid.

- Most widely discussed theories of population are - Malthusian Theory of population and Theory of demographic Transition. The Malthusian theory states that population tends to increase in geometric progression (1, 2, 4,8,16.....) while food supply increases in arithmetic progression (1, 2, 3, 4,.....) and thus population doubles every twenty five years creating food scarcity. This leads to poverty and misery in the society.
- The theory of demographic transition attempts to explain the fact and reason why every contemporary developing nation passes through a same three states of demographic transition. The stage 1 is identified when the country has a stable population as a result of a combination of high birth rate and high death rate. Stage 2 began with modernized health care, spread of education and improved living conditions bring down the death rate and obviously there is high growth of population. The final stage (stage 3) of demographic transition is when the decline in fertility rate brings down the birth rate also and again makes the population growth to a stable position.
- The food security is not only means the physical access or availability, but also so priced that those are economically accessible for all sections of people. Issue of food security is also not only the issue of food production, rather to reduce the wastage of food.
- Education is considered one of the most important indicators of development. It represents a developed manpower which is capable of providing better service to the society even for himself/herself. Better nutrition increases the physical capability of the person which is also leads to increase the productive capacity through a healthy life.
- The role of Education and health are often examined together because of their close relationship as the issues of human capital. Thus while talking about the pace of development we take income in one side while health and education in another side.

- Simply human resource development is for development of quality of human being such as knowledge and skill enhancement, health as well as a better living standard.
- The concept of human development got momentum with the publish of UNDP Human Development Report in 1990, an annual series of reports. According to Mahbubul Haq Human development can be simply defined as a process of enlarging choices. "The basic purpose of development is to enlarge people's choices.
- Human development has number of dimensions such as long healthy life, knowledge or education, resource for decent standard of life, guaranteed human rights, political, cultural and economic freedom, sustainability, gender equality, etc. However, first three viz. Long healthy life (Health), knowledge (education) and access to resource for decent standard of living (income) are the most prioritized.
- There are number of other indices such as Gender Development Index (GDI), Multidimensional Poverty Index, etc. which focus some special aspects of human development.
- HDI is a composite index focusing on three basic dimensions of human development: to lead a long and healthy life, measured by life expectancy at birth; the ability to acquire knowledge, measured by mean years of schooling and expected years of schooling; and the ability to achieve a decent standard of living, measured by gross national income per capita adjusted for Purchasing Power Parity (PPP).
- Most of the individuals and Governments would consider it as a problem to growth process and thus for a policy for controlling population. However, there are such country like Portugal and Romania who consider their population growth is too low and even countries like Croatia prepares policy for promoting fertility rates. But leaving these some exceptions, most of the developing countries consider population growth is obstacle to economic growth and development, since most of them are experiencing population explosion.

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7) Human Development Report 2014, UNDP

3.10 MODEL QUESTIONS

Ans to Q No 1: Brith Rate Death Rate and Net Migration.

Ans to Q No 2: The Millennium Development Goal (MDG) initiated by UNDP in 2000, had set their first goal to eradicate the extreme poverty and hunger and accordingly highlighted the issue of hunger and food security for the poor.

Ans to Q No 3: Human development is a process of enlarging people's choices so that they acquire more capabilities and enjoy more opportunities to use those capabilities.

3.10 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: Mention the causes of divergence between the birth rate and death at the 2nd stage of demographic transition.

Q 2: What are the factors affecting population growth of a country?

Q 3: How are education and health related to economic development?

Long Questions (Answer each question in around 300-500 words)

Q 1: Explain the theory of demographic transition.

Q 2: Discuss population as an obstacle to economic growth and development.

Q 3: What is population pyramid? Why a country having younger population takes longer time to stop its population growth?

Q 4: What is human development? Explain the method of constructing HDI.

Q 5: Justify the relevance Malthusian theory of population in developing countries.

Q 6: Discuss the role and contribution of education to economic development.

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UNIT 4: THEORIES OF DEVELOPMENT: CLASSICAL, MARX AND SCHUMPETER

UNIT STRUCTURE

4.1 Learning Objectives

4.2 Introduction

4.3 Classical Theory of Economic Growth and Development

- 4.3.1 Classical Growth Model
- 4.3.2 Criticisms of the Classical Theory

4.4 Karl Marx's Theory of Economic Development

- 4.4.1 Marxian Growth Model
- 4.4.2 Critical Appraisal of Marxian Theory of Development

4.5 Schumpeter's Theory of Economic Development

- 4.5.1 Schumpeter's Model of Economic Growth
- 4.5.2 Critical Appraisal of Schumpeter's Model

4.6 Let Us Sum Up

4.7 Further Reading

4.8 Answers to Check Your Progress

4.9 Model Questions

4.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- discuss the features of classical theory of economic growth and development
- describe the different factors of development postulated by Karl Marx and Schumpeter
- discuss class struggle in a capitalistic society, growth of capitalism and its destruction and replaced by socialism
- outline the role of entrepreneurs and innovations and also the role bank credit as envisaged by Schumpeter in his theory of economic development.

4.2 INTRODUCTION

The problem of economic development has been given much emphasis by the economists and sociologists from the very early period of time. But the economists were not able to give a systematic explanation of economic growth. During the 18th and 19th century, the economists were much concerned with the condition of economic progress.

Classical theory of economic development is nothing but the collective views of classical economists viz. Adam Smith, David Ricardo, Malthus, J.S. Mill, etc. Though they have their own developed theories on economic growth, it can be summarised under a Classical Growth Model. There are some common principles in the theories of these thinkers which bring their views on the process of growth and development under a single umbrella.

4.3 CLASSICAL THEORY OF ECONOMIC GROWTH AND DEVELOPMENT

The classical economists believed in the laissez faire economy where capital accumulation plays an important role in economic development. But the growth process stimulated by such free economy and capital accumulation, reaches a certain point after which falling rate of profit and other factors make the process stagnant. This stagnancy point is termed as the stationary state. Before going into the Classical Growth model, let us identify the basic features of classical theory of growth and development.

- **Laissez Faire economy:** The most important feature of classical theory of growth is that they believed in free competitive market and thus denied Government intervention. Agreeing with Adam Smith's 'Invisible Hand', they believed that all are guided by this invisible hand.
- **Capital accumulation:** They considered the capital accumulation as the key factor to progress. Larger savings can increase the capital accumulation which leads to larger investment and thereby stimulates growth.

- **Falling tendency of profit:** According to the Classicists, though capital accumulation gives the larger profits to the capitalists and induces for larger investment, this process works only to a certain extent. Because of subsistence wage, falling demand leads to fall in profit. Even when the wage and rent increases with increased price of corn, according to Ricardo, then also profit tends to decline.
- **Stationary State:** As a result of falling profits, capital accumulation retards and the economy becomes stationary. At the stationary state, the economy becomes stagnant and profit becomes zero, hence accumulation of capital stops. Malthus established relation between population growth and food supply where he pointed uncontrolled population and scarcity of food supply are responsible for the stagnation of the economy.

4.3.1 Classical Growth Model

All the classical economists had more or less similar propositions for the model which starts from the production function. Let us proceed with the propositions summarised for the model.

- Production function: The production function is given by,

  $O = f(K, L, N, S)$, ... (1)

  Where, O is output, K is the stock of capital, L is the land, N is the labour force and S is the level of technology.
- Technological Progress depends upon the capital accumulation. Thus,

  $S = S(I)$ ..... (2)

  Where, I is the investment as a result of capital accumulation.
- Investment depends on profits. For classical economists, all productive activities are motivated by profits and therefore investment depends on profit expectations. This can be stated as,

  $I = I(R)$ ..... (3)

  Where R is profit.

- Level of profit is determined by labour supply and technological progress. Thus,

  R = R (L, S) .....(4)

  Where L is labour supply and S is the technological progress.
- The size of labour force is constrained by the size of wage fund. That is,

  L = L (W), ...(5)
- The wage fund is determined by the level of investment. Therefore,

  W = W (I), ...(6)
- Closing the system: Since there are six equations for seven variables, to make the system determinate, One identity is introduced as,

  Y = R + W

  This identity implies that total income equals the profit plus wages. This makes the whole model determinate.

4.3.2 Criticisms of the Classical Theory

Classical model depends upon certain assumptions which don't seem to be valid.

- As the classical assumed, in long term and passage of growth process, population don't grow always. Rates of population growth have steadily declined in Europe and North America due to decline in fertility rate.
- They ignored the role of capital in agriculture too which is seemed now increasingly substituted for land.
- Contrary to the belief of the classical economists, despite of falling tendency of profits, investment activities may not show declining tendency.
- Classicists are too rigid in the fact that technical progress only dependent on savings and investment.

Despite of these limitations, the classical model provides

certain relevant insights into the growth process of an economy. It points out some key variables of economic growth and analyses their interdependence.

The theories of economic development describe the nature of economic development and causes contributing to economic development. Here we discuss the theories of two leading classical economists - Karl Marx and Schumpeter.



LET US KNOW

By classical economists it is not meant the group of economists who are chronologically contemporary, rather those economists who are advocating more or less similar economic ideology based system of economy. Basically they advocate for a laissez faire economy running under full employment and the economy becomes stagnant where the growth process reaches at the level of stationary state. Leading classical economists in development economics are Adam Smith, David Ricardo, Malthus, J.S. Mill, J.B. Say, etc. They have their own models of growth with their own style, but these can be integrated into a single model with some common elements.

4.4 KARL MARX'S THEORY OF ECONOMIC DEVELOPMENT

Karl Marx was an important contributor to the history of economic thought. He was one of the few thinkers who had a direct and persuasive influence on the people of all age in the world. Following are the main ideas of economic development of Marx.

1. The materialistic interpretation of history
2. The theory of class struggle
3. Theory of surplus value
4. The concept of reserve army of the unemployed
5. Economic development under capitalism

- **Materialistic Interpretation of History:** Karl Marx's famous book "Das Capital" was published in 1867. He put forward a materialistic interpretation of history by explaining that all historical events can be explained in terms of the continuous economic struggle going on among different classes and groups in every society. The main cause of this struggle is the conflict between the mode of production and the relations of production. The mode of production refers to the entire organization for production which determines the social, potential and intellectual life of the people in a society. The relation of production always determines the class struggle in a society between haves and have-nots.

  In short, the mode of production is the economic environment which influences and shapes the structure of a society. It is the system of production, exchange and distribution, which is the main basis of every society. Thus the final cause of all social and political changes is the mode of production and distribution.

- **The theory of class struggle:** As explained above that in every society in capitalism, class struggle arises due to presence of the two extreme groups - haves and have-nots or exploiters and exploited. The result of this class struggle is the revolution, which gives birth to new social order called socialism. According to Marx, the class struggle shows the mechanism of social change - a change of the betterment of working class.

- **Theory of surplus value:** Surplus value is the most important contribution of Marx. According to him, surplus value is the difference between the value of the product as charged by the producers from the consumers and the value of the labour power used to produce that commodity which is likely to be equal at the level of subsistence.

  There are three methods for creating surplus value which are (i) increasing hours of work (ii) raising the productivity of workers and (iii) reducing the real wages of the workers.

  So it can be concluded that exploitation of labour creates surplus value or profit and it is the reinvestment of surplus value which ultimately

ensure the progress of a society under capitalism.

Marx has divided the value of output into three components.

- Ø Constant capital (C), which represents the value of materials, and machinery or plant used up in production.
- Ø Variable capital (V), which represent the amount of labour used during a particular period i.e., the wage bill.
- Ø Surplus value (S), whichdetermines the profit or the degree of exploitation.

The value of output in an economy will be the sum of these components i.e., C+V+S. These components have been used by Marx to explain the following three ratios.

- Ø The rate of surplus value: The ratio of surplus value (S) to variable capital (V) is called the rate of surplus value or the rate of exploitation. Symbolically, Sv= S/V, where Sv is the rate of surplus value.
- Ø The rate of profit: The ratio of the surplus value to the total capital (constant capital + variable capital) is called the rate of profit. Symbolically, P = S/(C + V) where P is the rate of profit.
- Ø The organic composition of capital: The ratio of constant capital to the variable capital i.e., C/V is called organic composition of capital. Marx defines the term as the ratio of constant capital to the variable capital. Symbolically, Q = C/(C + V) where Q stands for the organic composition of capital.

- l **The concept of Reserve Army:** The term 'reserve Army' first used by Marx in the creation of surplus manpower resulted by introduction of labour saving devices. The reserve army increases with the technological progress which lowers the wage rate. The existence of Reserve Army keeps the wage rate at the subsistence level and worsens the conditions of labours.
- l **Economic Development under capitalism:** According to Marx, capital accumulation, which is the main factor, is mainly responsible for the development of the whole economy which in turn depends upon surplus value. So, investment also depends on surplus value. Larger the surplus

value, greater will be the investment and vice versa.

Therefore, the key element in the Marxian theory of development is the surplus value.

4.4.1 Marxian Growth Model

Statement 1:

According to Marx, Production function is defined as,

O = f(L, K, Q, T)..... (1)

Where, O = Output, f = Production function

L = Size of labour force K=Supply of known resources

Q = The stock of capital T = status of technology

Marx, however, recognized technological progress as the key of economic development and assumed that it has an important role to producer.

Statement 2:

Technological Progress depends on investment. Thus,

T = T(I) ..... (2)

Where, T = Technological Progress, I = Investment

Statement 3:

Investment depends on the rate of profits, i.e.,

I = I (R'), ... (3)

Where R' = the rate of return on capital.

Statement 4:

The rate of profit is the ratio of profit to variable capital plus constant capital,i.e.,

$$R' = \frac{O - W}{W + Q^1} = \frac{R}{W + Q^1} \quad \text{..... (4)}$$

O= Output

W= variable cost

O- W = profit represented by R.

Q' = Constant or Fixed cost

Marx believed that the increase in capital per worker must

result in a fall in the rate of profit. It is thus for the application of the Law of Diminishing Returns, Marx concluded that there must be a tendency of profit to decline.

Statement 5:

Wages depend on the level of investments, i. e.,

W=W (I) ..... (5)

Statement 6:

Employment depends on the level of investment,i. e., employment rises,provided the investment goes up.

i.e., $L = L\left(\frac{I}{Q}\right)$..... (6)

Statement 7:

Consumption depends on the wages,

i.e., C=C (W) .....(7)

Statement 8:

Profit depend on the status of technology and the level of consumer expenditure,

i.e., R(T,C) ..... (8)

To conclude, in view of his formal model of growth,Marxian,economics is weak. There are serious internal contradictions in the Marxian system. However, his concept of the development process, as presented in an uneven and discontinuous manner has been appreciated by all modern economists.

4.4.2 Critical Appraisal of Marxian Theory of Development

Marxian theory of development has great significance in analysing the growth process, especially under a capitalistic society. However, his theory is criticised from various angles. Main points of such criticisms are:

- According to Marx, the strongest forces struggling for a new society are laws of capitalism itself. Nothing can hold back the process of self destruction of capitalism. The capitalistic economy

has a built in doom which makes it bound emergence of socialism. But this forecast of Marx has not proved to be true.

- As Marx pointed, the increasing misery of labour class has also not been proved. Neither the subsistence wage in capitalist country nor the contraction of employment by technological development is seemed to be true. Rather technological development resulted in creating more employment opportunities. Real wages of labour have gone up across the globe
- Marx's explanation of falling rate of profit is not satisfactory. He also fails to show the way in which the rate of profit and investment depends upon consumption.

Though Marxian theory of development is weak theoretically, his view of development process has been appreciated by most of the modern economists. Marxism still remains an appealing political model challenging the future of poor and rich countries alike.



LET US KNOW

Orthodox Marxism is known as Communism and the followers of Marx are termed as the communists. Many political and development thinkers consider his ideas as religion. According to Schumpeter, "Marxism is a religion. To the orthodox Marxists, as any believer in a faith, the opponent is not merely in error but in sin." He developed a system where capitalist system of society is replaced by socialism with revolution which is routed from class struggle and becomes even violent for occupying the power.

4.5 SCHUMPETER'S THEORY OF ECONOMIC DEVELOPMENT

J. A. Schumpeter presented his views on economic growth in his book "The Theory of Economic development" published in 1911. He further refined and elaborated his ideas in his book "Business Cycles (1939)" and "Capitalism, Socialism and Democracy (1942)".

The main ideas of Schumpeter's theory is as follows:

- **Circular Flow:** The concept of circular flow is the starting point of the Schumpeter book of economic development. According to him, it implies 'a condition where economic activity produces itself continuously at a constant rate through time'. Circular flow is based upon a state of perfect competitive equilibrium, in which (costs are equal to receipt and prices to average cost. Profits and interest are zero and) involuntary unemployment of resources doesn't exist. In other words, Schumpeter assumed an economy which is in stationary equilibrium and circular flow is the characteristic of an economy in stationary equilibrium.

  The main features of circular flow are:

  - All economic activities are essentially repetitive following the course of a familiar route.
  - All the producers have got the knowledge of their goods and they can adjust the supply accordingly. It implies that demand and supply are in equilibrium at each point of time.
  - The economic system has the optimum level of output and in maximum use. There is no possibility of wastage of resources.
  - Every firm based on perfect competition equilibrium and factors are paid according to their marginal product.
  - Under stationary equilibrium, the prices are equal to average cost, profits are zero and interest rate tends to be zero. There is less possibility of involuntary unemployment.

  Thus, from these features it is known that the concept of circular flow is based on static condition. Thus to make it dynamic and consistent, changes must take place. Following are the important factors which change the circular flow:

- **Innovations:** Schumpeter assigns an important role to the entrepreneur in the process of economic development. He believes that innovations play an important role in economic development. The innovation is closely related with Schumpeterian concept of development. According to Schumpeter, the concept of economic development is synonymous with spontaneous and discontinuous technological changes which

basically imply new resource combinations called innovation. Innovation may take any of the following forms -

- Ø The introduction of new goods
- Ø The use of new methods of production
- Ø The opening of new market
- Ø The discovery of new sources of raw materials
- Ø The reorganization of any industry.

Thus, to start the development process, the combination of these factors must be necessary. It is that development agent which initiates the development. This development agent, according to Schumpeter, is innovator or entrepreneur.

- l **Role of innovator:** Innovator or entrepreneur is considered as 'hero' in Schumpeter's theory. Entrepreneur is not only a manager but he gives some new ideas and concept. He innovates to earn profit. According to Schumpeter, entrepreneurs must have some important functional abilities. E.g., he must be able to:
  - Ø Appreciate the possibilities of innovation
  - Ø Overcome all difficulties against the introduction of new things
  - Ø Transfer means of production into new channels
  - Ø Capacity to induce others
  - Ø Create a suitable entrepreneurial environment.

  Thus, to perform these functions, an entrepreneur requires two qualities -
  - Ø He must have technological knowledge
  - Ø He must be able to arrange for the factors of production based on credit.



LET US KNOW

Two most important concepts of Schumpeterian theory are "Innovation" and "Entrepreneur". It is he, the entrepreneur, who is responsible for all economic development. He takes the risk to innovate to earn profit. Thus the entrepreneurs are considered as the "Hero" in Schumpeterian approach to development. As Schumpeter states, the most distinguishing function of the entrepreneur is to carry out the innovations.

- The role of credit: Classicists gave special emphasis on saving from current income whereas Schumpeter gave emphasis on credit creation through bank. According to him, the innovators are financed through credit creation by the banks. The 'innovational investment' in the economy is reinforced by 'initiative investment'. Thus initiative investments are financed not from current savings but from bank credits. Therefore, credit creation is an important part of development model.
- Business cycle and cyclical process: Schumpeter regards economic development as a dynamic and discontinuous process. According to him, society develops through trade cycle.

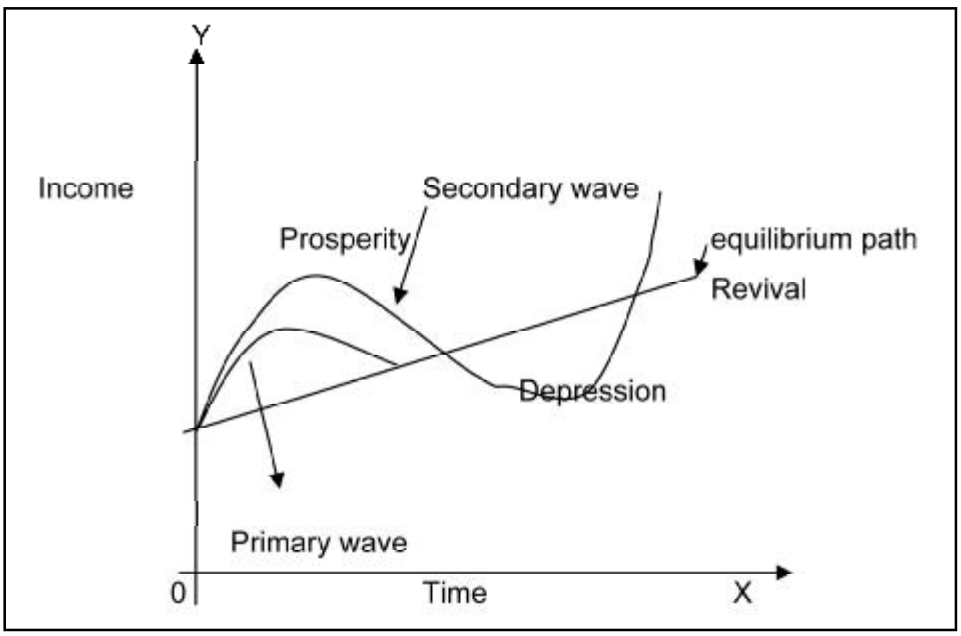
As a result of the increase in money income and price through bank credit, it helps to create a cumulative expansion throughout the economy. With the increase in the purchasing power of the consumers, the demand increases in relation to supply. Increased price and profit stimulate the producers to raise the investment by borrowing from the banks. The secondary wave of credit inflow starts with the entrance of new industries in the field of production, which superimposes on primary wave of innovation. This may be called boom or prosperity. It is that situation when the economy reaches their maximum heights and the idle and unemployed resources are minimised.

There are long waves of prosperity and depression. The process of capitalist development has been termed as one of 'creative destruction'. New economic structures are being continuously created and the old ones are being continuously destroyed.

Schumpeter's cyclical process of economic development has been explained with the help of Figure 4.1.

In Figure 4.1, the secondary wave is superimposed on the primary wave of innovation. It shows that during the prosperity period,, the economic development proceeds more rapidly due to over optimism and speculation. The trade cycle continues to fall below the level of equilibrium with the beginning of the recession and reach the point of depression ultimately, another innovation brings about revival.

Figure 4.1: Business Cycles and Cyclical Process



In Schumpeter's theory, entrepreneurs are the key figure. They bring about economic development in spontaneous and discontinuous manner. Cyclical swings are the continuous that the process of capitalist development has to pay under capitalism.

- **Sociology of Capitalist development:** According to Schumpeter, "the very success of capitalism would lead eventually to the slaughter of the goose that lays the golden eggs". Schumpeter mentions three factors which are mainly responsible for the crumbling of the economic and social foundations of capitalism. - (i) the obsolescence of the entrepreneurial function, (ii) the destruction of the institutional framework of the capitalist society, and (iii) the destruction of the protecting political strata.

The first factor observes that the success of the early captains of industry has made innovation a routine activity. It tends to degenerate in to a depersonalised, routine activity carried on in big business through a bureaucracy of highly trained managers. Then the entrepreneurship becomes obsolescence and that class lose their social function.

Through the second point, Schumpeter wanted to explain that entrepreneur tends to destroy not only his own economic and social function,

but also institutional framework within which he operates.

Lastly, when industrialists become rich and more powerful, then their rationalistic attitude spread in to every field. For example, they also enjoy political power.

Besides these factors, there are also intellectuals who lead the anti-capitalist interest due to lack of employment.

- **The Decay of Capitalism:** Schumpeter believes that the success of capitalism sows the seeds of its destruction. The capitalism will ultimately be replaced by socialism. The decadence of entrepreneurial function, the disintegration of bourgeoisie family and the destruction of the institutional framework are the factors responsible for the death of capitalism and the birth of socialism in its place.

4.5.1 Schumpeter's Model of Economic Growth

Schumpeter's theory of economic development can also be expressed in terms of a mathematical model as follows.

Proposition I: The Production Function

Schumpeter had same general concepts of the production function as the classical writers and Karl Marx had and thus,

$O = f (L, K, Q, T)$ ..... (1)

Where O is output, L is size of labour force; Q is the stock of capital, K the supply of known resources and T the level of technology.

Proposition II: Savings depends on wages, profits and Interest rates.

$S = S (w, R, r)$ ..... (2)

Where w is wage rate, R the level of profits and r the rate of interest

Proposition III: Total investment may be divided into Induced Investment and Autonomous Investment

$I = I_t + I_A$ ..... (3)

Where It is induced investment and IA the autonomous investment

Proposition IV: Induced Investment depends on the level of profits and interest rate

$I_t = I (R, r, Q)$..... (4)

Where R is the level of profit, r the interest rate and Q is the stock of capital.

Proposition V: Autonomous investment depends upon Resource discovery and Technological Progress.

$I_A = I_a (k, T)$ ..... (5)

Where k is rate of resource discovery; T is rate of technological progress.

Proposition VI & VII: Technological Progress and Rate of Resource discovery depends on the supply of Entrepreneur.

Thus, T is T (E) and K is K (E) ..... (6)

Proposition VIII: Supply of Entrepreneur depends on the Rate of Profit (R) and Social Climate (X).

Thus, E is E (R, X) ..... (7)

Proposition IX: Gross National Product depends on the relationship between Savings and Investment and the Super-multiplier.

O = k (I - S) ..... (8)

Proposition X: The wage Bill depends on the level of Investment.

W = W (I) ..... (9)

Proposition XI: The Social Climate is reflected by Distribution of Income,

X = X (R/W) ..... (10)

Proposition XII: Gross National Product equals Profits plus Wages.

O = R + W. ..... (11)

4.5.2 Critical Appraisal of Schumpeter's Model

Schumpeter's theory of economic growth is of great significance, especially the role of innovation in economic development. His analysis is very realistic and can be useful in understanding the development of capitalistic economies. However, his analysis has been criticised on certain grounds.

- He over emphasised the importance of innovation in his entire

process of analysis.

- Ø He also over-estimates the role of credit creation in financing the development projects. He assumes that innovations are financed only be borrowings from banks. But, it is true only for certain countries. There are some economies, where innovations are carried even without credit creation or borrowings.
- Ø His conclusions about inevitable emergence of socialism are not very sound. Many observers questions Schumpeter's views that capitalism is crumbling and that socialism will emerge.
- Ø Schumpeter's remarks that cyclical changes take place due to innovations are not correct.

Despite of the criticism on certain grounds, his theory is highly appreciated. His theory has limited applicability in underdeveloped countries, but in analysing the development process of the capitalistic counties, his arguments are stimulating. Some opine his analysis of capitalist process of development to be masterly and outstanding.



CHECK YOUR PROGRESS

Q 1: What is meant by surplus value? (Answer in about 40 words)

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.....

.....

.....

Q 2: Who is an entrepreneur, according to Schumpeter? (Answer in about 40 words)

.....

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.....

.....



4.6 LET US SUM UP

- The theories of economic development describe the nature of economic

development and causes contributing to economic development. Karl Marx and Schumpeter are two important contributors to the classical theory of economic development.

- Marx put forward a materialistic interpretation of history by explaining that all historical events can be explained in terms of the continuous economic struggle going on among different classes and groups in every society.
- According to Marx class struggle arises due to presence of the two extremes in haves and have-nots or exploiters and exploited. The result of this class struggle is the revolution, which gives the birth to new social order called socialism.
- Surplus value is the most important contribution of Marx. According to him, surplus value is the difference between the value of the product as charged by the producers from the consumers and the value of the labour power used to produce that commodity which is likely to be equal at the level of subsistence. There are three methods for creating surplus value which are (i) increasing hours of work (ii) raising the productivity of workers and (iii) reducing the real wages of the workers.
- The term 'reserve Army' first used by Marx is the creation of surplus manpower resulted by introduction of labour saving devices. The existence of Reserve Army keeps the wage rate at the subsistence level and worsens the conditions of labours.
- According to Marx, capital accumulation is mainly responsible for the development of the whole economy which in turn depends upon surplus value.
- In Schumpeter's theory, circular flow, which implies 'a condition where economic activity produces itself continuously at a constant rate through time'. Circular flow is based upon a state of perfect competitive equilibrium, in which (costs are equal to receipt and prices to average cost. Profits and interest are zero and) involuntary unemployment of resources doesn't exist.
- Schumpeter assigns important role to the entrepreneur and innovations in the process of economic development. Innovation may take any of

the following form - The introduction of new goods, the use of new methods of production, the opening of new market, the discovery of new sources of raw materials, or The reorganization of any industry.

- Innovator or entrepreneur is considered as 'hero' in Schumpeter's theory.
- Schumpeter gave importance of credit creation by banks as the innovations are financed through credit creation by banks.
- Schumpeter regards economic development as a dynamic and discontinuous process. According to him, society develops through cyclic process.
- According to Schumpeter, "a very success of capitalism would lead eventually to the slaughter of the goon that lays the golden eggs". He believes that the success of capitalism sows the seeds of its destruction will ultimately be replaced by socialism.



4.7 FURTHER READING

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4.8 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: According to Marx, surplus value is the difference between the value of the product as charged by the producers from the consumers and the value of the labour power used to produce that commodity

which is likely to be equal at the level of subsistence.

Ans to Q No 2: Accordingto Schumpeter, an entrepreneur is a person who takes the responsibility for all economic development. He takes the risk to innovate to earn profit. Thus the entrepreneurs are considered as the "Hero" in Schumpeterian approach to development. As Schumpeter states, the most distinguishing function of the entrepreneur is to carry out the innovations.



4.9 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: Explain the role of entrepreneur in Schumpeter theory of development.

Q 2: Discuss the role of bank credit in the light of Schumpeter's analysis of development.

Q 3: How the capitalist create surplus value according to Marx? Explain.

Q 4: Briefly explain the concept of 'Reserve Army' as explained by Marx.

Long Questions (Answer each question in around 300-500 words)

Q 1: What are the features of classical theory of growth? Critically discuss the classical model of economic growth.

Q 2: Discuss the Marxian Theory of economic development. Highlight some drawbacks of his theory.

Q 3: Critically examine the Schumpeter's Theory of Economic Development.

Q 4: What is innovation? Bring out the importance of innovation in economic development.

Q 5: Why Schumpeter considered the capitalist development as self destructing? How far is his analysis relevant to the underdeveloped countries?

*** ***** ***

UNIT 5: APPROACHES TO DEVELOPMENT - I

UNIT STRUCTURE

5.1 Learning Objectives

5.2 Introduction

5.3 Vicious Circle of Poverty

5.4 Nelson's Theory of Low Level Equilibrium Trap

5.5 Big Push Theory

5.6 Balanced vs Unbalanced Growth

5.7 Critical Minimum Effort Thesis

5.8 Let Us Sum Up

5.9 Further Reading

5.10 Answers to Check Your Progress

5.11 Model Questions

5.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- explain various partial theories of growth and development
- define vicious circle of poverty and how it is important in case of developing and under development countries
- define circular causation
- critically explain unlimited supply of labour
- explain balanced and unbalanced growth theories.

5.2 INTRODUCTION

In the previous unit, we have seen that the theories of development concentrate on the way changes in the production of goods and services takes place in the long run. The growth process was not merely focussed on economic growth; rather it would also focuses on the development process too. In this unit, we shall discuss a few theories of development like the Vicious Circle of Poverty, the Nelson's Theory of Low Level Equilibrium Trap, the Big Push Theory, the Balanced and Unbalanced Growth and the Critical Minimum Effort Thesis.

5.3 VICIOUS CIRCLE OF POVERTY

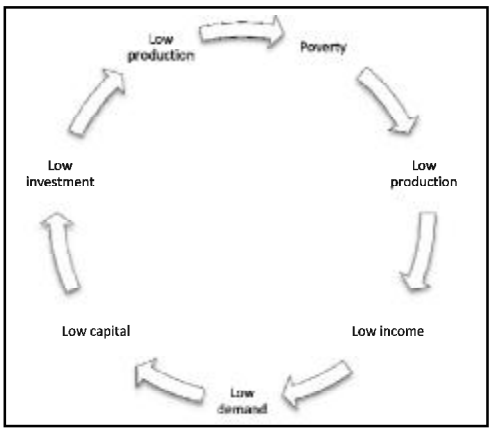
The most quoted saying about vicious circle of poverty is " a country is poor because it is poor". Vicious circle of poverty is defined in economics as the "diverse set of various factors or events by which the poverty continues to experience except with the outside interventions". It is a process in which those families who are poor are again trapped in poverty for at least three to four future generations.

According to Ragnar Nurkse, "the main reason for vicious circle of poverty is the lack of capital formation". It is defined as the circular constellations of forces that tends to act and react upon each other in such a way as to keep a poor country in a state of poverty".

The poverty is defined and explained in several distinct and different forms. Among the major explanations, the most important is that, low levels of income renders savings impossible which often prevents the accumulation of the capital which increases the income of the individuals.

Application: The people in the developing and the less developed countries of the world have low per capita income compared to the developed countries of the world. When there is low income, the saving rate will also get decreased and hence the rate of saving will also be low. As a result, the investment rate will also get reduced which will adversely (negatively) affects the productivity levels and it will affect the income of the people (income will also be low). Thus as a whole we can say that in less developed and least developing countries they do not have adequate capital resources for investment which leads them to the vicious circle of poverty. Capital accumulation plays a central role in the economic development. The demand and supply of capital facilitates the capital formation which is a prerequisite for economic development

Figure 5.1 Vicious Circle of Poverty



Demand side of the capital: We all know that the production of less developed country and a poor country will be very low. Their low production results in lower per-capita income and hence the purchasing power of the people will start to reduce. This results in low demand for the products in the market. Due to low demand, the markets will be affected unfavourably and this creates low investment.Similarly the low productions will reduce the productivity of a worker. When a worker's productivity is getting reduced, the per-capita income will also start to fall. So it will affect the demand side of the capital formation.

Supply side of the capital: In high developed countries the low production will lead to low per-capita income. This results in low saving which will lead to low investment. This low investment lowers the productivity of the worker and hence their per-capita income will get reduced and hence it follows a vicious circle of poverty.



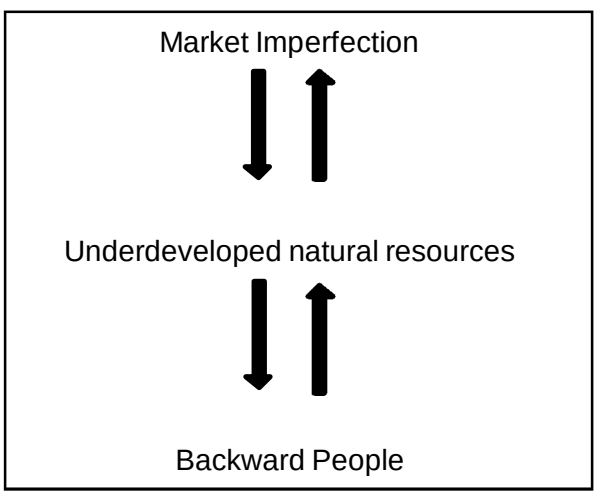
LET US KNOW

The most important argument put forward by vicious circle of poverty is that poverty is considered as the greatest impediment towards the development of an economy.

Another vicious circle envelops the underdeveloped human and natural resources. The development of natural resources is dependent upon the productive capacity of the people in the country. If the people are

backward and illiterate, lack in technical skill, knowledge and entrepreneurial activity, the natural resources will tend to remain unutilized, underutilized and even mutualised. On the other hand, people are economically backward due to the under developed natural resources. Underdeveloped natural resources are therefore, both consequence and cause of the backward people. This can be represented with the help of Figure 5.2.

Figure 5.2: Linkage between Underdeveloped Natural Resources and Backwardness



Criticisms

- The theory and its application in UDC is considered as an easy explanation, moreover there exist many other vicious circle of poverty in all these countries.
- The growth and development experience that happened in Latia American countries have proved that underdeveloped countries can also develop.
- It neglects reasons like lack of entrepreneurs, political, social and religious atmosphere.
- The theory fails to explain important determinants of economic development

5.4 NELSON'S THEORY OF LOW LEVEL EQUILIBRIUM TRAP

The theory was proposed by R R Nelson. It was the theory developed

for the under developed countries. The theory states that with the increase in per-capita income above a minimum specific level, the population shows an increase. But after reaching a maximum limit the growth rate will start declining. Nelson states that " the malady of under developed economies can be diagnosed as a stable equilibrium level of per-capita income at or close to the subsistence requirement". At this level (i.e stable equilibrium level) both investments and savings are very low.

If the per-capita income level rises above a certain minimum level, as a result of saving and investment, then the population growth will also shows an increase. This increased population growth pushes down the per-capita income to its stable equilibrium level. Hence, the economy is caught in the low equilibrium trap. To escape from this trap the rate of increase of growth of income should be higher than the rate of increase in population.

Assumptions

- A high correlation between level of PCI and rate of population growth
- A low propensity to direct additional PCI to increase PCI
- Scarcity of uncultivated arable land
- Inefficient production methods
- Cultural Inertia and economic inertia

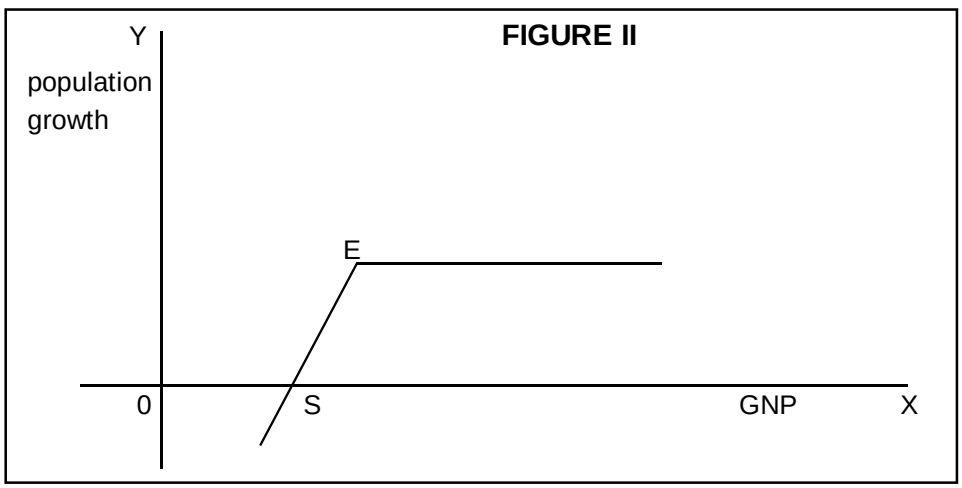
Explanation of the Theory: To explain the theory, Nelson derived three models:

1. Capital Formation
2. Population Growth
3. Per-capita income growth and population growth

Capital Formation: In the case of underdeveloped economies, the economy faces the acute deficiency of capital. This is because in the initial phase of development, the capitalist incentive to invest will be lower and also the low level of income earned by the people will be mainly utilised for consumption. This has shown in the area c of the Figure 6.3. But when the economy starts its development, more income and employment will be generated. Figure 'S' shows the equality in saving and investment. Saving will be zero at this point. Beyond S, the economy generate high investment

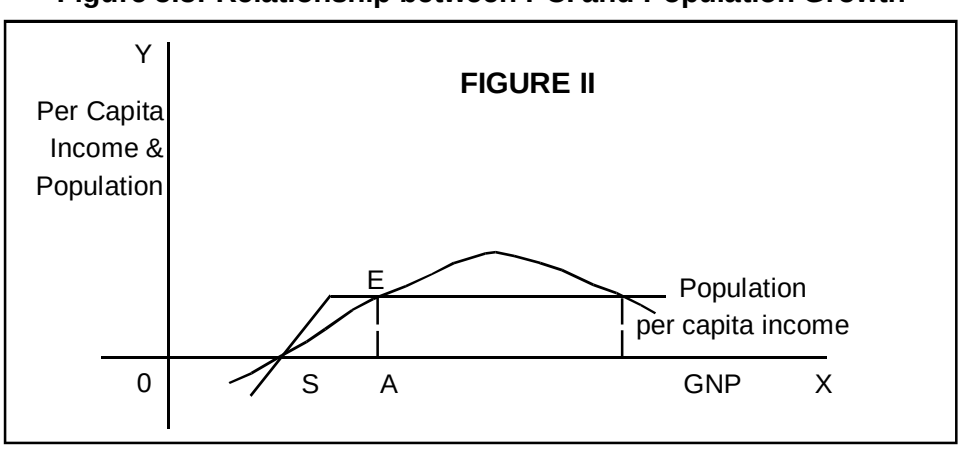
and income which increases the level of savings. High Saving will increase investment and more investment represents higher capital formation.

Figure 5.2: Low level Equilibrium Trap



Population Growth: In this model Nelson explains the relationship between PCI and population growth. In the initial stages of development, the population growth will be lower. With the growth of the economy, the workers will earn high wage rate, this will lead to substantial increase in the population growth. When the country is developed the PCI reached to the maximum level and population growth will decrease.

Figure 5.3: Relationship between PCI and Population Growth

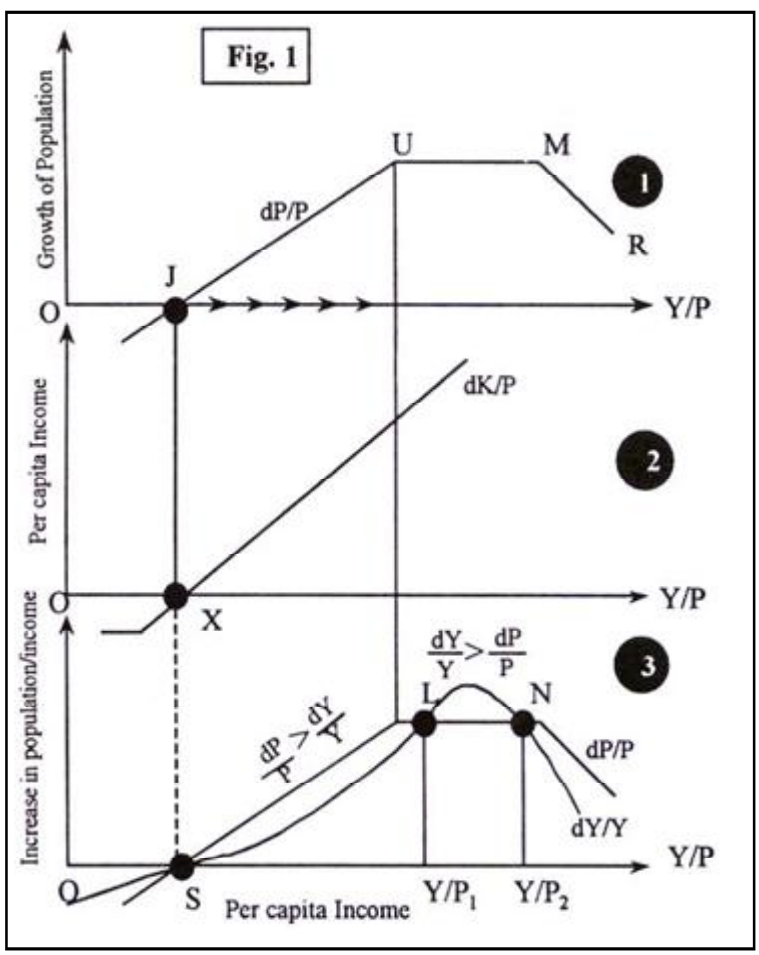


In Figure 5.3, at the point S the population growth is normal. When PCI> subsistence wage rate, the population growth increase from S to E. After that it showed a declining trend.

Per capita Income and Population Growth: Relationship among per capita income and wage rate has been shown with the help of Figure

5.4.In the figure change in GNP is measured in X-axis and change in per-capita income an population is measured in the Y-axis. In the under development stage, the country's income and population growth will be lower and negative (i.e. negative part of y axis). When Y increases over the substantial wage rate, per capita income increases which increase the population. The economy achieved growth when PCI >PG.

Figure 5.4: Relationship among Per Capita Income, Population Growth and Wage Rate



Conditions to Trapping

- High correlation between per-capita income and rate of population growth
- Low propensity of direction
- Scarcity of uncultivated arable land
- Inefficient production methods

- Cultural Inertia and economic inertia

In the (1) part of Figure, dP/P curve represents percentage rate of growth of population, while the Y/P curve represents per capita income. The point J is minimum subsistence per capita income where dP/P = Y/P. In this case, the population is considered as stationary. But to left of J, the population is decreasing while to the right of J, the growth rate of population increases to the upper physical limit, which is shown as 'U'. The increase in the per-capita income above subsistence level is shown by the arrow movement on the horizontal axis in the part one of the figure. For some time the population will grow at this level with rise in per capita income and then it will start falling at point M.

In (2) part of Fig., dK/P is per capita rate of investment out of savings. The curve dK/P is the growth, curve of investment which relates the per capita of investment to different levels of per capita income. At point 'X', there are zero savings. While to its left, there are negative savings. If we move above point 'X' along the growth curve of investment, the per capita rate of investment will rise beyond the upper physical limit of the growth rate of population as denoted by 'U' in (1) part of Fig. 1.

In (3) part of Fig., dP/P income, is growth curve of population at various levels of per capita. The point 'S' is so drawn that it equals the zero savings level of income (point X in (2) part) and minimum subsistence level of per capita income 'J'. So the situation where J = X = S is the low level equilibrium trap that exists in the economy.

In this case, dY/Y = dP/P.

For any increase in per capita income beyond point S, the growth rate of population is higher than the growth rate of income, (dP/P >dY/Y). This will push the economy back to point S, the point of stable equilibrium. Thus the economy is caught in low level equilibrium trap. This low level of trap will be stronger the more quickly the rate of population growth responds to a given rise in per capita income, and more slowly the rate of growth in total income responds an increase in investment.

Factors to escape from the trap

- Favourable socio-political environment

- Attracting investment from abroad to enhance capital and investment
- Sophisticated technologies
- Social investment programme
- Effective utilisation of existing resources.

Criticisms

- In the theory it is assumed that increase in per-capita income upto a maximum point leads to an increase in the rate of population growth. But in UDC's the decline in death rate was high due to the improvements in public health and medical facilities
- The theory fails to assume the functional relationship between level of PCI and the rate of total income growth
- The assumption of timeless functional relationship
- Ignorance of the role of state in controlling the population growth.



CHECK YOUR PROGRESS

Q 1: State the various models of low level equilibrium Trap

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Q 2: State the factors that promote to escape from the trap.

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.....

Q 3: Which are the two types of incentives proposed by Lebeinstein.

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5.5 BIG PUSH THEORY

The big push theory was associated with the famous economist Paul. N.Rosenstein Rodan. The theory states that a big push or large comprehensive programme is needed in the form of a high minimum amount of investment to overcome the obstacles to the development in the underdeveloped country and to launch it on the path to progress.

This theory highlights the efforts which are essential to be taken in the underdeveloped economies out of stagnation and vicious circle of poverty. It is known that the development process had series of discontinuous jumps which are often considered as discontinuities. To remove the discontinuities in the development process and to push the development process in a high production frontier a big push is needed. The theory emphasized three kinds of indivisibilities and externalities to emphasise the need of big push

Indivisibility in the production function: This was associated with the indivisibilities in input, output/production process. The social overhead cost (SOC) was considered as the most important instance of indivisibility and hence there exist external economies of scale.

Indivisibilities of demand: Indivisibilities of demand refers to the high quantum of investment in Complementary industries for enlarging the size of market without which the Development process fails to pick up.There develops interdependence in the investment decisions.Here indivisibility refers to the complementarity arising from the diversities of human wants. In these situations the market size is small due to the low purchasing power and low per capita income of the people. The basic indicators of this are transportation, power and communications. These cannot be imported. Their installation required an sizable initial investment.

Indivisibility in the supply of savings: There exist high income elasticity of savings in the economy. A high minimum size of investments requires high volume of savings. When income increases due to increase in investment the marginal rate of savings should be very much higher than the average rate of savings.

Criticisms:

- **Inadequate resources:** This theory fails to recognize that the amount of resources in an underdeveloped country is very limited. They lack in capital, skilled labour, dynamic entrepreneurial ability, power etc. So these countries cannot adopt Big Push theory.
- **Fear or threat of inflation:** Since the underdeveloped countries do not adopt Big Push theory but it envisages the investment in different

industries of consumption goods, capital goods as well as other social overheads. As a result, they are likely to yield returns after a long time. This process increases the demand rapidly while slow increasing supply cannot cope up with the situation.

- **Neglect of agriculture:** Neglect of agriculture and neglect techniques were another major limitation of the big push theory.
- **Ignores the difficulties faced in a mixed economy:** The concept of Big Push ignores the difficulties faced in a mixed economy.
- **Too much emphasis on the indivisibilities:** The theory had too much emphasis on the indivisibilities and neglected international trade.

5.6 BALANCED VS UNBALANCED GROWTH

The theory of balanced growth was proposed by the economists like Rodan, Nurkse and Lewis. According to them the investment must be made in every sector of the economy rather than in one or two leading and prominent sectors of the economy. Balanced growth is defined as the equal and systematic importance to all the sectors of the economy. This means there is balance between sectorial and regional departments in the long run. This strategy was largely based on the principle of welfare economics and it stresses more on social marginal productivity rather than the individual productivity. The equal emphasis was given to social overhead capital and directly productive assets. The prime focus of this theory was on balanced type of investment and capital mobilization. This was to make growth more balanced and distributed. Nurkse and Rodan had developed two approaches, viz., investment in all the sectors and interdependency in the theory.

The big push theory developed by Rodan which was explained in the previous section was considered as a step for achieving balanced growth. At the same time, Nurkse developed a theory called "Disguised unemployment as a saving potential and a source of capital formation". According to Nurkse capital formation can be raised from:

- Utilisation of surplus labour, whose marginal productivity is zero or

negative, in real capital building works

- Investing surplus labour in social overhead capital and directly productive activities for real capital formation
- Control on conspicuous consumption
- Raising the savings through fiscal and monetary measures.

Here it is important to consider the fact that balanced growth does not imply that all sectors must grow at the same rate. It is enough to have a growth rate of one sector to suit the needs of other sectors in the economy.

Criticisms:

- **Wrong Assumptions:** Prof. Singer argues that the doctrine of balanced growth is based on wrong assumptions. Every underdeveloped country starts from a position that reflects previous investment decisions-and previous development. The theory of balanced growth requires balanced investment to meet the growing demand and as a result there is existence of increasing returns. If simultaneous investments are made in all related fields, bottlenecks arise, due to the shortage of raw materials, prices, factor shortages etc. There is ever likelihood of operating decreasing returns.
- **Administrative Difficulties:** The principle of balanced growth overlooks the inefficient administrative capacity of underdeveloped countries. The administrative machinery is overloaded which causes maladjustment in the smooth functioning of the economy.
- **Rise in Costs:** The foremost, drawback of the concept is that the establishment of number of industries will raise the real and money cost of production. It is economically unprofitable to operate in the absence of sufficient capital equipment, skills, cheap power, finance and other necessary raw materials.
- **Against the Capabilities of Underdeveloped Countries:** According to Hirschman, "The doctrine combines a defeatist attitude towards the capabilities of underdeveloped economies with completely unrealistic expectations about their creative abilities." It involves the simultaneous start of several productive activities at one instance. But in an underdeveloped country, there is an acute shortage of capital resource,

technical and managerial skills etc. The whole system is self-contradictory.

- **Danger of Inflation:** Balanced growth doctrine advocates simultaneous investment in a number of industries. As such when demand increases owing to huge investment outlays made in different sectors and corresponding supply fails to cope up with it, resulting in inflation. Thus, under these inflationary situations, balanced growth fails to deliver fruitful results.
- **Factor Disproportionality:** Another drawback of the theory is disproportionality in the factors of production due to deficiency of capital and surplus manpower. In some less developed countries too much labour is employed against too little capital. In such countries, labour is in abundance but capital and entrepreneurial skill are scarce. This disproportionality in factors of production creates several practical hindrance in the implementation of successful operation of balanced growth theory.
- **It ignored the Potentiality of the Foreign Market:** Prof. Nurkse's principle of balanced growth is based on the fact that inducement to invest is limited by the size of the market. According to him, size of the market can be enlarged through simultaneous and uniform growth of complementary industries. In this way, he ignores potentialities of foreign market. Furthermore, this is against the principle of comparative advantage where one country enjoys the benefits of specialization over the other country.

UNBALANCED GROWTH: The unbalanced growth theory was advocated by Hirshman. This theory was based on Ricardian comparative advantage principle. This theory concentrates on the role of leading and active sectors in the economy. This deals with the investments in those projects which gave maximum total linkage effects. The total linkage is derived by adding the forward and backward linkages. The emphasis should be made on leading or industrial sectors of the economy. In other way, the capital goods industries were more preferred over other industries. It is because capital goods industries hasten the development of the economy,

where development of consumer goods industries is the natural outcome of the various processes. Hirschman has stated that, "If the economy is to be kept moving ahead, the task of development policy is to maintain tensions, disproportions and disequilibria.

The strategy of unbalanced growth is often recognised as the most suitable strategy to break the vicious circle of poverty in underdeveloped countries. The poor and underdeveloped countries are always in the state of equilibrium position maintained using low income. This may lead to the less stress in the production, consumption; saving and investment .The only strategy of economic development in such a country is to break this low level equilibrium by deliberately planned unbalanced growth.

Prof. Hirschman stated that shortages created by unbalanced growth give considerable incentives and opportunities for inventions and innovations. This may give incentives for intense economic activity and push economic progress. Hirschman classified the series of investment into two types:

- **Convergent Series of Investment:** It implies the sequence of creation and appropriation of external economies. Therefore, investment made on the projects which appropriate more economies than they create is called convergent series of investment. The convergent series of investments are largely influenced by profit motive which are mostly private entrepreneurs
- **Divergent Series of Investment:** It refers to the projects which applicable to the less economies than they create. It is influenced by the objective of social desirability and such investments are often undertaken by the public agencies.

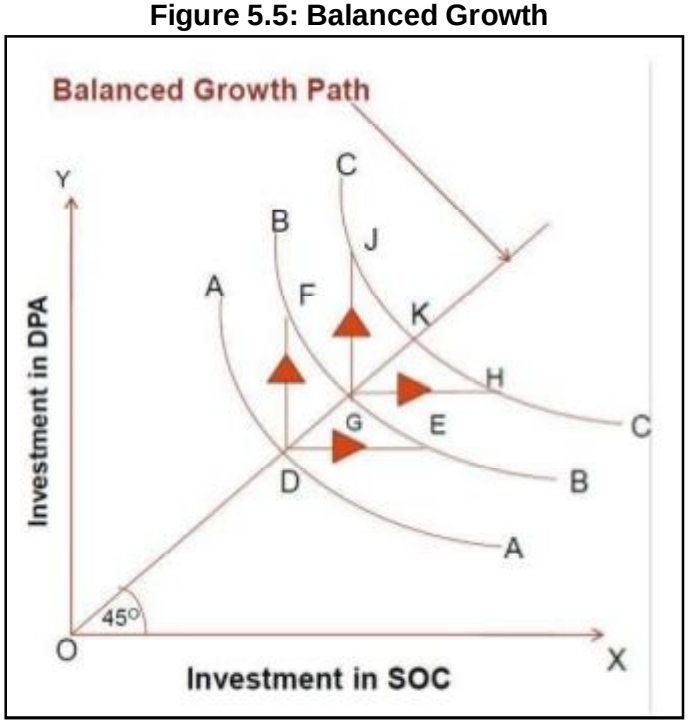
Thus, according to Hirschman the development policy should concentrates on either promoting investment in social overhead capital or in directly productive assets. SOC can create external economies whereas DPA appropriates it. A few points regarding the distinction between SOC and DPA has been summarised in Table 5.1.

Table 5.1: Comparison between SOC and DPA

Social Overhead Capital	Directly Productive Activities
It comprised of those basic devices without the primary, secondary and tertiary activities cannot function effectively. This includes the expenditure on roads, irrigation works, power, transport and communication. The investment in these projects creates more economies of scale and they are called as Diverged Series Of Investment. They are often Undertaken by public agencies.	These are the consequences of some investment. It creates more flow of final goods and service Eg: Investment in agriculture and industries.

Figure 5.5 shows the path of development using the unbalanced growth. The ox-axis is measured on investment cost in SPA and Y-axis is measured on investment cost in DPA. In the figure, AA, BB,CC are the equi-productive curve which indicates the combinations of SOC and DPA corresponding to particular level of national income.

Figure 5.5: Balanced Growth



The growth process is explained by making initial investment in DPA or SOC. It is assumed that in under developed countries both SOC and DPA cannot be expanded simultaneously. The former one is called the development by excess capacity of SOC and the latter one is called shortage

of SOC. If the investment is made in SOC the economy will follow DEGHK route of development. Increase in investment in SOC from D to E will induce greater investment in DPA up to point F because the transportation and power will become cheaper. Investment in DPA increases until balance is restored at G. The equi-product curve

BB which implies there will be increase in the level of output in the economy.

Investment made in DPA, the route of development is DFGJK. When DPA increases from D TO F, this resulted in an increase in product cost and DPA produces would realise the possibility of considerable economies through investment in OSC. Thus SOC would increase to point E and then to equilibrium point G on BB curve implying a higher level of output. If investment increases further from G to J, this would create more pressure for more investment in OSC shifting from G to H and equilibrium will be at point K which will be on the higher is-product curve CC the growth path being shown as DGK.



CHECK YOUR PROGRESS

Q 1: Match the following

1)	The theory of circular causation	a. Arthur Lewis
2)	Balanced Growth	b. Gunnar Myrdal
3)	Unbalanced Growth	c. Rodan, Nurkse, Lewis
4)	Unlimited Supply of labour	d. Hirsch man

Q 2: Define vicious circle of poverty

.....

.....

Q 3: State three indivisibilities proposed by Rodan in Big Push theory

.....

.....

5.7 CRITICAL MINIMUM EFFORT THESIS

The theory of critical minimum effort was propounded by Harvey Lebenstein. The theory explains the relationship between per-capita income, population growth and investment. Here, the population was an income depressing factor and investment is an income-generating factor. The income generating factor promotes growth in this process than income depressing factors. Small additional income can be generated using investment. At the same time the additional income that was generated using additional investment were consumed by additional population and this affect the process of cumulative growth. Hence, this call for heavy investment in the initial phase.

Critical Minimum effort is necessary to achieve a steady economic growth raising per-capita income. A critical minimum investment is injected into the system for the economic growth in underdeveloped and over populated countries. According to Lebenstein "A sufficiently large minimum effort is necessary at the outset of the necessary minimum is to be achieved. He argued that every economy is influenced by the shocks and stimulus. The shock reduces the growth of per-capita income whereas the stimulants had a tendency to increase it.

Assumptions

- At a particular level of PCI which is the subsistence income, the growth retardation curve should intersect growth promotion curve from below.
- With an increase in the level of income, there exists a certain degree of increase in the growth- retardation and growth promotion process
- There exist an inverse relationship between growth retardation and growth promotion process.
- Autonomous income depressant and promotion factors are normally neutral.

Important Concepts

- **Growth Agents:** The existence of certain favourable condition for increasing the per-capita income is an essential feature of critical minimum effort. This can be done with the help of growth agents.Eg:

Entrepreneurs, the savers and the investors

- **Incentives:** According to Lebenstein there are two types incentives, viz., zero- sum Incentives and positive sum incentives. Zero-sum Incentives have distributive effort and it doesn't raise the national income.The positive-sum incentive lead to the expansion of the national income.

In underdeveloped countries the entrepreneurs are engaged in zero sum activities. In order to attain monopoly power and social status they are engaged in zero sum game. Hence, there exists only limited scope for under developed countries to undertake positive sum activities. Therefore, Lebenstein argued that UDC's have to convert their zero sum game incentive programmes to positive sum activities. Hence, the minimum effort should be enough to promote and flourish positive sum activities.

The Factors Responsible for depressing PCI in UDC's

- Zero sum entrepreneurial activities
- Conservative activities of organised and unorganised labour
- Reliability on old ideas
- Increase in consumption
- Increase in population
- High capital-output ratio

Thus, to the influence of the above mentioned factors which keep an economy in backwardness a sufficiently large critical minimum effort is required to sustain a rapid rate of economic growth.

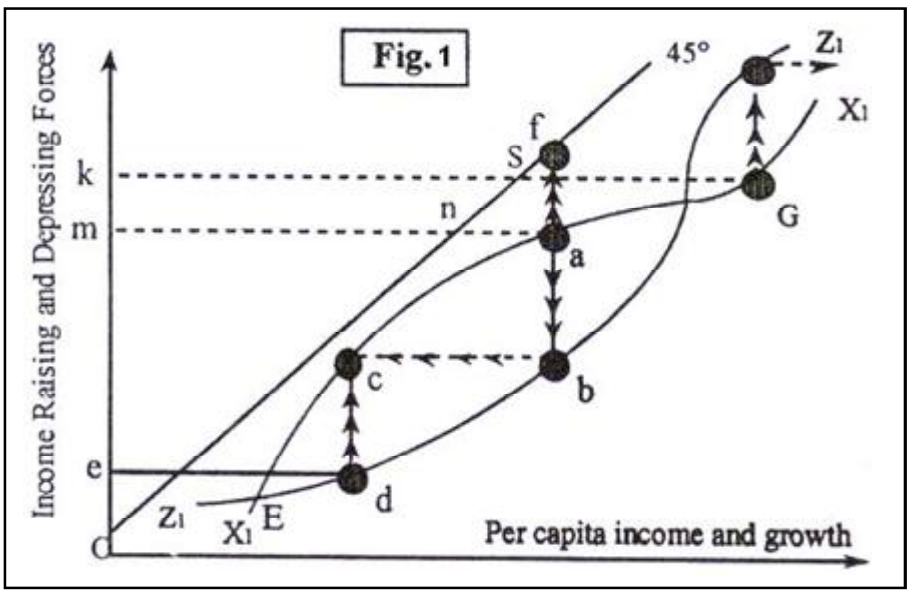
Hence, on the one side the zero sum activities could be overcome, and positive sum activities could flourish. As a result of critical minimum effort, the per capita income would rise leading to increase the level of savings and investment. They will in a turn would lead to:

- An expansion of growth agents.
- The capital-output ratio will come down.
- The income depressing forces will get weaken?
- Such a social environment will be created which will promote social and economic mobility.
- The secondary and tertiary sectors will expand and specialization will

be encouraged.

- An atmosphere will be created where there will be social and economic change leading to decrease the population.

Figure 5.6: Critical Minimum Effort by Leibenstein



In Figure 5.6, the 45° line shows, the induced increase and decrease in the per capital income. While X1 X1 curve shows income generating forces and Z1 Z1 curve represents income depressing forces. If due to 'Stimulants' the per capita income increases from Oe to Om, the per capita income will increase up to na. But here the income depressing forces 'fb' are greater than income generating forces 'fa'. As a result, the economy will follow the downward path 'abcd'.

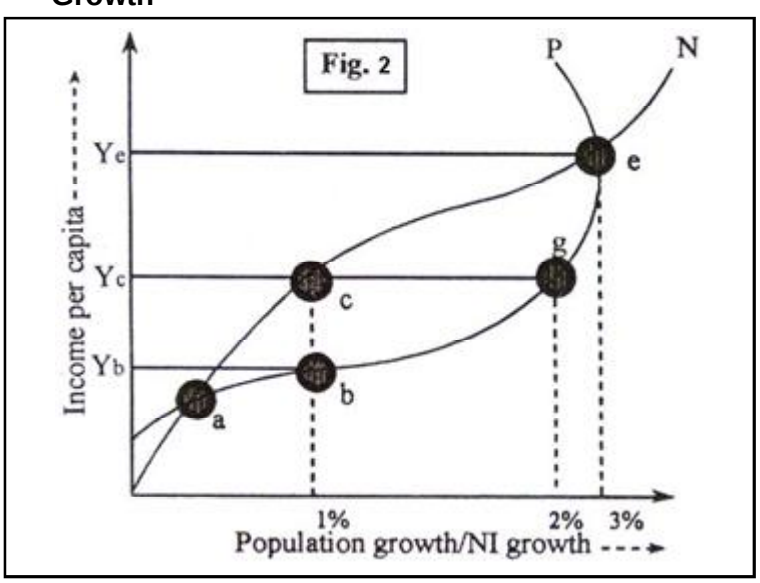
In this way, the economy reaches point 'E'. Therefore, if the economy is to be put on the path of development the per capita income will have to be increased till Ok by increasing investment. As a result, the income will increase till SG which will in turn generate the path of endless expansion of per capita income as shown by arrow movement rising above G. That package of investment which leads to increase per capita income even after point 'G' is given the name of "Critical Minimum Effort by Leibenstein".

Here the curve N represents that increase in per capita income which equalizes the increase in population to increase in national income while the curve P shows the growth rate of population at different levels of per capita. We start with point 'a' where the economy is in equilibrium at

subsistence level. Here neither income nor population increases. If per capita is increased till Yb, the population growth rate and increase in national income are of 1%. If the level of per capita income is Yc, the growth of population is greater than growth rate of national income. Ycg>Ycc or 2% > 1%.

Therefore, the need is to increase per capita income in such a way that increase in national income is more than increase in population. Therefore, if per capita income increases more than Ye, the population growth starts declining. At point e, the population growth rate is 3% per annum which is the maximum possible growth rate of population on biological grounds. Thus, according to Leibenstein, the Ye is the minimum critical level of per capita income which is necessary for economic growth.

Figure 5.7: Level of Minimum Per Capita Income to attain Economic Growth



CRITICISMS:

- The population growth rate related to death rate
- Decline in birth rate is not due to increase in per-capita income
- It neglects the time element
- Role of state is ignored or absent
- Closed economy model
- Complex relation between PCI and growth rate.



5.8 LET US SUM UP

- Vicious circle of poverty is a process in which those families who are poor are again trapped in poverty for at least three to four future generations. It is defined as the circular constellations of forces that tends to act and react upon each other in such a way as to keep a poor country in a state of poverty".
- The theory of cumulative causation was developed by Gunnar Myrdal. According to him economic development results in a circular causation process which lead to rapid development of developed countries, but at the same time the less developed and developing countries tends to remain poor.
- The theory was propounded by the famous economist Arthur Lewis. According to Lewis the unlimited supply of labour force is available at underdeveloped and developing countries at a subsistence wage rate. This surplus labour was mostly engaged in the subsistence sector and they have to transfer to the capitalist sector for its growth process.
- Balanced growth is defined as the equal and systematic importance to all the sectors of the economy. This means there is balance between sectorial and regional departments in the long run. This strategy was largely based on the principle of welfare economics and it stresses more on social marginal productivity rather than the individual productivity.



5.9 FURTHER READING

1) Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and development: A two-sector analysis. The American Economic Review, 126-142.
2) Lewis, W. A. (1954). Economic development with unlimited supplies of labour. The manchester school, 22(2), 139-191.
3) Nurkse, R. (1966). Problems of capital formation in underdeveloped countries.

4) Ray, Debraj. Development economics. Princeton University Press, 1998.
5) Thirlwall, A. P. Growth and development: with special reference to developing economies. Springer. (Latest edition)

5.10 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: (b), (c),(d), (a)

Ans to Q No 2: Vicious circle of poverty is defined as the circular constellations of forces that tends to act and react upon each other in such a way as to keep a poor country in a state of poverty".

Ans to Q No 3: Indivisibilities in the production function, Indivisibilities in demand and supply, Indivisibilities in the supply of savings

5.11MODEL QUESTIONS

Short Questions (Answer each question in about 150 words)

Q 1: Define Vicious circle of poverty

Q 2: State the conditions for low level equilibrium trap

Essay Questions (Answer each question in about 300-500 words)

Q 1: State and explain vicious circle of poverty with Diagram

Q 2: Critically differentiate the balanced and unbalanced growth

Q 3: State and explain Big Push Theory and its criticisms

Q 4: Explain the relevance and importance of unlimited supply of labour and its criticisms.

*** ***** ***

UNIT 6: APPROACHES TO DEVELOPMENT - II

UNIT STRUCTURE

6.1 Learning Objectives

6.2 Introduction

6.3 Dualism

6.4 Lewis Model of Economic Development

6.5 Fei-Ranis Model

6.6 Dependency Theory of Development

6.7 Myrdal's Model of Circular and Cumulative Causation

6.8 Let Us Sum Up

6.9 Further Reading

6.10 Answers To Check Your Progress

6.11 Model Questions

6.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- define dualism and its dynamic features
- describe the Fei-Ranis model
- explain the Lewis model of development
- explain the dependency theory of development
- discuss Myrdal's model of circular causation.

6.2 INTRODUCTION

In the last Unit, we discussed a set of theories which are included in the partial theories of growth and development. This unit will be extension of the partial theories of development which concentrates more on modern methods of production and development of the country. In this unit, we shall discuss a few theories of economic development, viz., Lewis model, Fei-Ranis Model and the Dependency theory. Apart from these, the concepts of circular and cumulative causation theories shall also be discussed. We shall begin the unit with the discussion of the concept Dualism.

6.3 DUALISM

The term dualism describes a condition in which developing countries may find themselves in the early stages of development, the extent of which may have implications for the future pattern and pace of development.

It mainly refers to the economic and social divisions in an economy such as differences in the level of technology between sectors or regions, differences in the degree of geographic development and differences in social customs and attitude between indigenous and imported social systems.

Dualism arises either naturally,or as a result of specialisation. It is imposed from outside by the importation of an alien economic systems which are mainly capitalism. The dual economy is characterised by differences in social customs between subsistence and the exchange sectors of the economy. One of the major causes of persistentd dualism is the access of progressive sectors to scarce factors of production. It is based on four essential arguments.

- Existence and persistence of increasing divergence between the rich and poor people on various levels.Eg: Lewis notion of co-existence of modern and traditional methods of production in urban and rural sectors.
- The co-existence is a temporary phenomenon
- The companionship between superior and inferior element does little or nothing to pull up inferior element, let alone trickle down it.

In the economies there are three types of dualism social dualism, technological dualism and financialdualism.

Social Dualism: It refers to the prevalence of both occidental and oriental customs and habits in the economy. There is an urban western style and traditional rural style that exist in the society. In other words, it can be said that it is the clashing of an imported social systems with the indigenous social systems of another style. The imported social system is the capitalism. It is a form of disintegration which come into existence with the appearance of capitalism in the pre-capitalist countries. It arises because

of the existence of two social systems in east and west

Technological dualism

It exists in the form of advanced sectors using modern technologies and a subsistence sector adopting traditional science and technology. Benjamin Higgins developed this concept. According to him, technological dualism describes the pattern of technique used in the advanced and traditional sectors of the economy.

Financial dualism: It was explained by Myint and Bottomley. It is explained in terms of access to capital market. It implies the existence of organised and unorganised money markets. In the organised sectors rules and regulations are prescribed by central bank for playing a fair game.

6.4 LEWIS MODEL OF ECONOMIC DEVELOPMENT

A number of economists attempted to analyse development in the context of a 'labour-surplus economy'. These theories owe their origin to the celebrated work of Nobel Laureate Sir W. Arthur Lewis in 1954. An elabourate discussion of the labour-surplus economy is given by G. Ranis and John Fei in 1961.

In 1954 Sir Arthur Lewis published a paper, 'Economic Development with unlimited supplies of labour' (The Manchester School), which has since become one of the most frequently cited publications by any modern economist: its focus was a 'dual economics' -small, urban, industrialised sectors of economic activity surrounded by a large, rural, traditional sector, like minute is largely in a vast ocean.

A central theme of that article was that, labour in dual economies is available to the urban, industrialised sector at a constant wage determined by minimum levels of existence in traditional family farming because of 'disguised unemployment in agriculture, there is practically unlimited sup-ply of labour and available of industrialisation, at least in the early stages of development. At some later point in the history of dual economics, the supply of labour is exhausted then only a rising wage rate will draw more labour out of agriculture.

With their acute material poverty, it is difficult at first sight to imagine how the overpopulated countries can increase their savings without great hardships. On the contrary, their surplus population on the land seems to offer a major unused potential for growth, waiting only for the 'missing component' of outside capital to assist them in the process.

Moreover, their rapid rates of population growth lend themselves to calculations of aggregate capital requirements which must be made available if their per capita incomes are to be maintained or raised.

An LDC is conceived to operate in two sectors, viz., (1) A traditional agricul-tural sector, and (2) A much smaller and also more modern industrial sector.

"Surplus labour" (or disguised unemployment) means the existence of such a huge population in the agricultural sector that the marginal product of labour is zero. So, if a few workers are removed from land, the total product remains unchanged.

The essence of the development process in such an economy is "the transfer of labour resources from the agricultural sector, where they add nothing to production, to the more modern industrial sector, where they create a surplus that may be used for further growth and development."

In Lewis model the transformation process or the process of structural change starts by an autonomous expansion in demand in industry as a result of changes in domestic consumer tastes, in government purchases, or in international markets.

The central point is that labour (here considered homogeneous and unskilled) shifts from agriculture into industry. The supply of labour from agriculture to industry is "unlimited" (i.e., completely elastic) at the given urban wage (about 30 to 50% higher than the rural wage), owing to the relative sire of the agricultural labour forces at the margin.

The phenomenon is frequently labelled "disguised unemployment in agriculture". Redundant supplies of unskilled labour to industry at existing wages hold down industrial labour costs. But higher demand and higher prices in industry result in higher profits.

When these profits are ploughed back into industrial capital

formation, demand for industrial output (both for consumption goods by newly employed workers and investment by capitalists) rises, causing further shifts of labour out of agriculture into industry.

The process comes to a halt when agricultural productivity rises to a point where the supply price of labour to industry increases, i.e., a point at which agricultural alternatives of output and income are sufficiently attrac-tive to the would-be industrial workers to keep them in farming. In the absence of rural-urban differences in the cost of living, this occurs when the marginal product of labour in the two sectors are equal.

Lewis postulates the existence of a subsistence sector with surplus labour and he sees in this the seed for the subsistence sector. One major charac-teristic of the capitalist sector is that it uses reproducible capital and that it produces profit.

Since there is surplus labour from the subsistence sector, the capitalist sector draws its labour from the subsistence sector and it is assumed that as a result of rapid increases in population in already densely populated countries the supply of unskilled labour is unlimited.

So capitalists can obtain even increasing supplies of such labour at the existing wage rate, i.e., they will not have to raise wages to attract more labour. So, the capitalist sector can expand indefinitely at a constant wage rate for the unskilled labour.

The actual (market) wage rate will be determined by earnings in the subsistence sector. But 'earnings' here means the average product and not the marginal one, in subsistence sector receives an equal share of what is produced.

Lewis has assumed and made the point that capitalists will have to pay a margin of about 30% above average subsis-tence pay, because the surplus workers need some incentive to move and in any case part of the difference is needed to compensate them for the higher cost of living in urban areas.

Another point to note is that in the subsistence sector labour is employed up to the point where its marginal product is zero. Contrarily, in the capitalist sector labour will only be employed up to the point where its

marginal product equals the wage rate-the familiar relationship derived from the marginal productivity theory. If wages exceed marginal produc-tivity a capitalist employer would be reducing his surplus since he paid labour more than he received for what was produced.

This surplus is the key to the Lewis model of development. In Fig. 6.1 OS is the average product of the subsistence sector-the amount a man would receive there. Here, OW is the capitalist wage.

Figure 6.1: Lewis Model

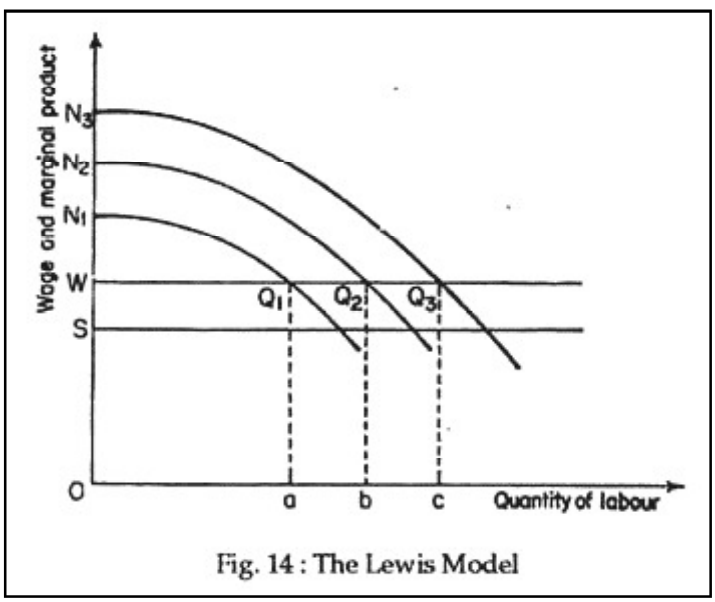


Fig. 14 : The Lewis Model

Let us start with a fixed quantity of capital, and in this situation the demand for labour is represented by the marginal productivity schedule of labour NQ. Under profit-maximising conditions, labour will be applied to the point where the wage, W, equals marginal productivity, i.e., Q1, corre-sponding to Oa number of workers. Workers in excess of Oa will earn whatever they can in the subsistence sector.

Now, as development takes place since part of what is produced accrues to the capitalist in the form of a surplus (WN, Q1 in Fig 6.1). This amount is rein-vested. This reinvestment produces an increase in the amount of fixed capital and causes a shift in the marginal product of labour curve form N1Q1 to N2Q2 in the next period.

Further, it can be seen that more labour will now be employed and

the surplus increases, leading to a further shift of the curve to N3Q3, causing more labour to be drawn in from the sub-sistence sector has been drawn into the capitalist sec-tor. When that happens pay in the subsistence sector will start to rise, causing wages in the capitalist sector to rise, and then the first phase of development will have ceased as the supply curve of labour has ceased to be hori-zontal, but has turned up- wards.

Criticisms: Themajor criticisms levelled against the model are:

- The Lewis model is close to the Ricardian one. It neglects the central concern of Ricardo: how the price of food is to be held down. If it he assumed, however, that the supply of labour to industry is infinitely elastic at a steady wage because of surplus labour in agriculture, this can help explain initial development which comes to an end when wages start to rise with increased capital formation.
- The Lewis model begins with the classical of Marx, but ends with a much happier neo-classical result. Initial growth in the dual economy is largely in the form of increased profits made available from underpayment of wages. Instead of the inevitable crises of Marx, however, the dual economy of Lewis eventually runs smoothly as a single economy under neo-classical rules.
- The differences between the capitalist and non-capitalist sectors are elimi-nated by their shared labour shortage. Lewis' main point is that eventual wider-spread economic growth and development can be fuelled by initial large supplies of cheap labour that result from the initial condition of economic duality.
- The Lewis model was interpreted throughout the third world as justify-ing an import completing, industrialisation growth strategy and must there-fore be given some of the blame, through no fault of the author, for the neglect of rural development in the companies of Africa, Asia and Latin America which has been singled out as the great scandal of development in the 1970s. D. W. Jorgenson has provided a neo-classical explanation of the development of 'dualism' in LDCs, rejecting Lewis' influential theory of 'economic development with unlimited supplies of labour'.

- The labour-saving bias of modern technological transfer supported by the widespread non-existence of rural surplus labour, the prevalence of 'urban surplus' labour, and the tendency for urban open unemployment exists, suggest that the Lewis model offers little analytical and policy guidance for solving employment problems in labour-surplus LDCs.

"Nevertheless", concludes M. P. Todaro, "the model has some analytical value in that it emphasises two major elements of the employment problem: the structural and economic differences between the rural and the urban sectors, and the central importance of the process of labour transfer between them."

6.5 FEI-RANIS MODEL

John Fei and Gustav Ranis developed a dual model called Fei-Ranis (FR) model. It is considered an improvement over the Lewis theory of unlimited supply of labour. One of the important limitations of the Lewis model was that it failed to give adequate attention to agricultural sector. But Fei-Ranis stresses on how the increased productivity in agricultural sector plays an important role in promoting the industrial sector. This model describes three stages whereby an underdeveloped country develops from low economic growth/stagnation to self-sustained economic growth.

According to Fei- Ranis "economic development would be taking place if agricultural labourers are transferred to the industrial sector where their productivity will increase". The situation in which zero marginal productivity of labour can be easily transferred to the industrial sector without much loss. Here the real wages in the industrial sector is fixed and it is equal to the initial level of real income.

Here, the traditional or agricultural sector plays the role of supplies of labour to the modern industrial sector. Whereas, the modern sector's growth is possible if the agricultural sector produces more food than its producers required for consumption

The FR Model: Thus the model suggests that:"Economic development would be taking place if agricultural labourers are transferred

to industrial sector where their productivity will increase".

As we told earlier that it is a dual economy where there is a stagnant agricultural sector and dynamic industrial sector. The situation where MPL - 0, labour can be transferred to industrial sector without any loss in agricultural output. The real wages in industrial sector remains fixed and it is equal to the initial level of real income in agricultural sector. Such wages are given the name of institutional wages.

Stages of Fei-Ranis Model: Fei and Ranis develop their dual economy model with the help of three stages of economic growth. These three have been explained with the help of Figure 6.2.

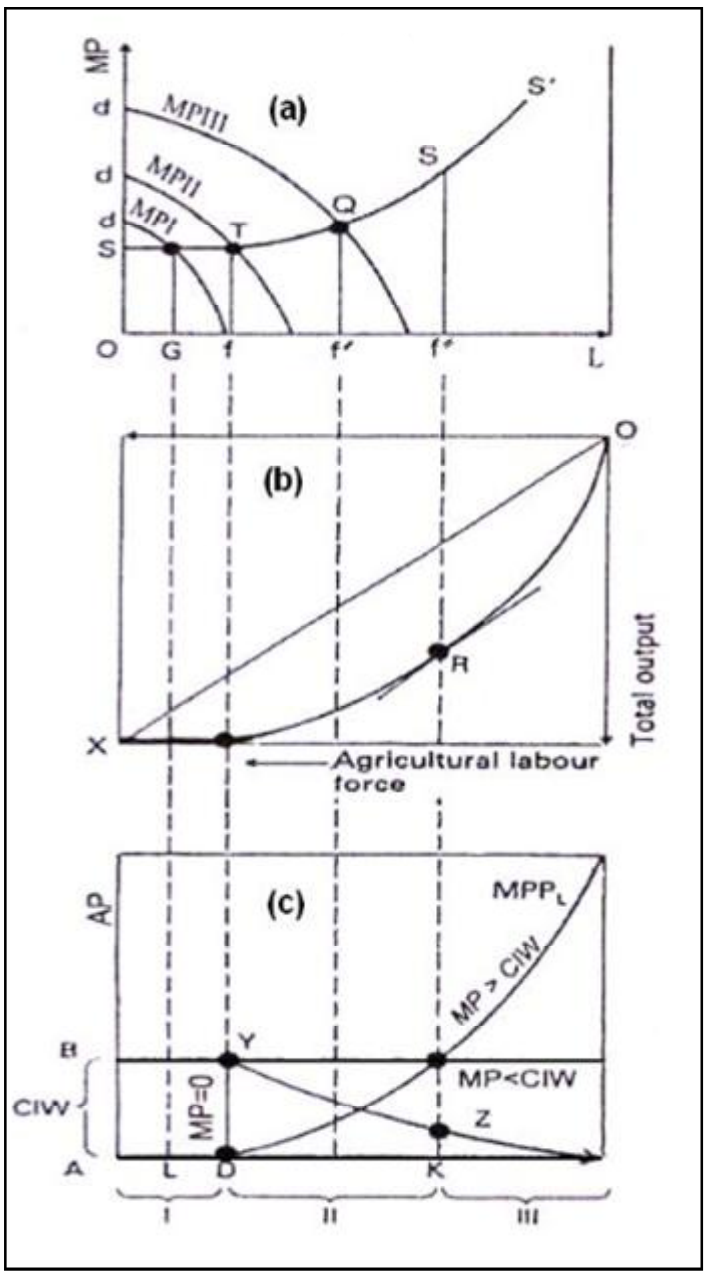
In the (a) part of the Figure 6.2, the labour supply curve is perfectly elastic, as between S and T. In phase (I) as shown in (c) part of Fig., the MPL = 0. In other words AL = MPL = 0. But here APL = AB. Following Lewis the FR modelargues that AD units of labour are the surplus amount of labour in agricultural sector which is prey to disguised unemployment. Therefore, they can be withdrawn from agricultural sector without changing agricultural output.

In phase (II) APL > MPL, but after AD, MPL begins to rise (c part of Fig). The growth of labour force in industrial sector increases from zero to OG (a part of Fig). The APL in agricultural sector is shown by BYZ curve (c part of Fig).

After AD as migration takes place from agricultural sector to industrial sector MP, > 0, but APL falls. This shows a rise in real wages for industrial labours because of shortage of food supply. An increase in real wages will reduce profits and the size of 'surplus' which could have reploughed for further industrialization.

The investment in industrial sector (with the surplus earned) will shift the MP curve outward right as from aa to bb and then to cc. In this way agricultural sector will be able to get rid of labour until the MPL = real wages = AB =constant institutional wage (CIW) which is obtained by dividing the total agricultural output ORX (b part of Fig) by AD amount of labour. In other words, the slope of ORX curve represents real wage rate. Thus the MPL = CIW where the tangent to the total output line ORX at X is parallel to

Figure 6.2: Fei-Ranis Model



OX. In the second phase DK amount of labour were employed. But still MPL < CIW or CIW > MPL. It means that in this phase still a certain amount of labour is surplus or they are prey to disguised unemployment.

Please note that the first stage of FR model is very similar to Lewis. Disguised unemployment comes into being because the supply of labour is perfectly elastic and MPL = 0. Therefore, such disguised unemployed are to be transferred to industrial sector at the constant institutional wage.

In the second stage of FR model (phase) agricultural workers add to agricultural output but they produce less than institutional wage they get. In other words, in the second stage the labour surplus exists where APL > MPL, but it is not equal to subsistence (institutional) wages. Accordingly, such disguised unemployed also have to be transferred to industrial sector. If the migration to industrial sector continues a situation is eventually reached where the farm workers produce output equal to institutional wages. This would mean that productivity in agricultural sector has gone up. With this the third phase (stage) starts.

In the third stage of FR model the take-off situation comes to an end and there begins the era of self-sustained growth where the farm workers produce more than the institutional wage they get. In this stage of economic growth the surplus labour comes to an end and the agricultural sector becomes commercialized sector. All such is explained with the Fig.

Accordingly, they have to be shifted to industrial sector. As labour are transferred to industrial sector a shortage of labour will develop in agricultural sector. In other words, it will be difficult for the industrial sector to get the labour at same prevailing constant wages. As a result, the wages in the industrial sector will rise as from T to Q in (a) part of Fig.

After point T the turn which occurs in the SZ curve is known as "Lewis Turning Point". In the 3rd phase the agriculturallabourers produce more than CIW. (As here MPL > CIW shown in (c) part of Fig). In this phase the take off comes to an end and self-sustained growth starts. This is also known as point of commercialization (of agricultural) in FR model. Here the economy is fully commercialized in the absence of disguised unemployment. Such commercialization took place at the cost of absorption of disguised unemployment in industrial sector.

According to the model, the amount and time to re-allocate labour will depend upon:

- The rate of growth of industrial capital which depends upon the growth of profits in industrial sector and growth of surplus generated within the agricultural sector.

- The nature and bias of technical progress in industry.
- The rate of growth of population. It means that the rate of labour transfer must be in excess of the rate of growth of population.
- The three phases of labour transfer are summarized as:
- In phase I: MPL = 0 and there exists the surplus labour equal to AD.
- In phase II: CIW > MPL > 0 and there exists the open and disguised unemployment equal to AK.
- In phase III: MPL > CIW and the economy is fully commercialized and disguised unemployment is exhausted. The supply of labour curve becomes steeper and both agricultural and industrial sector compete with each other to get labour.

Thus, we find that whereas Lewis had failed to offer a satisfactory explanation of this subsistence sector and ignored the real impact of population growth on the choice of capital intensity on the process of surplus labour absorption. Moreover, FR model emphasized upon the simultaneous growth of agricultural and industrial sectors. Thus FR model believes in 'Balanced Growth' in the take-off stage. It means that there should be a simultaneous investment in both agri, sector and industrial sector. According to FR model in the beginning the surplus rises; such surplus will bo available as a capital in the take-offstage. Some part of this surplus will be used in agricultural development, while some part will be reploughed in industrial development. As a result, both agricultural and industrial sectors will grow under 'Balanced Growth' pattern.



CHECK YOUR PROGRESS

Q 1: Name three types of dualism.

.....

.....

Q 2: Who is the main propunderof dependency theory.

.....

.....

Q 3: Define the term dualism.

.....

.....

6.6 DEPENDENCY THEORY OF DEVELOPMENT

The dependency theory of development was developed in 1950's by Paul Prebsich and his colleagues. They were concerned about the fact that growth in the industrialised countries did not do much to lead growth in the poor countries. They opined that economic development in the developed or richer countries often leads to problems in the poorer countries.

Major Propositions

- Developing or largely the third world economies do not exist separately or in an isolated conditions.
- There exist tremendous or numerous interactions between the core countries and the people and also between the core and the periphery. But the interaction between the periphery countries is limited.
- Economic trade results in widening the gap of developed and developing countries of the world.

In its extreme form, dependency theory is based on a Marxist view of the world, which sees globalisation in terms of the spread of market capitalism, and the exploitation of cheap labour and resources in return for the obsolete technologies of the developed world. The dominant view of dependency theorists is that there is a dominant world capitalist system that relies on a division of labour between the rich 'core' countries and poor 'peripheral' countries. Over time, the core countries will exploit their dominance over an increasingly marginalised periphery.

Dependency theory advocated an inward looking approach to development and an increased role for the state in terms of imposing barriers to trade, making inward investment difficult and promoting nationalisation of key industries.

Although still a popular theory in history and sociology, dependency theory has disappeared from the mainstream of economic theory since the collapse of Communism in the early 1990s. The considerable inefficiencies associated with state involvement in the economy and the growth of corruption, have been dramatically exposed in countries that have followed this view of development, most notably a small number of African economies,

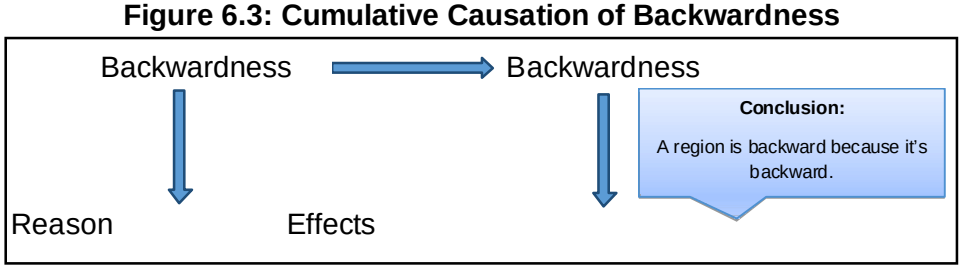
including Zimbabwe.

6.7 MYRDAL'S MODEL OF CIRCULAR AND CUMULATIVE CAUSATION

The theory of cumulative causation was developed by Gunnar Myrdal. According to him, economic development results in a circular causation process which lead to rapid development of developed countries, but at the same time the less developed and developing countries tends to remain poor. The unequal exchange involved in the inter-regional and international relations always gives the sense that weaker countries are always exploited by the strong. In short he said that economic backwardness is due to regional inequalities which results from the strong backwash effects and weak spread effects.

The cumulative causation has been built upon the spread effects and the backwash effects. The theory states that "poverty is further perpetuated by poverty (BWE> SPE) and "affluence is further promoted by affluence"(SPE>BWE). This has been shown with the help of Figure 6.3.

Figure 6.3: Cumulative Causation of Backwardness



Highlights

- Mydral states that the free play of the various market forces and the operation of their profit motives that normally existed in the capitalist system increase the inequalities between the regions.
- The dominance of the backwash effects leads to the divergence and hence periphery will get weaker but the centre will be developed.
- The dominance of spread effects leads to the emergence of convergence. This results in the development of the periphery and hence there will be economic integration between the centre and the periphery.

Therefore, the cumulative causation theory proves that the market

mechanism fails to bring the equality between the regions. It usually increases the inequalities. Also, the interventions of governments will check the backwash effects from getting it cumulative.

Criticisms

- This model combines both national as well as international forces and this helps in keeping UDC in the morass of cumulative process
- The theory proved the competitive market instead of solving problems in the backward regions
- The theory emphasized the sponsored growth that is the support of government
- The theory focussed only on the accidental factors rather than other factors.



6.8 LET US SUM UP

- Fe-Ranis model represents three stages whereby an underdeveloped country develops from low economic growth/stagnation to self-sustained economic growth.
- The term dualism describes a condition in which developing countries may find themselves in the early stages of development, the extent of which may have implications for the future pattern and pace of development.
- The dependency theory of development was developed in 1950's by Paul Prebsich and his colleagues. They were concerned about the fact that growth in the industrialised countries did not do much to lead growth in the poor countries. They opined that economic development in the developed or richer countries often leads to problems in the poorer countries.



6.9 FURTHER READING

1) Thirlwall, A. P. Growth and development: with special reference to developing economies. Springer. (Latest edition)
2) Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and

development: a two-sector analysis. The American economic review, 126-142.

3) Lewis, W. A. (1954). Economic development with unlimited supplies of labour. The manchester school, 22(2), 139-191

4) http://www4.fe.uc.pt/mapsd/richardnelson_povertytraps_1956.pdf

6.10 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: The different types of dualism are:(1) social dualism (2) financial dualism (3) technological dualism.

Ans to Q No 2: The main propunder of the dependency theory of development was Raul Prebsich.

Ans to Q No 3: Dualism mainly refers to the economic and social divisions in an economy such as differences in the level of technology between sectors or regions, differences in the degree of geographic development and differences in social customs and attitude between indigenous and imported social systems.

6.11 MODEL QUESTIONS

Short questions (Answer each question in about 100-150 words)

Q 1: State and explain major propositions of the dependency theory.

Q 2: Define dualism and discuss its divisions.

Essay Questions (Answer each question in about 300-500 words)

Q 1: Explain Fei-Ranis Model.

Q 2: Explain Lewis dual model.

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UNIT 7: LABOUR MARKET DISTORTION

UNIT STRUCTURE

7.1 Learning Objectives

7.2 Introduction

7.3 Harris Todaro Migration Mechanism and Urban Unemployment

- 7.3.1 The HT Model
- 7.3.2 An Alternative Explanation of HT Model

7.4 Wage Efficiency

- 7.4.1 Reasons for Wage Efficiency
- 7.4.2 Efficiency Wage Theory and Involuntary Unemployment
- 7.4.3 Limitations of Efficiency Wage Theory

7.5 Fair Wage Effort Hypothesis and Unemployment

- 7.5.1 A Basic Model of Unemployment with the Fair Wage-Effort Hypothesis

7.6 Let Us Sum Up

7.7 Further Reading

7.8 Answers to Check Your Progress

7.9 Model Questions

7.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- discuss why according to HarrisTodaro migration of labour takes place from agriculture to industrial sector in Less Developed Countries
- discuss the concept of efficient wage and various theories associated with it
- describe the fair wage effort hypothesis and its relationship with unemployment.

7.2 INTRODUCTION

Market distortion means the intervention of regulatory body in a given market. This intervention may be in the form of price, wage, tax,

subsidies etc. Therefore the phenomenon of labour market distortion indicates the intervention of regulatory authority in the market by fixing wages or giving wages above the market clearing wage or it may be the case of migration of workers or rural urban wage differentials. In the present chapter we will discuss the Harris Todaro model where we will see that difference in wages in rural and urban sector will lead to migration of workers from rural to urban sector. Similarly in the section of wage efficiency we will find that if workers are paid less than the efficient wage there may be a possibility of reduction of workers' productivity. So employers may want to pay more wages in order to get more productive work from the worker and thereby distorting the market. The relationship between fair wage effort and unemployment is also discussed inthis Unit.

7.3 HARRIS TODARO MIGRATION MECHANISMS AND URBAN UNEMPLOYMENT

The Harris Todaro model was developed in 1970 to address the issues of rural urban migration in less developed countries (LDCs). To free the economy out of the clutches of unemployment, Harris and Todaro pointed out two important factors. First, despite the existence of positive marginal products in agriculture and a significant level of urban unemployment, rural urban labour migration not only continues to exist but indeed appears to be accelerating. Second, the Harris Todaro model or HT model is a general equilibrium model which describes the migration mechanism of workers from rural to urban areas as a result of expected income differentials. It also seeks to explain the existence of urban unemployment and underemployment in developing countries. The HT model was named after John R. Harris and Michael Todaro. Since the publication of Todaro in 1969 and Harris and Todaro in 1970 in American Economic Review, this model has received much attraction and discussion from both development and international economists. Researchers like Yabuuchi(1970), Bhagwati and Srinivasan(1974), Stiglitz (1974), Corden and Findlay (1975), Neary (1981) applied Harris Todaro model in their studies and more recently, Bencivenga and Smith (1997) and Lee (2008) have attempted to extend the HT model

to include dynamic analysis. On the otherhand, Yabuuchi and Chaudhuri (2007) and Chaudhuri (2008), have try to develop a more real version of HT model by categorizing migrants into skilled and unskilled workers.

7.3.1 The HT Model

The basic model is a two sector internal trade model with menacing unemployment. The two sectors are urban and rural. For the sake of simplicity they distinguish the two sectors on the basis of production and income. Urban sector specializes in the production of manufactured goods and part of which are transferred to the rural sector. In exchange, agricultural goods go to the manufacturing sector. The rural sector is free to employall the available labour and produce a single agricultural product in small quantum. Certain portion of rural workers migrates to urban sector. The core of the HT model is migration mechanism and subsequent urban unemployment. Now the question arises why does labour migrate between the sectors? The answer to such question is that workers' migration decision is basically influenced by the difference in the expected wage between the sectors. The migration decision is based on expected income differentials between rural and urban areas rather than just wage differentials.In other words we can say that the rural-urban migration can be economically viable if expected urban income exceeds expected rural income though such migration leads to high urban unemployment. That means the workers will continue to migrate from agricultural rural sector to urban manufacturing sector as long as expected urban income is greater than that of rural income.It is assumed in the HT model that the urban wage is fixed institutionally and legally. So there is a possibility that number of migrants from rural to urban sector may exceed the number of new job available in the urban sector. As a result some workers would necessarily be unemployed. They have to enter the urban informal sector and be unemployed or underemployed there.

According to HT model, equilibrium will be reached when there are no expected income differentials between rural and urban sectors. Technically this position is reached when the expected wage in urban areas is equal to the marginal product of agricultural workers. In equilibrium, the expected rural income equals the expected urban income. So workers do not find it profitable to migrate from rural area to urban area. As a result, the rural to urban migration rate will be zero at equilibrium. However, in this equilibrium there will be positive unemployment in the urban sector as against no unemployment in rural sector.



LET US KNOW

The most significant feature of this model is that it made it possible for analysts to deal with unemployment, within the framework of general equilibrium, by including still unemployed workers who were waiting for job opportunities in the urban sector, a factor that had previously been difficult to assess. It gave rise to a more realistic description of developing economies and helped to explain migration between urban and rural areas theoretically.

Assumptions: The model is based on the following assumptions

- The economy, talked about in HT model, is an open economy.
- The economy consists of two sectors viz agricultural rural sector and manufacturing urban sector.
- There are three kinds of factors of production viz specific production factor of agricultural sector, specific production factor of urban manufacturing sector and labour which is common to both the sector and has mobility between the sectors.
- Wage at urban manufacturing sector is fixed .
- The model is a short run model with fixed capital endowment in each sector
- Unemployment does not exist in rural agricultural sector
- Rural agricultural production and the subsequent labor market is perfectly competitive.



LET US KNOW

The HT model is a specific form of the "neo-classical two sectors model", represented by the "Heckscher, Ohlin and Samuelson model" .It is actually a "specific factor model" proposed by Jones in 1971. In the SF model, each sector has its own specific production factor which cannot move between sectors, and the specific factor endowments are also fixed.

We know that migration decision in HT model is based on expected income differential between rural and urban areas. Here expected income is just the weighted average of the urban wage and the unemployment benefit, the weights being the probabilities of finding and not finding an urban job. We further know that rural wage is such that there is no scope of rural unemployment. The rural wage is denoted by WL R .Urban wage is exogenously fixed and set at sufficiently higher level than rural wage so that migration takes place and urban unemployment prevails. The urban wage is denoted by WLC. And we assume that

WLC> WL R

Here, C denotes the cities and R indicates the rural area.

There is a continuous supply of workers whose mass is N. Among the N workers NC lives in cities and NR lives in rural areas respectively. So that,

N=NC+ NR ----------(1)

And,

NC = LC+ UC----------(2)

Where LC and UC are the total employment and unemployment in urban area.

As mentioned earlier, there is no unemployment in rural area.

NR = LR----------3)

Where LR is the total employment in the rural area.

Now from equation (2) we get,

UC = NC - LC ---------- (4)

Again From equation (1)we get

NC = N-NR---------- (5)

Now putting the value of equation (5) at equation (4) we get,

Uc = N-NR- Lc---------- (6)

Putting the value of equation (3) on (6) we get

Uc= N-LR - LC----------(7)

Now the rate of unemployment in urban area is given by:

$$uc = \frac{UC}{LC + UC} = \frac{N - LR - LC}{N - LR} \text{----------(8)}$$

With the random matching of workers to available jobs, the ratio of available jobs to total job seekers gives the probability that any person moving from the agricultural sector to the urban sector will be able to find a job. As a result the probability of finding a job in the urban area is denoted by

$$ac = \frac{LC}{LC + UC} = \frac{NC}{N - LR} \text{----------(9)}$$

The most important thing that is seen in equation (9) is that probability of finding a job in urban area depends not only on urban employment but also the rural employment. And moreover it is observed that urban employment or the number of urban jobs is fixed exogenously. So the workers will migrate from rural area to urban area if and only if the rural wage is lower than the urban expected wage.

That means,

$$W_L{}^C\left(\frac{LC}{N - LR}\right) > W_L{}^R$$

Therefore, migration from rural areas to urban areas will increase by two ways:

first, when the urban wages increase in the urban sector the expected urban income will increase and it will result migration. Secondly, when agricultural productivity decreases, the marginal productivity will also decrease and so the wages in the agricultural sector, and thereby decreasing the expected rural income. The

equilibrium is reached when, the agricultural wage rate is equal to the expected urban wage rate, which is the urban wage multiplied by the employment rate

$$W_L^C\left(\frac{LC}{N-LR}\right)=W_L^R$$

This implies that

$$L^C\left(W_L^C./W_L^R\right)=N-L^R$$

Or,

$$L^R=N-\left(W_L^C./W_L^R\right)=L^C$$

This is the fundamental equation of HT model.

7.3.2 An Alternative Explanation of the HT Model

Now for your better understanding we have presented an alternative approach of HT model.

The HT model is explained through the following equations:

The agricultural production function is given by

$$X_A=\psi\left(N_{A,}\overline{L}\overline{K}_A\right)W_M=\psi' \text{ ----------(1)}$$

Where X_A is the output of agricultural goods, N_A is the rural labour employed to produce this level of output. $\overline{L}$ is the fixed availability of labour. $\overline{K}$ is the fixed availability of capital and ?/ is the derivative of ? with respect to N_A.

The manufacturing production function is given by:

$$X_M=\varphi\left(N_{M,}\overline{K}_M\right) \qquad \varphi'>0,\ \varphi<0 \text{ ----------(2)}$$

Where X_M is the output of manufactured goods, N_M is the total labour employed to produce this level of output. $\overline{L}$ is the fixed availability of labour. $\overline{K}_M$ is the fixed availability of capital and φ' is the derivative of φ with respect to N_M

Now we will present the price determining functions, where P is the price of agricultural goods in terms of the manufacturing goods.

$$P=\rho\left(X_M/X_A\right),\rho'>0 \text{ ----------(3)}$$

Agricultural real wage determination equation:

$W_A = \rho\psi'$ ----------(4)

Where WA is agricultural real wage equating the value of laborer's marginal product in agriculture expressed in terms of manufactured goods.

Real Wage in manufacturing sector

$W_M = \varphi' \geq W'_M$ ----------(5)

Real wage in manufacturing sector is expressed in terms of manufactured goods and equates the marginal product of labour in manufacturing due to profit maximization on the part of perfectly competitive producers. However, this wage is constrained to be greater than equal to the fixed minimum urban wage. Urban Expected wage

$W^{\epsilon}_M = \overline{W}_M (N_M/N_U) \leq 1$ ----------(6)

Thus, the expected real wage in the urban sector, W€µ equates the real minimum wage, $\overline{W}_M$ adjusted for the proportion of the total urban labour force actually employed. Only in case of full employment in the urban sector ($N_M = N_U$) expected wage is equal to minimum wage, i.e

$W^{\epsilon}_U = \overline{W}_M$

Labour Endowment

There is a labour constraint stating that the sum of workers actually employed in agricultural sector (N_A) plus the total urban labour force (N_U) must equate the sum of initial endowments of rural (N_R) and permanent labour (N_U), which in turn equates total labour endowment (N).

$N_A + N_U = \overline{N}_R + \overline{N}_U = \overline{N}$ ---------- (7)

Equilibrium Condition:

Equilibrium conditions assume following equity equation. It is derived from the hypothesis that migration to the urban area is a positive function of urban rural expected wage differentials.

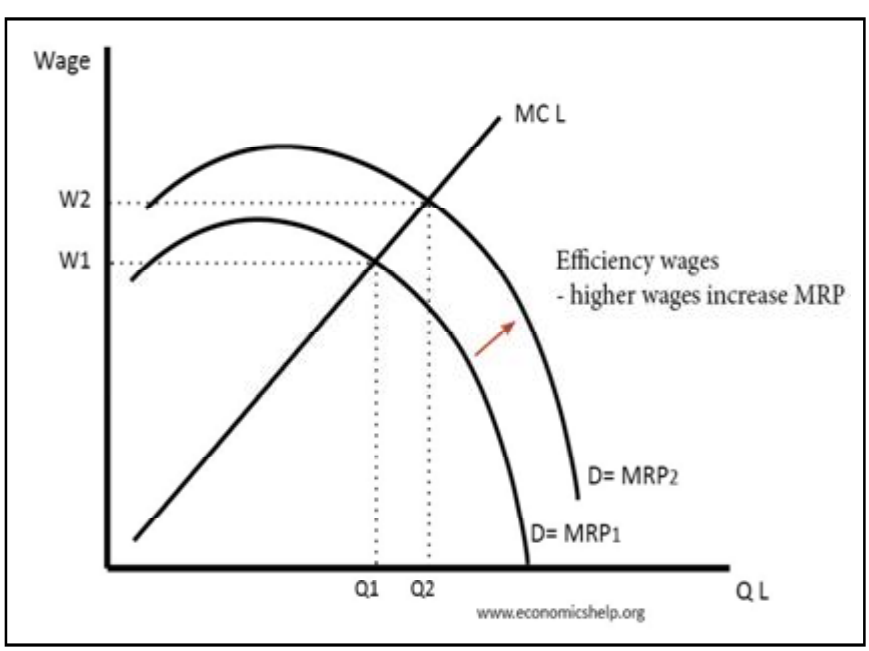
$W_A = W^{\epsilon}_U$ ---------- (8)

Migration shall cease only when expected income differential is zero. This condition is expressed in equation (8). The model contains eight equation and eight unknowns. These unknowns are X_A, X_M, N_A, N_M, W_A, $W^{€}_U$, N_U and P.

7.4 WAGE EFFICIENCY

The term efficiency wage was first introduced by Alfred Marshal. According to him it is wage per efficiency unit of labour. This means that workers should be paid according to their efficiency. So highly efficient worker will be paid more and less efficient worker will get less. In other words, workers get different wages according to their efficiency. However in modern day labour economics the term wage efficiency has a rather different meaning. According to it the higher wage paid to the workers will increase their efficiency through various channels and therefore the employers often offer the workers a wage which is above the market clearing wage. Since we know that higher wage caused increased labour productivity, some or all the higher wage costs will be neutralized through staff retention and higher labour productivity. This has been explained with the help of Figure 7.1.

Figure 7.1: Diagrammatic Explanation of Wage Efficiency



In Figure 7.1, we measure quantity in X axis and wage in Y axis. MCL is the market clearing level of wage. When workers are offered wage w1, the output produced was Q1. However with increased wage W2 production increases to Q2 which is clearly higher than original wage W1. This means that labour productivity has increased along with increased wage. From the diagram it is seen that along with increase in wage from W1 to W2 productivity has increased from MRP1 to MRP2. So wage efficiency results in higher productivity.

7.4.1 Reasons for Wage Efficiency

Now the question is that why efficient wage leads to increase in productivity. There are number of reasons to justify that increased wage or rather we can say efficient wage leads to increased productivity of the worker.

These reasons for which it is profitable for the firms to adopt efficient wage as a way to increase productivity are summarized below.

- **Fearing of Losing Jobs "Shrinking Model":** When it is difficult to measure the amount of a worker's effort, there may be a possibility for him or her to "shirk" i.e does less work than agreed. So in order to prevent them from shrinking the manager will pay an efficiency wage or higher wage. This will make the cost of job loss high. So there may be a fear that job loss will be more painful. Or in other words, increased wage will create such a situation that loosing job will hurt the worker more intensely then before. Shapiro and Stiglitz indicated that workers with a higher wage will work at an effort level which involves no shirking. This wage is above market clearing levels.
- **Minimizing Turnover:** Sometimes Company pays the workers above the equilibrium wage just to keep them in the job and thereby minimizing company's turnover.By paying above-market wages, the worker's motivation to leave the job and look for a

job elsewhere will be reduced. The company is ready to minimizing their turn over by paying higher wages because it is often expensive to train replacement workers. Paying workers more than the equilibrium wage for their effort means that it is more difficult for workers to find equivalent pay if they choose to leave their current jobs.Moreover it is also less attractive to leave the labor force or switch industries when wages are higher. This implies that higher than equilibrium (or alternative) wages give employees an incentive to stay with the company which is treating them well financially.

- **Loyalty:** Higher wage is always associated with an amount of loyalty. If workers receive a higher pay, they will be happy and may just feel more loyalty towards the company.Happy loyal and contented workers will work sincerely and like to take more responsibility. On the other hand if they feel that they are being exploited by employer then they will be reluctant to take responsibility and may not work properly.
- **Labour market "Gift Exchange" :** G. Akerlof (1982) saw the labour market has a 'gift exchange' where good labour relations depended on goodwill. Firms will pay wages above market clearing levels and in return, workers would be hard working and would take on more responsibility and initiative.
- **Lower costs of supervision:** Rebitzer noted that lower wages were associated with higher levels of supervision. Because there is less motivation on the part of the workers to do work. However workersgetting higher wages wouldbecome more responsible and work hard for the organisation whole heartedly and therefore needed less managerial supervision.
- **Attract higher quality labour:** If a firm pays above the equilibrium level, it will attract a better quality and skilled worker. A good and skilled work force is of great importance for the good growth of the industry.

- **Nutritional theories:** Better paid workers are able to take care of themselves better in terms of nutrition, sleep, stress, and so on. The benefits of better quality of life indirectly benefited the employer since healthier employees are usually more productive than unhealthy employees. This kind of issues we often have in developing economies.

7.4.2 Efficiency Wage Theory and Involuntary Unemployment

Since wages are set above the equilibrium level purposefully to increase labour productivity, this may affect labour employment in the long run. So we may see unemployment prevailing in the long run. Efficiency wages, therefore may lead to market failure in the context of unemployment (employment). Even in the situation of full employment, efficiency wage may prevail for some occupation. Here is the case where labour supply is excessand some workers are notable to get employment and have to work for a probably lower wage elsewhere.

7.4.3 Limitations of Efficiency Wage Theory

- In practice, many factors determine worker morale and productivity; wages are just one of them. Often other factors are more important such as work conditions, management, etc. If non-wage factors are negative, then higher wages may be insufficient to boost productivity.
- It depends on the reaction of other firms. If other firms also start paying above market clearing levels, then the gain from attracting best quality workers will be lost.

7.5 FAIR WAGE EFFORT HYPOTHESIS AND UNEMPLOYMENT

When workers actual efforts are far below their fair wage then they

proportionately withdraw themselves from work or effort. Such behavior causes unemployment. This is known as fair wage effort hypothesis. Actually this is a hypothesis which concerns workers' behavior. According to this hypothesis the workers have a clear conception regarding fair wage. A fair wage is one which a worker deserves on the basis of the effort he or she offers. It is a wage reasonable for the type of work done. If actual wage is lower than fair wage, the worker will supply a corresponding fraction of normal effort. If e is the effort supplied by the workers, w is the actual wage and w* is the fair wage, the fair wage effort hypothesis says that:

$$e = \min (w/w^*,1) \quad \text{---------- (1)},$$

where effort is denoted in units, such that 1 is normal effort. This hypothesis explains the existence of unemployment. Unemployment occurs when the fair wage w* exceeds the market-clearing wage.

The motivation for the fair wage-effort hypothesis is a simple observation concerning human behavior: when people do not get what they deserve, they try to get even.

There are five types of evidences for fair wage effort hypothesis.

It is used in psychology which correspondence to Adam's Equity theory. Second, it is used in sociology in the form of the theory of social exchange. Third, the fair wage-effort hypothesis accords with common sense also. Various literatures explain commonly observed beliefs regarding discussion of wages and salaries. Fourth, the fair wage-effort hypothesis explains wage compression among individuals with different skills. Fifth, simple models of the fair wage-effort hypothesis potentially explain empirically observed unemployment-skill correlations; they also explain why unemployment has not fallen with the rise in education despite lower unemployment of more educated workers.



LET US KNOW

Wage compression means the wage inequities that arise when new employees demand and get wages higher than those being paid to the current employees. Wage compression refers to the empirical regularity that wages for

low-skilled workers and wages for high-skilled workers tend toward one another. As a result, the prevailing wage for a low-skilled worker exceeds the market-clearing wage, resulting in unemployment for low-skilled workers. Meanwhile, the prevailing wage for high-skilled workers is below the market-clearing wage, creating a short supply of high-skilled workers (and thus no unemployment of high-skilled workers). Akerlof and Yellen (1990) propose a model that uses the fair-wage hypothesis to explain wage compression. The fair-wage hypothesis suggests that the effort put forth by a worker is proportional to the fairness of her wage, as compared to other workers within the firm. Accordingly, if executives of a given firm are compensated much more highly than the firm's unskilled workers, the unskilled workers will exert a lower level of effort. In equilibrium, high-skilled wages tend downward, while low-skilled wages tend upward, which defines wage compression

According to Mathewson the main zest of fair wage effort hypothesis is that occasionally workers have an idea that they are worth more than what management pay them. When they are not receiving the wage they think fair, they adjust their production to the pay received. Studies by Mathewson and Roy are examples of the work of the human relations school of organization. According to this school of thought, workers have considerable control over their own effort and output. This ability of workers to exercise control over their effort, and their willingness to do so in response to grievances, underlies the fair wage-effort hypothesis

7.5.1 A Basic Model of Unemployment with the Fair Wage-Effort Hypothesis

This section presents the simplest model of unemployment with the fair wage-effort hypothesis. It is assumed that there is a single class of labor with an exogenously determined fair wage w*. The effort e of a given type of labor, according to the fair wage-effort hypothesis, is (equation (1), repeated here):

$$e = \min(w/w^*, 1), \quad (1)$$

Where w is the wage paid and w* is the exogenously determined fair wage. If the worker receives more than the fair wage, he contributes full effort of 1. If theworker receives less than the fair wage, he reduces effort proportionately (tomaintain the balance between inputs and outcomes).

There are a large number of identical firms, so that the product market is perfectly competitive. The production function is of the form

$$Q = \alpha eL, \quad (2)$$

Where Q is output, e is average effort of laborers hired, and L is the labor hired and α is the marginal product of effective labour. Finally, there is a fixed supply of labour $\bar{L}$ which will work independent of the wage rate.

At Equilibrium: In the competitive equilibrium of this model, the unemployment rate is either unity or zero. The unemployment rate is unity if no labour is hired and this is so if the α is less than the exogenously determined fair wage. Again unemployment rate is zero means all labours are fully employed if α exceeds fair wage w*. This occurs because, under the fair wage-effort hypothesis, the marginal cost to the firm of a unit of effective labor is at least equal to w* whereas the marginal product of a unit of effective labor is α. eL is the quantity of effective labor input . This means that quantity of effective labour unit is the product of the average effort of the workforce, e and, the number of workers employed, L. From the production function (2), the marginal product of a unit of effective labor is a constant, α. The marginal cost of a unit of effective labor to the firm is w/e-the wage per unit of effort. According to the fair wage-effort hypothesis, (1), this marginal cost is w* for all wages less than or equal to w*, and w for wages in excess of w*. The firm's demand for labor depends on the relationship between the marginal cost and marginal product of effective labor. There are two cases.

CASE 1: $\alpha < w^*$

If $\alpha < w^*$, the marginal cost of effective labor is at least as large as w*, regardless of the wage paid by the firm. Since the marginal cost of effective labor exceeds its marginal product, the firm cannot operate profitably. In this case, the demand for labor is zero, and the unemployment rate is unity.

CASE 2: $\alpha > w^*$

If the aggregate supply of labor exceeds the aggregate demand for labor so that there is unemployment, the firm is free to set its wage at any level. It will choose the wage that minimizes w/e, the marginal cost of effective labor. If the firm chooses to pay any wage between zero and w*, the marginal cost of effective labor is w*. Since the marginal cost of effective labor is lower than labor's marginalproduct, α, every firm should hire an infinite amount of labor, resulting in aggregate excess demand for labor. Under these circumstances, competition for workers will force firms to pay wages in excess of w*. The demand for labor will also be infinite for any wage between w* and α, since the marginal product of a unit of effective labor continues to exceed its marginal cost. In contrast, if the wage paid exceeds α, marginal cost exceeds the marginal product of effective labor, and the demand for labour becomes zero and unemployment rate is unity.

According to the fair wage-effort hypothesis, this wage is not unique. Any wage between zero and w* results in the same effective cost of labor-w*. Since the demand for labor is infinitely elastic at the wage w = α, equilibrium is characterized by full employment with all firms paying the "market-clearing" wage, w = α.



CHECK YOUR PROGRESS

Q 1: What is meant by wage efficiency? (Answer in about 50 words)

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Q 2: What is meant by wage compression? (Answer in about 40 words)

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7.6 LET US SUM UP

- The Harris Todaro model or HT model is a general equilibrium model which describes the migration mechanism of workers from rural to urban areas as a result of expected income differentials.
- According to the wage efficiency hypothesis, the higher wage paid to the workers will increase their efficiency through various channels and therefore the employers often offer the workers a wage which is above the market clearing wage. Since we know that higher wage caused increased labour productivity, some or all the higher wage costs will be neutralized through staff retention and higher labour productivity.
- According to the fair wage effort hypothesis, when workers' actual efforts are far below their fair wage then they proportionately withdraw themselves from work or we can say effort. Such behavior causes unemployment..
- Wage compression means the wage inequities that arise when new employees demand and get wages higher than those being paid to the current employees. As a result, the prevailing wage for a low-skilled worker exceeds the market-clearing wage, resulting in unemployment for low-skilled workers.
- When marginal cost of effective labour is at least as large as fair wage, marginal product is less than the marginal cost of effective labor, no matter whatever wage set by the firm.

- On the other hand, if the marginal product of effective labour is more than the marginal cost than demand for labour is infinite and w=?. The unemployment rate is zero.



7.7 FURTHER READING

1) Desai M. and D. Mazumder, "A Test of the Hypothesis of Disguised Unemployment" Econometrica, 1970.
2) Harris and Todaro, "Migration, unemployment and Development Models" American Economic Review, Vol. 69, 1970.
3) M.P. Todaro, " Economic Development" Latest Edition



7.8 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Wage Efficiency means that workers should be paid according to their efficiency. So highly efficient worker will be paid more and less efficient worker will get less. In other words, workers get different wages according to their efficiency.

Ans to Q No 2: Wage compression means the wage inequities that arise when new employees demand and get wages higher than those being paid to the current employees. As a result, the prevailing wage for a low-skilled worker exceeds the market-clearing wage, resulting in unemployment for low-skilled workers.



7.9 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: Write short notes on wage efficiency and wage compression.

Long Questions (Answer each question in around 300-500 words)

Q 1: Explain HT Model of migration and unemployment.

Q 2: Describe the relationship between HT model and urban unemployment

Q 3: What is wage efficiency? Explain wage efficiency and involuntary unemployment.

Q 4: Explain the Fair wage effort hypothesis and unemployment.

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UNIT 8 : GLOBALISATION AND THE DEVELOPING WORLD

UNIT STRUCTURE

8.1 Learning Objectives

8.2 Introduction

8.3 Globalisation and Inequality

8.4 Globalisation and Employment

8.5 Trade Liberalisation, Dispersion of Production and the International Division of Labour

8.6 WTO and the Nation State Trade Liberalisation

8.7 Let Us Sum Up

8.8 Further Reading

8.9 Answers to Check Your Progress

8.10 Model Questions

8.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- illustrate about the process of globalisation and its positive as well as negative influence on the developing countries.
- discuss about the impacts of globalisation on inequality and employment status
- discuss about impacts of trade liberalisation, WTO and international division of labour on developing country.

8.2 INTRODUCTION

The world becomes a small global village through the process of globalisation. It is playing an important role in changing the socio-economic condition of developing country as it opens the economy for world. In the past, the developing countries were unable to get the benefits of world trade due to trade barriers. So they cannot share the same economic growth that developed countries had. But, now a days, most of the developing country stand in favour of globalisation and take steps to open

their economies by removing tariff and non tariff restriction fully or partially. Through the process of globalisation, the bonding between developed and developing nation become stronger and stronger. In the last 150 years there have been three major eras of globalisation. 1st one was from 1870 to the First World War (1914). In this era a large scale capital flows and labour migration seen from Europe to the American continent and the colonies. The 2nd started after the Second World War with the freeing of trade. And the 3rd phase started in the 1980's which is based on technological advances in communications and transport. Both the developing and developed countries are interdependent with one another. 'The developing countries depend on developed countries for resource flows and technology, while developed countries depend heavily on developing countries for raw-materials, food and oil, and as markets for industrial goods' (Thirlwall, 2011). Globalisation creates lots of positive and negative problems which affect the world economy directly or indirectly. The problems are mostly socio-economic, environmental and technological. So, this unit is an attempt which focuses on to explore the consequences of globalisation on global economy.

8.3 GLOBALISATION AND INEQUALITY

We know that globalization is a process which provides the facility to each and every country to participate in the global market where goods and services, technologies, ideas, information and even labour also freely moved from one country to another country. On the other hand, the term inequality is used to represent imbalances or differences of economic well-being between population groups. From the past evidence it is seen that the world's income is distributed extremely unequally between nations and people. Based on this income gap, the world economy is classified into various categories; e.g. 1st one is rich industrialized country and poor non-industrialized country, 2nd one is developed continents (like Europe and North America) and less developed continent (like Asia, Africa and Latin America) and the 3rd one which classified by the World Bank as low income, middle income and high-income countries.

To measure the degree income inequality and the developmental gap across countries of the world, although there are various method are available but a widely used method is the Gini ratio which is derived from the Lorenz curve of the income distribution. Gini ratio relates to the distribution of income in relation to the distribution of population across countries or groups of countries. By using the Gini ratio, it is possible to distinguish the international inequality (which takes each countries per capita income as just one observation regardless of the distribution of income within countries) and global inequality (which takes into account not only of the distribution of income between countries but also within countries, using the household survey data). The unweighted Gini ratio of international inequality assumes that within the country each person has the same average income and each country is taken as one unit regardless of population size. This ratio measures whether or not countries are converging with each other, not whether the distribution of income is across individuals in the world is becoming more or less equal. The Gini ratio of global inequality takes into account both the differences in average per capita income between countries and the differences in income per capita within countries. The reason is that the internal income distributions are never equal and the measure of global inequality is bound to be higher than the unweighted measure of international inequality.

Table: 1 (Income inequality in selected developing countries measured by the Gini ratio)

Country	Earliest date in the 1990s [1]	Latest date in the 2000s [2]
India	33.8	36.8
China	41.5	46.9
Pakistan	31.2	30.6
Brazil	63.4	57.0
Bolivia	42.0	60.1
Bangladesh	28.3	33.4
Thailand	46.2	42.0

Source: (1) World Bank, World Development Indicators 1997, table:2.6 and (2) World Bank, World Development Indicators 2007, table-2.7

The income inequality (by using Gini ratio) of some selected developing countries are shown in the above table 1. India's Gini ratio in the earliest date of 1990's was 33.8 which was lower than the latest date of 2000's (i.e., 36.8).

As the globalization permits everyone to buy and sell their products and ideas, so mostly the multinational corporations are benefited more compared to small scale industries. The large scale industries are mostly used updated technology so they demand skilled worker which make an income gap between skilled and unskilled worker. Due to globalization, FDI flow to poor countries is increases and as a result the skilled workers are mostly demanded in the poor countries and income level of them are comparatively more than the unskilled one. The wage differential between skilled and unskilled workers gives fuel to the income inequality. Thus, it can be sate that as a consequence of globalization, the poor, the asset less and unskilled workers the losers, and the rich endowed with capital and human capabilities have been the winners. So, to protect the fundamental rights of the workers, international action is necessary.

8.4 GLOBALISATION AND EMPLOYMENT

Globalisation plays an important role in generation of employment. The employment status of a country is greatly influenced by its foreign trade, balance of payments position and commercial policies. Due to globalisation the demand and supply condition of an economy increases which directly or indirectly impact on the employment status of an economy.

It significantly affects the availability, structure, composition, earning status of jobs etc in an economy. The setting up of new industries by increasing the FDI flow helps to create more and more employment opportunities and the uses of latest up to date technology in these new industries changed the structure and composition of jobs in the global market is completely. Due to the changing structure, some jobs concerned with certain economic activities may tend to disappear whereas some new activities create lots of employment opportunities in the economy. The new segments like health care, beauty care, agro products,

information technology etc have great importance in today's economy as these sectors has favourably affect the employment growth rate of an economy. As a result, lots of skilled young people are engaged in these new sectors in order to start a good carrier, which ultimately effect the growth rate of an economy. The skilled labour has comparatively higher demand in the global market. Economic globalisation may also affect the earning status of jobs by increasing the productivity which causes an increase in real incomes of the labour and also by reducing the differences of the price of the labour between countries.

Although the process of globalisation has positive effects but there will also be welfare losses if domestic firms cannot compete in the trade practices. The workers of those firms who are not able to compete are thrown out of work cannot find alternative employment. Thus, globalisation creates winners and losers among workers. The losers are mostly belongs to the poor section of the society. So, to protect the poor, countries need to consider a number of policy issues:

- For those who are already poor and adversely affect by globalisation, governments need to put social safety nets in the form of unemployment and income insurance.
- Proper training can help those labours who lose jobs to find new ones.
- Improved and cheaper transport facility helps those farmers to take advantage of new market operations.

8.5 TRADE LIBERALISATION, DISPERSION OF PRODUCTION AND THE INTERNATIONAL DIVISION OF LABOUR

Trade liberalization is the removal or reduction of all trade restrictions or barriers (such as tariff and non-tariff) between nations. Such removal of restrictions promotes free trade between nations. Trade liberalization is closely tied to globalization. The trade liberalization generates rapid export of goods because free trade allows countries to trade without regulatory barriers or their associated costs; as a result costs of imports are lower. Trade liberalization promotes competition,

improved resource allocation and economies of scale in areas where developing countries have comparative advantage. As the trade liberalization increases competition from abroad, so it generates pressures for increased efficiencies, product improvement and technical change at a cheaper production cost by domestic firms. It also enables to attract foreign capital and enterprise to accelerate the overall economic growth, which raises profits and promotes greater saving and investment and thus furthers growth. Adam Smith (1776) states that "the division of labour is limited by the extent of the market" i.e., greater the market, greater will be the gains from trade and division of labour. Moreover, there will be greater incentive for innovation because the potential return is much greater.

The trade liberalization permits to international division labour between countries which are based on the cost-effective production, specialization of individual countries and reveals by the interchange of specialized production results in certain proportions. The international division of labour represents the spatial shift of manufacturing industries from advanced capitalist countries to developing countries. The underdeveloped economies were incorporated into the world economy through trade as a supplier of minerals and agricultural commodities then more production takes place in these economies. This has led to a global industrial shift of production processes relocated from developed countries to developing countries. As a result the companies are able to produce product at substantially lower prices in the developing country than a developed one.

The international division of labour has two basic forms such as--the international specialization and international production cooperation. Specialization in the international division of labour provides the specialization of countries and regions in the production of certain goods and parts for the global market. On the other hand, international production cooperation is the result of the specialization of national industries, which interact in the international division of labour. The international division of

labor makes the world economy as a set of interrelated international exchange of national economies.

8.6 WTO AND THE NATION STATE TRADE LIBERALISATION

The World Trade Organization (WTO) is an international organization which deals with the rules of trade between nations. It was established in 1st January, 1995 as a successor to the General Agreement on Tariffs and Trade (GATT) and it's headquarter is in Geneva, Switzerland. The WTO facilitated multilateral trading system and removes trade barriers (i.e., it ensures free trade) and providing a forum for comprehensive trade negotiations. It also resolves the trade disputes between nations. The WTO is a government to government organization-all major negotiations and trade agreements are determined by the full WTO membership.

The WTO agreements provide for increased trade which helps the developing countries to improve their economies and also have special provisions recognizing the challenges in trade liberalization faced by developing nations. Although, the WTO agreements have a number of special provisions for safeguarding the interest of developing nations but some studies found that country like Indonesia, Sub-Saharan Africa and some Caribbean countries will be poorer as a result of WTO dispensations. So, WTO has made rules and regulations more transparent and has made it more difficult for the developed countries to take resort to unilateral action and harass the developing countries.

India has been a WTO member since 1st January, 1995 and a member of GATT since 8th July, 1948. In November, 2001 the fourth round of trade negotiations under the WTO kicked off at Doha (Qatar) and at that conference , labour standards were removed from the core agenda. For the benefit of developing and poor nation, the global trade barriers of agriculture, industrial goods and services were reduced. The 10th round of WTO Ministerial conference was held in December, 2015 at Nairobi, Kenya. It contains a series of decisions on agriculture, cotton and issues related to least developed countries. And the latest 11th round WTO

ministerial conference was held in December, 2017 at Buenos Aires. This conference ended with the following ministerial decisions-(a) ministerial decision on fisheries subsidies, (b) work programme on electronic commerce, (c) TRIPS non-violation and situation complaints (d) work programme on small economies and e) the creation of the working party on accession for South Sudan.



CHECK YOUR PROGRESS

Q 1: Define globalisation. (Answer in about 30 words)

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Q 2: What does trade liberalisation indicate? (Answer in about 30 words)

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8.7 LET US SUM UP

- Globalisation is a process provides the facility to each and every country to participate in the global market where goods and services, technologies, ideas, information and even labour also freely moved from one country to another country.
- From the past evidence it is seen that the world's income is distributed extremely unequally between nations and people. Based on this income gap, the world economy is also classified into various categories.
- Globalisation significantly affects the availability, structure, composition, earning status of jobs etc in an economy.
- The skilled labour has comparatively higher demand in the global market. Globalisation creates winners and losers among workers and the losers are mostly belongs to the poor section of the society.

- Trade liberalization indicates the removal or reduction of all trade restrictions or barriers between nations. Such removal of restrictions promotes free trade between nations.
- Based on the size of the market, gains from trade and the division of labour are determined. Greater the market, greater will be the gains from trade and division of labour.
- The international division of labour represents the spatial shift of manufacturing industries from advanced capitalist countries to developing countries.
- The WTO facilitated multilateral trading system and removes trade barriers among the member nations.

8.8 FURTHER READING

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8.9 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Globalisation is a process provides the facility to each and every country to participate in the global market where goods and services, technologies, ideas, information and even labour also freely moved from one country to another country.

Ans to Q No 2: Trade liberalisation indicates the removal or reduction of

all trade restrictions or barriers between nations. Such removal of restrictions promotes free trade between nations.

8.10 MODEL QUESTIONS

Short Questions (Write short notes on the following in around 150 words)

(a) Globalisation and inequality.

(b) Globalisation and employment

(c) WTO and nation state trade liberalization.

Long Questions. (Answer each question in around 300-500 words)

Q 1: What do you mean by trade liberalisation? How it is related to the international division of labour?

Q 2: Explain briefly about the effect globalisation on developing economy.

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UNIT 9 : GLOBALISATION AND UNEMPLOYMENT

UNIT STRUCTURE

9.1 Learning objectives

9.2 Introduction

9.3 Impact of Investment and Tariff Reforms on Unemployment

9.4 The Growth of Informal Sector

9.5 International Migration of Labour and Unemployment of Unskilled Labour

9.6 Let Us Sum Up

9.7 Further Reading

9.8 Answers to Check Your Progress

9.9 Model Questions

9.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- discuss the impact of globalization on unemployment.
- discuss the impact of investment and tariff reforms on unemployment
- describe the growth of informal sector in the economy
- illustrate the affect of international migration on labour and unemployment of unskilled labour.

9.2 INTRODUCTION

In the previous unit, we have already get an idea about globalization and also about its consequences on inequality, employment etc. Here, we are going to reveal in what ways the globalization has affected the unemployment. As we all know that unemployment is a macro economic indicator of an economy which indicates the number of people who are eligible to work, but unable to get a proper job at the prevailing wage rate. Generally, a lower level of unemployment is always preferable as it brings better living standards for the society. If an economy is struggling to achieve development and the available resources are not fully allotted then there is

a probability of high level of unemployment.

The process of globalization has significantly affects the unemployment as the structure of jobs and wage opportunities are becoming different day by day and in addition to this, the immigration of labor as well as the export-import of goods has been smoothly moving from one country to another. Moreover, it provides a favorable chance to many international organizations like WTO, SAARC etc. to establish a barrier free trade among the member countries. No doubt, the services rendered by the international organizations have many positive as well as negative impacts on the employment status of an economy. Therefore, this chapter is an attempt to discuss how the process of globalization is link up with unemployment through the process of investment, tariff reform and international labor migration.

9.3 IMPACT OF INVESTMENT AND TARIFF REFORMS ON UNEMPLOYMENT

The world under globalization is moving towards a single market, where national economies are becoming more integrated and interconnected by reducing and simplifying the tariffs. As a result the flow of private capital in the form of foreign direct investment (FDI) is possible. The FDI is nothing but an investment that are owned and directed by foreign investors through their full or partial ownership of projects that enable them to manage its affairs. It has both positive and negative effects in terms of job creation and job destruction.

Generally, an increase in FDI boosts the economy through the establishment of foreign companies in a particular country which provides more job opportunities and as a result the total number of unemployment will decrease. Further the productivity of human capital can also be enhanced and modernized through FDI.

It is also seen that a number of developing countries favors to reduce FDI as the modern capital intensive technology replaces the labor intensive technology which negatively hampers the domestic industries. The domestic industries are lagging far behind in technology so they are unable

to compete against the foreign companies and are forced to shut down their operations which increases unemployment rate. It means that FDI is not a key to solve the unemployment problem. Therefore, to protect the domestic industries, the government of the respective countries can impose restrictions on the flow of FDI.

Although higher tariff acts as a weapon to protect the jobs in the short run, but in today's globalised world most of the countries favors to reduce and simplify the tariff through the tariff reform. The tariff reform may take place unilaterally or multilaterally. And, as a consequence the international organization like The General Agreements on Tariffs and Trade (GATT), World Trade Organization (WTO), United Nations Conference on Trade and Development (UNCTAD) etc arises. The member countries of these organizations generally fix lower amount of restrictions which provides the opportunities to flow FDI as well as the goods freely. As a result the updated modern technology and ideas are interchanged between them and open more employment opportunities for the skilled workers. As a result the rate of unemployment decreases and ultimately the economy attains a better position.

9.4 THE GROWTH OF INFORMAL SECTOR

The Informal Sector plays a vital role in economic development of all the countries. The term 'Unorganized' is used to represent the informal sector. According to SNA (1993), the international definition of Informal Sector consists of units engaged in the production of goods or services with the primary objective of generating employment and income to the persons concerned. Typically, this unit operates at a low level of organization, with little or no division between labor and capital as factor of production and on a small scale. The informal sector forms part of the household sector as household enterprises or, equivalently, unincorporated enterprises owned by households. The informal sector has no fixed rules and regulations nor any fixed holiday or paid holiday. Anyone in this sector can be asked to leave the service at any time.

This sector provides lots of employment opportunities for both the educated and uneducated people, which directly or indirectly affects the level of poverty and the rate of unemployment. Due to the easy entry process of informal sector the retrenched workers from the formal sector are getting absorbed in it. Generally it is seen that a major portion of the entrepreneur are community based in this sector. Each specific community has its own specific business. So, most of the rural urban people are engaging themselves in their family business and get their livelihood. The income which they earned from this sector has been used purposively for their day to day expenditure and also for their child education, personal saving etc. Sometimes it is seen that some informal entrepreneurs (like vegetable vendors, brokers, foot path traders etc) are earning more than the formal employees.

The data published in 2007 by The National Commission for Enterprises in the Unorganised Sector (NCEUS) reveals that in India, out of a total of 458 million workers, unorganized workers constituted 423 million (92.4% of total) and organized accounted for 35 million (7.6% of total) which indicates that the development process pursued in India during the last six decades has not been able to reduce the share of unorganized workers in the economy. Thus, this analysis reveals that the informal sector plays a very important role in determining the economic growth and development of a country.

9.5 INTERNATIONAL MIGRATION OF LABOUR AND UNEMPLOYMENT OF UNSKILLED LABOUR

Migration is the most important determinant of population change along with the birth rate and death rate. From the past history of economic growth, it is found that migration is the most effective way to reduce poverty and share prosperity. Among all the factors (e.g., demographic, socio-economic, religious, environmental etc) which influence the decision making process of the migrants towards migration, the socio-economic factor is playing a very significant role. People mostly interested to move to other countries due to wage differentials; high-wage locations are preferred more

than low wage locations. The better employment opportunities, higher wages and higher standard of life in higher income countries attract the people to immigrate. Such migration results an increase of incomes up to three to six times more than the lower income countries.

It is needed to clarify here that the impacts of immigration on wages and employment of existing workers depend on whether and to what extent migrants' skills are complements or substitutes to the skills of existing workers, and on how immigration affects the demand for labor. In case of some occupations the immigration may increase competition as well as create new jobs. The occupation which requires low skilled workers are expected to face more competition from migrants because the skills needed for those jobs are easier to acquire and are less specialized. Mostly the immigration directly affects the poor unskilled labor by taking jobs away from them. The migrants and their families often seen to be taking unfair advantage of social overhead facilities (like education, health etc) prevailed in that country causing upward pressure on local taxes to support these services. As a result the economic benefits of the residents are reduced. Some developed countries like Canada, United States and Australia faced such kind of situation in 1980s when the undocumented migrants increased due to the flow of people from developing countries.

We have already discussed in our last unit that globalisation creates winners and losers among workers and the skilled labour has comparatively higher demand in the global market to handle new updated technology or activity. Due to this reason the highly educated and skilled labour moved towards developed countries in the intension of permanent settlement, which represent a loss of valuable human resources and it further proves to be a serious constraint on the future economic progress of developing countries. The Human Development Report (1992) reveals that by the late 1980s, Africa had lost nearly one-third of its skilled workers. For example, Sudan lost 17% of its doctors and dentists, 20% of its university teachers, 30% of its engineers and 45% of its surveyors. On the other hand, the poor unskilled workers are unable to sell their services in the global market suitably. So they engage themselves within the national

boundary for their livelihood.

By viewing the given background we can state that the international migration of labor is favorable for high skilled educated workers while on the other hand, it is less favorable for the low-skilled workers.



CHECK YOUR PROGRESS

Q 1: Define unemployment. (Answer in about 20 words)

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Q 2: How does FDI affect job creation? (Answer in about 30 words)

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9.6 LET US SUM UP

- Unemployment indicates the number of people who are eligible to work, but unable to get a proper job at the prevailing wage rate. A lower level of unemployment is always preferable as it brings better living standards for the society.
- Globalization integrated and interconnected the world by reducing and simplifying the connecting procedure. It opens a platform for FDI which boosts an economy through the establishment of foreign companies in a particular country.
- FDI has both positive as well as negative effects in terms of job creation and job destruction.
- Now a days, most of the countries favours to reduce and simplify the tariff. The tariff may take place unilaterally or multilaterally.
- The informal sector has no fixed rules and regulations nor any fixed holiday or paid holiday. Anyone in this sector can be asked to leave the service at any time. The informal sector plays an important role in economic growth and development.
- Migration is the most effective way to reduce poverty and share

prosperity. People motivate to immigrate in developed countries where better employment opportunities, higher wages and higher standard of life are prevail.

- International migration of labour favorably affects the high skilled educated workers and on the other hand it negatively affects the low-skilled workers.



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9.8 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: Unemployment indicates the number of people who are eligible to work, but unable to get a proper job at the prevailing wage rate.

Ans to Q No 2: FDI has both positive as well as negative effects in terms of job creation and job destruction.



9.9 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: Write a short note on globalisation and unemployment.

Long Questions. (Answer each question in around 300-500 words)

Q 1: Describe the importance of FDI in creating employment opportunities.

Q 2: Briefly explain the role of informal sector for achieving economic growth and development.

Q 3: Describe the consequences that arises due to international migration of labor?

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UNIT 10: AGRICULTURE AND DEVELOPMENT

UNIT STRUCTURE

10.1 Learning Objectives

10.2 Introduction

10.3 Role of Agriculture in Economic Development

10.4 Efficiency and Productivity in Agriculture

10.4.1 Trends of Agricultural Productivity

10.5 New Technology and Sustainable Agriculture

10.6 Globalisation and Agricultural Growth

10.7 Let Us Sum Up

10.8 Further Reading

10.9 Answers to Check Your Progress

10.10 Model Questions

10.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:

- discuss the role of agriculture in economic development
- elaborate the efficiency and productivity in agriculture
- explain the new technologies and sustainable agriculture
- discuss the impact of globalisation on agricultural growth.

10.2 INTRODUCTION

Agriculture forms the backbone of the country's economy. Agricultural sector plays a strategic role in the process of economic development of an economy. Agriculture sector has already provided a significant contribution to the economic prosperity of advanced countries and its role in the economic development of less developed countries is of vital importance. According to Mahatma Gandhi 'Agriculture is the soul of the Indian economy'. In this unit, we have discussed about the role of agriculture in economic development. Agriculture is important not only from economic point of view but has deep rooted influence on our social, political and cultural life. In the words of Jawahar Lal Nehru, "Agriculture needed

top most priority because the Government and the nation would both fail to succeed if agriculture could not be successful".

Agricultural productivity is measured as the ratio of agricultural outputs to agricultural inputs. Positive trend in productivity and efficiency of agricultural sector is essential for overall development of an economy.

Technological updradation has played a big role in developing the agricultural industry. With improved technology, plants have been designed to survive in different adverse conditions. Through genetic engineering scientists have managed to introduce traits into existing genes with a goal of making crops resistant to droughts and pests technology in agriculture.

Globalization across the world has a significant impact on agricultural development both for developed and developing countries.

The term sustainable agriculture has been used extensively in recent times. Sustainable agriculture implies meeting the agricultural needs of the economy without compromising the ability of future generations to meet their needs.

10.3 ROLE OF AGRICULTURE IN ECONOMIC DEVELOPMENT

The role of agriculture in economic development has been studied from different aspects. It has often been approached from the point of view of the intersectoral transfer of resources from one sector to the other, mainly agricultural surplus. Even more commonly, it has been viewed within the dualistic models, based on surplus labour but supplemented by a set of dynamic laws leading to the break-out point and to the disappearance of dualism.

For a long time, economists have debated on the relative importance of agriculture and industry in economic development of a country. Accordingly, different priorities have been assigned to these two key sectors of the economy in developmental planning. But the real issue is now whether agriculture should be accorded maximum priority in planning or, industrial development.

The truth is that agricultural development is possible without industry but the converse is not true, as industrial development is impossible without agriculture. History amply demonstrates that industrial revolution was preceded by agricultural revolution.

Agriculture plays a crucial role in the life of an economy. It is the backbone of our economic system. Agriculture not only provides food and raw material but also employment opportunities to a very large proportion of population. The following facts clearly highlight the importance of agriculture in this country.

- **Source of Livelihood:** Agriculture is the source of livelihood for major section of the population especially in developing countries. As for example, in India the main occupation of our working population is agriculture. About 70 per cent of our population is directly engaged in agriculture. In advanced countries, this ratio is very small being 5 per cent in U.K., 4 per cent in USA., 16 per cent in Australia, 14 per cent in France, 21 per cent in Japan and 32 per cent in USSR. This high proportion in agriculture is due to the fact that the non-agricultural activities have not been developed to absorb the rapidly growing population.
- **Contribution to National Income:** Agriculture is one of the important sources of national income of most of the countries around the world. As for example in India, according to National Income Committee and Central Statistical Organisation., in 1960-61, 52 per cent of national income was contributed by agriculture and allied occupations. In 1976-77, this sector alone contributed 42.2 per cent while in 1981-82, its contribution was to the tune of 41.8 per cent. In 2001-02, it contributed around 32.4 per cent of national income. This was further reduced to 28 per cent in 1999-2000. Contrary to this, the proportion of agriculture in U.K. is only 3.1, in USA it is 3 percent, 2.5 per cent in Canada, 6 percent in Japan, 7.6 per cent in Australia. The contribution of agriculture to Indian economy falls to 15.4% in the year 2017,wheras in the same year in Canada it was 6.7%, in Australia it was 3%, in Japan it was 5.4%, in U.K. it was 0.59% and in USA it was 5.4%.The mere conclusion

of all this is that more developed a country the smaller is the contribution of agriculture in national output.

- **Supply of Food and Fodder:** Agriculture is the basic source of food supply of all countries of the world whether underdeveloped, developing or even developed. Due to the heavy pressure of population in underdeveloped and developing countries and its rapid increase, the demand for food is increasing at a fast rate. If agriculture fails to meet the rising demand for food products, it is found to affect adversely the growth rate of the economy. Raising supply of food by agricultural sector has therefore great importance for economic growth of a country. Agriculture sector also provides fodder for livestock. Cow and buffalo provide protective food in the form of milk and they also provide power for farm operations. Moreover, it also meets the food requirements of the people.
- **Importance in International Trade:** The export of agricultural products can also be a source of foreign exchange earnings. In the initial stages of development, when industrial sector has not developed much, agriculture is a source of foreign exchange earnings from its export of primary good even for the highly advanced countries. The developing country in the early stage of economic development often experience shortage of foreign exchange. By contributing to foreign exchange earnings, it enables the developing countries to have access to imported good needed for industrial growth.
- **Marketable Surplus:** The development of agricultural sector leads to marketable surplus. As country develops more and more people are to be engaged in mining, manufacturing and other non-agricultural sector. All these people depend upon the food production which they can meet from the marketable surplus. As agricultural development takes place, output increases and marketable surplus expands. This can be sold to other countries. Here, it is worth mentioning that the development of Japan and other countries are made possible by the surplus of agriculture. There is no reason why this could not be done in case of developing countries such as India, Pakistan and Bangladesh etc.

- **Source of Raw Material:** Agriculture has been the source of raw materials to the leading industries like cotton and jute, textiles, sugar, tobacco, edible and non-edible oils etc. All these depend directly on agriculture. Apart from this, many others like processing of fruits and vegetables, dal milling, rice husking, gur making also depend on agriculture for their raw material.
- **Engine for Industrial and Service Sector:** Agriculture has been a constant source of inputs for major industries in most of the developing countries. The production, productivity and growth of agro-related industries like cotton, sugar, tobacco and non-edible oils are highly depend on production and productivity of agriculture. Since economic soundness and development of industries are dependent upon industrial production, the phase and pace of the industrial development may directly associated with the agricultural sector in most of the developing countries.
- **Source of Government Income:** Agriculture is one of the major sources of revenue to both the central and state government of the country. The government is getting substantial income from rising land revenue .Some of the sectors like railway, roadways are also deriving a good part of their income from the movement of agricultural goods.
- **Basis of Economic Development:** Prof. Nurkse has laid sufficient emphasis on the improvement of agriculture for a balanced growth of an economy. The development of agriculture provides necessary capital for the development of other sectors like industry, transport and foreign trade. In fact, a balanced development of agriculture and industry is the need of the day.



CHECK YOUR PROGRESS

Q 1: Mention the three role played by agriculture in economic development. (Answer in about 30 words)

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10.4 EFFICIENCY AND PRODUCTIVITY IN AGRICULTURE

Now a days, agriculture based countries have been facing two most vital problems which are directly related to agriculture, the first one is to meet the increasing demand for food and other agricultural products, and the second is enervating the widespread poverty in rural areas by the ever increasing population. The good performance in agriculture can diminish levels of rural poverty and meet increasing demand of agricultural products. Agricultural productivity is a measure of the efficiency with which inputs are used in agriculture to produce an output. When a given combination of inputs produces a maximum output, the productivity is said to be at its maximum. The measurement of agricultural productivity enables a comparison of relative performance of farmers between farms, between the types of farming and between geographical regions. The comparison of productivity goes on to the heart of economic performance and can provide the guidance for planning and development decisions.

10.4.1 Trends of Agricultural Productivity

The agriculture production refers to the total production or output produced of two kinds of crops viz. food crops and non-food crops. Food crops consist of cereals such as rice, wheat, jowar etc and pulses such as gram, moong etc. The non-food crops consist of oilseeds, sugarcane, cotton, jute etc. The trend of agricultural production is explained with the help of a agro based country such as India. In India, food-crops are grown over nearly three-fourths of gross sown area. Table 10.1 shows the trends in agriculture production. In the early period of independence the yield per hectare of land was extremely low in case of all crops. The two major food-crops viz. Wheat and rice have shown substantial increase in productivity during early 70's. The productivity in coarse cereals like maize improved largely after 1980-81.This is mainly due to widespread use of high yielding varieties of seeds, development of

irrigation facilities and use of fertilizers.

Table 10. 1: All India Growth Rates of Area (A), Production (P) & Yield(Y) of Crops

Crop	1949-50 to 1964-65			1967-68 to 1980-81			1980-81 to 1989-90			1990-91 to 1999-2000			2000-01 to 2006-07		
	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
Food grain	1.35	2.82	1.36	0.38	2.15	1.33	-0.23	2.85	2.74	-0.07	2.02	1..52	0.38	1.19	1.74
Non Food	2.44	3.74	0.89	0.94	2.26	1.19	1.12	3.77	2.31	1.18	2.69	1.09	2.26	4.62	3.66
All Crops	1.58	3.15	1.21	0.51	2.19	1.28	0.10	3.19	2.56	0.27	2.29	1.33	0.93	2.61	3.07

Source: Agricultural Statistics at Glance, Ministry of Agriculture, Government of India, 2007

In case of other crops like pulses and oilseeds, productivity gains have been negligible. But for other food crops the increase in productivity has been very slow. In the case of non-food crops the significant increase in productivity occurs in cotton. The productivity growth in oilseeds has not been very encouraging (Table 10.2)

Table 10. 2: Productivity Trends in Major Crops (Yield: Kg per Hectare)

Crops	1960-61	1970-71	1980-81	1990-91	2000-01	2003-04	2004-05	2005-06	2006-07
Rice	1013	1123	1336	1740	1901	2077	1984	2102	2084
Wheat	851	1307	1630	2281	2708	2713	2602	2619	2617
Coarse Cereals	528	665	695	900	1027	1221	1153	1172	1158
Pulses	539	524	473	578	544	635	577	598	594
Total food grains	**710**	**872**	**1023**	**1380**	**1626**	**1727**	**1652**	**1715**	**1707**
Oilseeds	507	579	532	771	810	1064	885	1004	895
Cotton (Lint)@	125	106	152	225	190	307	318	362	392
Jute & Mesta*	1049	1032	1130	1634	1867	2008	2019	2173	2154

*@ Production in million bales of 170 kg. each. * Production in million bales of 180 kg. each.*

Source: Ministry of Agriculture, Government of India, 2007

The Productivity of agricultural sector can be analyse from per capita output productivity. The per capita output of Indian cultivator is very poor as compared to cultivators in the developed countries. This can be seen from the fact that 52 percent of workforce engaged in agriculture contributes only 18.5 percent of national income in 2006-07. Thus remaining 48 percent (engaged in non-agro sector) contributes more than 80 percent of national income. In developed nations like USA, U.K. the contribution of agriculture accounts for about 5 percent to 7 percent of national income with only 5 percent to 25 percent of workforce engaged in agriculture. This clearly indicates the low level of productivity of workforce engaged in the agriculture.

10.5 NEW TECHNOLOGY AND SUSTAINABLE AGRICULTURE

Advancement of technology is the pre-requisite for sustainable agriculture. It helps to provide farmers with tools and resources to make farming more sustainable. Sustainability in agriculture relates to the capacity of an agro ecosystem to predictably maintain production though time. Now let us have a look on Indian scenario. Since the mid 1960's, the traditional agricultural practices are gradually being replaced by the modern technology and farm practices in India and a revolution namely 'Green revolution' was taking place in India. This revolution basically implemented the High Yield Variety (HYV) seeds and uses the new agricultural technology such as fertilizers, pesticides, agricultural machinery etc. The major achievement of the new strategy is to boost the production of wheat and rice. As a result of green revolution the crop pattern has changed significantly. The new technology and modernisation of agriculture have strengthened the linkage between agriculture and industry. But this revolution have adverse effect on the distribution of income in rural areas, Moreover cash requirement of the farmers have increased and therefore Indian farmers face the problem of capital deficiency. The green revolution was limited to wheat, rice, maize and bajra only.

Now besides green revolution and traditional method of farming, there is another type of farming which is known as 'Sustainable agriculture'.The sustainable agriculture may be defined as any set of agronomic practices that are economically viable, environmentally safe, and socially acceptable. If a cropping system requires large inputs of fertilizer that leak from the system to pollute ground water, drinking supplies and distant coastal fisheries, the system may be sustainable economically as the long-term supply of fertilizer is stable and the economic cost of fertilizer is easily borne by larger grain production but it is not sustainable environmentally or socially, since it does not cover the cost of environmental damage or social costs. The organic agriculture focuses on "living soil", on optimizing the use of biological processes and on avoiding the use of synthetic chemicals and fertilizers.

Advocates of sustainable agriculture agree with biological focus and hope to reduce but not necessarily eliminate chemical use. In the context of sustainable agriculture another term "alternative agriculture" has been prominently used. Definition of alternative agriculture sheds much light on operational aspects of sustainable agriculture. Any food or fiber production that has:

- a more thorough incorporation of natural processes,
- reduced use of off-farm inputs with less harm to environment and consumers,
- a more productive use of biological and genetic potential of plants and animals,
- a better match between cropping patterns and the physical capacity of lands and,
- an improved emphasis on conservation of soil, water, energy and biological resources, is defined as alternative agriculture.

The normal agricultural practices using irrigation, chemical fertilizer, pesticides and high-yielding variety of seeds is called conventional agriculture. With increasing use of chemical fertilizers and pesticides the conventional agriculture is major source of pollution of inland water bodies and coastal seas. There has been growing criticism of conventional

agriculture for its side effects, the "external costs" which impact communities, the environment, and human health.

As for indicators of sustainability there is no single prescription. Sustainable practices will vary by cropping system, local environment and socio-economic system. Still, experience tells us that locally sustainable systems tend to be more resource conservative than less sustainable system and tend to rely less on external inputs and more on internal ecosystem services. Sustainability is indeed an issue of survival. Sustainability includes the goal of food production, welfare of food producers and the preservation of nonrenewable resources. Indeed, history confirms that technology has been essential to agricultural productivity.

10.6 GLOBALISATION AND AGRICULTURAL GROWTH

Globalisation in the context of agriculture can be best discussed in the context of three components - improvement of productive efficiency by ensuring the convergence of potential and realized output, increase in agricultural exports and value added activities using agricultural produce, and finally, improved access to domestic and international markets that are either tightly regulated or are overly protected. These components are linked in various ways. For example, productive efficiency would enhance value added activities in agriculture through agro-processing and exports of agricultural and agro-based products. These activities in turn would increase income and employment in the industrial processing sector. Thus globalizing agriculture has the potential to transform subsistence agriculture to commercialized agriculture and to improve the living conditions of the rural community. The impact of globalization on agricultural growth can be analysed from different aspects such as food security, structural adjustment programme and direct onslaught on peasants' land and water resources. These three aspects are analysed by taking India as an example.

A major element in ensuring food security is increased incomes of poor people. The marginal of poor people to spend on food is high. It is the agricultural growth that reduce poverty. For example, India is the second

largest producer of food in the world. However Indian agriculture has shown a slow average annual growth rate. It was 3.1 % during the decade 1980-1990 prior to liberalization of the economy. But since then the annual growth rates have declined consistently relative to annual growth rate of the population. Several factors were responsible for this fall in growth rate. They are lack of credit, inadequate irrigation cover, and indebtedness, continuing use of obsolete technology, improper use of inputs and decline in the public investments. The decline in overall growth of employment during 1993-94 to 2004-05 was largely due to fall in creation of employment opportunities in agriculture. With increase in knowledge and entry of many foreign firms in the non-agricultural sectors, the labour has shifted to manufacturing and services sectors. The National Sample Survey Organization's (NSSO)report on Employment and Unemployment Situation in India 2009-10, on the basis of usually workingpersons in the principal status and subsidiary status,for every 1000 people employed in rural and urban India, 679 and 75 people are employed in the agriculture sector, 241 and 683 in services sector and 80 and 242 in the industrial sector, respectively. With globalization farmers were encouraged to shift from traditional crops to export- oriented 'cash crops' such as cotton and tobacco but such crops needed far more inputs in terms of fertilizers, pesticides and water. The growth in yields of principal crops notably rice and wheat have also decelerated. There has been a decline in overall area under food grains during 2011-12. The lower area under food grains has been due to a shortfall in the area under jowar in Maharashtra, Rajasthan and Gujarat; Bajra in Maharashtra, Gujarat and Haryana; and in pulses in Maharashtra, Uttar Pradesh, Andhra Pradesh, and Rajasthan. Appropriate use of agricultural equipments, suited to the crops and the region of cultivation, lead to efficient utilization of farm inputs, making farming financially viable and profitable. Though there has been considerable progress in farm mechanization, its spread across the country still remains uneven.

The Structural Adjustment Programme (SAP) of liberalizing the Indian Economy was undertaken in 1991 as per the directives of International

Monetary Fund and World Trade Organisation. Major reforms were introduced in the real and financial sectors of the economy with a view to increase its efficiency and profitability. Trade was also liberalized ; the import and customs duties of many products were drastically reduced or abolished completely. Removal of all restrictions on imports lead to a steep fall in their domestic prices rendering them unprofitable for production. The government started disinvesting in agriculture and the industrial sector allowing the private sector to take over. The government reduced different types of subsidies to agriculture which increased the production cost of cultivation. This lead to the agrarian crisis as it had an adverse impact on the agricultural sector. Several million hectares of food-growing land were converted to exportable crops leading to fall in foodgrains output. India being self sufficient started exporting wheat and rice. But the rate of growth of the GDP in agriculture and allied sectors was just one per cent per annum during the year 2002-05. As a result, per capita availability of foodgrains decreased; the growth rate of population became higher than that of foodgrains. Moreover trade liberalisation with a thrust on exports has been in conducive to Indian markets causing a steep fall in prices of farm goods. As prices fell for Indian producers of export crops, their access to low-cost credit was also reduced under financial sector reforms. Lending facilities and concessions of banks were removed during the post-reform period and this accelerated the crisis in agriculture. Farmers were unable to pay back loans with high interest and also resorted to borrowing from unorganized elements such as money lenders, thus falling into the debt trap. Farmers did not benefit even with contract farming and their exposure to steeply falling global food prices plunged them into spiraling farm debt pushing them to commit suicide. The restructuring of the public distribution system, through the creation of two groups - Below Poverty Line (BPL) and Above Poverty Line (APL), continuously increased their prices through ration shops, affecting the availability of food grains to the poor at subsidised rates. As a result, even the poor people did not buy the subsidized foodgrains and it got accumulated in godowns to be spoiled or sold in the open market.

Again Contract farming has lead to a direct onslaught on peasant

land and water resources by the corporate. Restrictions on landownership by non-cultivators have been removed and ceilings on landholdings rolled back in many states to aid large business corporations in purchase of agricultural land. Farmers are giving up land to solve their debt crises but are unable to overcome their food problems. Unemployment in the agricultural sector has in fact increased during the reform period.



CHECK YOUR PROGRESS

Q 2: Mention the factors for low growth rate of agriculture. (Answer in about 60 words)

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Q 3: Define the term 'austainable agriculture'. (Answer in about 30 words)

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10.7 LET US SUM UP

- Agriculture has always been the backbone of an economy particularly for under-developed countries. In under-developed countries, a major section of total population is living in rural areas. Agriculture is considered as the only source of primary occupation as a huge size of rural population of a country is mainly depending on agriculture
- Agriculture plays a crucial role in the life of an economy. It is the backbone of our economic system. Agriculture not only provides food and raw material but also employment opportunities to a very large proportion of population
- The major role agriculture in economic development are source of

livelihood contribution to National Income, Supply of Food and Fodder, Importance in International Trade, Source of Raw Material, Engine for industrial and service sector etc.

- Agricultural productivity is a measure of the efficiency with which inputs are used in agriculture to produce an output
- There is vast disparity in productivity of agriculture across the countries in the world. In India, almost 52 percent of workforce engaged in agriculture contributes only 18.5 percent of national income in 2006-07. Thus remaining 48 percent (engaged in non-agro sector) contributes more than 80 percent of national income. In developed nations like USA, U.K. the contribution of agriculture accounts for about 5 percent to 7percent of national income with only 5 percent to 25 percent of workforce engaged in agriculture.
- Sustainable agriculture may be defined as any set of agronomic practices that are economically viable, environmentally safe, and socially acceptable.
- The decline in overall growth of employment during 1993-94 to 2004-05 was largely due to fall in creation of employment opportunities in agriculture.



10.8 FURTHER READING

1) R.K.Lekhi,Joginder Singh 'Agricultural Economics An Indian Perspective' Kalyani publication
2) SubbaReddy,Dr. P. Raghu Ram,Dr.T.V.NeelakantaSastry,Dr. I. Bhavani Devi 'Agricultural Economics' 2nd edition
3) Indian Society of Agricultural economics 'Indian Agricultural Economy during pre- Green revolution era 1940-1965 Vol I'
4) Indian Society of Agricultural economics 'Indian Agricultural Economy during post- Green revolution era 1966-1990 Vol II'
5) Misra and Puri 'Indian Economy'- Himalaya Publishing house.

10.9 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: The major role agriculture in economic development are : a)Source of Livelihood b)Contribution to National Incomec)Supply of Food and Fodder d)Importance in International Trade e)Source of Raw Material f)Vast Employment Opportunities etc..

Ans to Q No 2: The causes of low growth of agriculture are : a)lack of credit b)inadequate irrigation cover c) indebtedness d)continuing use of obsolete technology f) improper use of inputs g) decline in the public investments.

Ans to Q No 3: Sustainable agriculture may be defined as any set of agronomic practices that are economically viable, environmentally safe, and socially acceptable.

10.10 MODEL QUESTIONS

Short Questions (Answer each question in around 150 words).

Q 1: State the roles played by agriculture in economic development.

Q 2: Briefly explain the term 'sustainable agriculture'.

Q 3: Write a short note on productivity of Indian agricultural sector.

Long Questions. (Answer each question in around 300-500 words)

Q 1: Explain role of agriculture in economic development.

Q 2: Discuss the trend in agricultural productivity.

Q 3: Discuss impact of globalisation on Indian agriculture.

Q 4: Discuss about the impact and consequences of new technology in agriculture.

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