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The Motto of Our University

(SEWA)

SKILL ENHANCEMENT

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SELF-INSTRUCTIONAL STUDY MATERIAL FOR JGND PSOU

JAGAT GURU NANAK DEV
PUNJAB STATE OPEN UNIVERSITY, PATIALA

(Established by Act No. 19 of 2019 of the Legislature of State of Punjab)

BACHELOR OF ARTS (LIBERAL ARTS)

DISCIPLINE SPECIFIC ELECTIVE (DSE) ECONOMICS

SEMESTER-V

BLAB33501T

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

Head Quarter: C/28, The Lower Mall, Patiala-147001

WEBSITE: www.psou.ac.in

The Study Material has been prepared exclusively under the guidance of Jagat Guru Nanak Dev Punjab State Open University, Patiala, as per the syllabi prepared by Committee of Experts and approved by the Academic Council.

(Established by the Act No.19 of 2019 of the Legislature of the State of Punjab)

COURSE COORDINATOR AND EDITOR:

Dr. Kuldeep Walia

Dr. Pinky Sra

Assistant Professor in Economics

Jagat Guru Nanak Dev Punjab State Open UniversityPatiala

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PREFACE

Jagat Guru Nanak Dev Punjab State Open University, Patiala was established in December 2019 by Act 19 of the Legislature of State of Punjab. It is the first and only Open University of the State, entrusted with the responsibility of making higher education accessible to all, especially to those sections of society who do not have the means, time or opportunity to pursue regular education.

In keeping with the nature of an Open University, this University provides a flexible education system to suit every need. The time given to complete a programme is double the duration of a regular mode programme. Well-designed study material has been prepared in consultation with experts in their respective fields.

The University offers programmes which have been designed to provide relevant, skill-based and employability-enhancing education. The study material provided in this booklet is self-instructional, with self-assessment exercises, and recommendations for further readings. The syllabus has been divided in sections, and provided as units for simplification.

The University has a network of 110 Learner Support Centres/Study Centres, to enablestudents to make use of reading facilities, and for curriculum-based counselling and practicals. We, at the University, welcome you to be a part of this institution of knowledge.

Prof. G S Batra
Dean Academic Affairs

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MAX. MARKS:100
EXTERNAL:70
INTERNAL:30
PASS:40%
CREDITS:6

OBJECTIVE:

This course will enable the students to understand the theories of economic growth and development and then it acquaints the students with the issues of the Indian economy since Independence. It also throws light on how various sectors of the economy have grown and how the policy has created a suitable environment to enhance their potentials.

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER:

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions each from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any 10 questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES:

Candidates are required to attempt any two questions each from the sections A, and B of the question paper, and any ten short answer questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Section - A

Unit 1: Economic Growth and Development. Main Features of an Underdeveloped Economy. Determinants of Economic Development.

Unit 2: Development and Structural Change: Lewis Theory of Unlimited Supply of Labour; Rostow's Stages of Growth

Unit 3: Growth Models of Developing Economies: Theories of balanced and unbalanced growth

Unit 4: Growth Models of Developed Economies: Harrod-Domar Model; Solow model of steady state growth; Endogenous growth theories: Romer and Lucas. Kuznet's Characteristics of High-Income Countries.

Unit 5: Development Planning: Project Planning, Investment Criteria. Choice of Techniques.

Section - B

Unit 6: Demographic features of India: its problems and demographic dividend; Human development.

Unit 7: Characteristics of Indian agriculture: cropping pattern, growth and constraints; Agricultural Policies: Land reforms; Green revolution; recent developments in agricultural policy.

Unit 8: Indian Industry: growth and pattern since Independence. Industrial Policy since Independence.

Unit 9: Role of Public and Private Sector in India.

Unit 10: Service Sector in India: Growth and Structure; latest policies of the IT and ITES, National policy on Innovations

Suggested Readings:

- G.M. Meier (Ed.): Leading Issues in Development Economics, Oxford University Press, New York, 1964.
- Debraj Ray, Development Economics, Oxford University Press, 2009
- Kaushik Basu, The Oxford Companion to Economics in India, OUP, 2007.
- Michael Todaro: Economic Development, Princeton, 8th Edition
- K.S. Gill: Evolution of Indian Economy, NCERT, New Delhi
- Gaurav Datt and Ashwani Mahajan: Datt and Sundharam Indian Economy, S. Chand and Co.
- Charan D. Wadhva: Some Problems of India's Economic Policy, Tata McGraw Hill, Bombay, 1973, Part Two.
- A.M. Khusro: Readings in Agricultural Development, Allied Publishers, Bombay, 1968.
- P.C. Joshi: Land Reforms in India, Allied Publishers, Bombay, 1976

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SEMESTER - V

(BLAB33501T) ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

SECTION A

UNIT NO:	UNIT NAME
UNIT 1	Economic Growth and Development
UNIT 2	Development and Structural Change
UNIT 3	Growth Models of Developing Economies
UNIT 4	Growth Models of Developed Economies
UNIT 5	Development Planning

SECTION B

UNIT NO:	UNIT NAME
UNIT 6	Demographic features of India
UNIT 7	Characteristics of Indian agriculture
UNIT 8	Indian Industry
UNIT 9	Role of Public and Private Sector in India
UNIT 10	Service Sector in India

BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT 1: ECONOMIC GROWTH AND DEVELOPMENT

STRUCTURE

1.0 OBJECTIVES

After studying the Unit, students will be able to:

- Define the meaning of Economic Growth and Economic Development
- Differences between Economic Growth and Economic Development
- Various factors affecting Economic Growth
- Features of the Underdeveloped countries
- Determinants of Economic Development
- Difficulties in measuring economic growth

1.1 MEANING OF ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT

Economic Growth: Economic growth refers to an increase in the production and consumption of goods and services within an economy over a certain period, usually measured in terms of Gross Domestic Product (GDP). It reflects the expansion of the economy's output and is often associated with increased productivity, employment, and standard of living. Economic growth can result from various factors such as increased investment, technological advancements, population growth, and government policies. It is typically seen as a desirable goal for policymakers as it can lead to higher prosperity and well-being for individuals and nations.

Economic Development: Economic development is a broader concept than economic growth, which refers to an increase in the size of an economy. Economic development encompasses both the quantitative and qualitative aspects of economic progress, including improvements in the standard of living, access to education, healthcare, and other basic needs, as well as the creation of sustainable and inclusive economic structures that benefit all members of society. Economic development involves creating an environment in which individuals and businesses can thrive, including the development of physical infrastructure, regulatory frameworks, and social institutions. It also involves improving human capital through education, skills training, and other forms of capacity building and promoting innovation and entrepreneurship.

While economic growth is often measured in terms of GDP, economic development is a more holistic concept that takes into account broader measures of well-being such as income distribution, poverty reduction, and environmental sustainability. It is often seen as a long-term process that requires a coordinated effort between governments, businesses, and civil society to achieve sustainable and inclusive economic growth that benefits all members of society.

Definition

As Economists aspired to define the term development, many such definitions emerged. However, no one has identified the human goals of economic development as better as Amartya Sen, perhaps the leading thinker on the meaning of development. Development means ‘freedom’, according to Nobel Laureate Amartya Sen. Development is the process of expanding human freedom. It is “the enhancement of freedoms that allow people to lead lives that they have reason to live”. Hence Sen defined “development requires the removal of major sources of unfreedom: poverty as well as

tyranny, poor economic opportunities as well as systemic social deprivation, neglect of public facilities as well as intolerance or overactivity of repressive states".

1.2 DIFFERENCE BETWEEN ECONOMIC GROWTH AND ECONOMIC DEVELOPMENT

Economic growth is a narrow term. It involves an increase in output in quantitative terms but economic development includes changes in qualitative terms such as social attitudes and customs along with quantitative growth of output or national income.

Economic development without growth is almost inconceivable. The comparison between the two concepts is given in the following table:

Elements	**Economic Growth**	**Economic Development**
Definition	It refers to the increase in the monetary growth of a nation in a particular period.	Economic development implies changes in income, savings, and investment along with progressive changes in the socioeconomic structure of the country (institutional and technological changes).
Span of Concept	It is a narrower concept than that of economic development.	It is a broader concept than that of economic growth.
Scope	It is a uni-dimensional approach that deals with the economic growth of a nation.	It is a multi-dimensional approach that looks into the income as well as the quality of life of a nation.
Term	Short-term process	Long-term process
Measurement	Economic Growth is measured by quantitative factors such as an increase in real GDP or per capita income	Qualitative measures such as HDI (Human Development Index), gender-related index, Human poverty index (HPI), infant mortality, literacy rate, etc. are used to measure economic development

Effects	Economic growth brings quantitative changes in the economy.	Economic Development leads to qualitative as well as quantitative changes in the economy.
Applicable to	Developed economies	Developing economies
Government Support	It is an automatic process that may or may not require intervention from the government	It requires intervention from the government as all the developmental policies are formed by the government
Kind of changes expected	Quantitative changes	Quantitative as well as qualitative changes
Relevance	Economic growth reflects the growth of national or per capita income.	Economic development reflects progress in the quality of life in a country.

1.3 FEATURES OF AN UNDERDEVELOPED ECONOMY

An underdeveloped economy refers to a country or region with a low level of economic development, characterized by low productivity, low per capita income, and low levels of industrialization. The causes of underdevelopment are complex and multidimensional and vary from one country to another. However, some common features of underdeveloped economies include:

1. **High Rate of Growth of Population:** Population growth in underdeveloped countries neutralizes economic growth. A high population implies greater consumption expenditure and lower investments in productive activities and slows down economic development.
2. **High Level of Unemployment**: Unemployment levels are very high in underdeveloped countries mainly due to lack of capital and low level of development in various economic sectors, these countries are not able to absorb the rising labor supply.
3. **Low level of industrialization**: A low level of industrialization is one of the main features of underdeveloped economies. This means that the economy is dominated by the primary sector, which typically has low productivity and low wages. As a result, the majority of the population relies on subsistence agriculture or informal sector jobs, which are often low-paying and unstable. It has a lack of industrialization and also limits the economy's ability to generate jobs

and increase productivity, as the manufacturing sector is relatively small. In addition, underdeveloped economies often rely on the export of primary products, which are subject to price volatility and may not be sustainable in the long run.

4. **Low per Capita Income**: The level of per capita income is very low in underdeveloped countries
5. **Low level of technology**: Technology plays a crucial role in economic growth and development, as it drives productivity gains and innovation. However, underdeveloped economies often have a low level of technology, which limits their ability to compete in the global marketplace. The lack of technology is often due to a lack of investment in research and development, limited access to finance, and inadequate infrastructure. In addition, underdeveloped economies often lack the human capital needed to develop and adopt new technologies, as education and training opportunities are limited.
6. **High level of poverty**: Poverty is a common feature of underdeveloped economies, as most people have low incomes and limited access to basic goods and services. This is due to a combination of factors, including low productivity, limited job opportunities, and inadequate social safety nets. High levels of poverty also have significant social and economic consequences, including poor health outcomes, limited access to education, and reduced social mobility. In addition, poverty can lead to social unrest and political instability, which can further undermine economic growth and development.
7. **Limited infrastructure**: Underdeveloped economies often have limited infrastructure, including poor roads, inadequate transportation systems, and limited access to electricity and clean water. This makes transporting goods, accessing markets, and engaging in economic activity difficult. It limits the ability of underdeveloped economies to attract investment and engage in international trade. This is because investors and trading partners often require reliable infrastructure to transport goods and conduct business.
8. **Low levels of human capital:** Human capital is a critical driver of economic growth and development, as it enables individuals and societies to acquire new skills, knowledge, and capabilities. However, underdeveloped economies often have low levels of human capital, as education and training opportunities are limited. Lack of human capital can limit the ability of underdeveloped economies to adapt to changing economic conditions, innovate, and compete

in the global marketplace. In addition, low levels of human capital can lead to poor health outcomes, limited social mobility, and reduced opportunities for economic advancement.

9. **Dependence on external aid and loans:** Underdeveloped economies often depend on external aid and loans to finance their development. This is because they lack the resources to invest in their development, such as savings, tax revenues, and private investment. It creates a cycle of debt and dependency, as underdeveloped economies are often required to repay loans with interest, which limits their ability to invest in their development. In addition, external aid and loans can be subject to political and economic conditions, which may not align with the priorities of the underdeveloped economy.
10. **Limited access to credit**: Underdeveloped economies often have limited access to credit, which limits their ability to invest in their development. This is because they lack the collateral and creditworthiness needed to obtain loans from banks and other financial institutions. It can also limit the ability of underdeveloped economies to engage in international trade, as export-oriented firms often require access to credit to finance production
11. **Dependence on natural resources:** Underdeveloped countries often rely heavily on natural resources, such as minerals, oil, and agricultural products, for their economic growth and development. While these resources can provide a valuable source of income, they also make the economy vulnerable to price fluctuations and market volatility. Dependence on natural resources can lead to a phenomenon known as the "resource curse," where resource-rich countries experience slower economic growth, higher levels of corruption, and increased inequality. This is because the wealth generated from natural resources often benefits a small elite, while the majority of the population remains impoverished.
12. **Weak institutions**: Underdeveloped countries often have weak institutions, including the government, judiciary, and civil society. This can lead to a lack of rule of law, corruption, and a lack of accountability. It's difficult to attract investment and foster economic growth, as investors and businesses may be hesitant to operate in a country with unreliable institutions. In addition, weak institutions can also undermine social stability and security, which can further impede economic growth and development.
13. **Limited access to technology and innovation**: Underdeveloped countries often have limited access to technology and innovation, which can limit their ability to compete in the global marketplace. This is because technology and innovation are critical drivers of productivity and

efficiency, enabling businesses to produce goods and services at a lower cost. Limited access to technology and innovation can also limit the ability of underdeveloped countries to diversify their economies and move up the value chain. This can make them vulnerable to external shocks and fluctuations in global demand.

14. **Poor infrastructure**: Underdeveloped countries often have poor infrastructure, including inadequate transportation systems, limited access to electricity and water, and poor sanitation. This can make it difficult to transport goods, access markets, and engage in economic activity. Poor infrastructure can also limit the ability of underdeveloped countries to attract investment and engage in international trade. This is because investors and trading partners often require reliable infrastructure to transport goods and conduct business.
15. **High levels of inequality:** Underdeveloped countries often have high levels of inequality, with a small elite controlling the majority of the wealth and resources. This can lead to a lack of social mobility, reduced opportunities for economic advancement, and social unrest. High levels of inequality can also destabilize social consistency and stability, which can further impede economic growth and development. In addition, inequality can create a vicious cycle of poverty and exclusion, where the poorest and most vulnerable members of society are unable to access basic goods and services.

CHECK YOUR PROGRESS (A)

Q1: What do you mean by Economic growth?

Ans:_____

_____

Q2: Explain the term economic development

Ans:_____

_____

Q3: Give any two differences in economic growth and development

Ans:_____

_____

Q4: Explain any two features of an underdeveloped economy

Ans:_____

_____

1.4 MEASUREMENT OF ECONOMIC DEVELOPMENT AND GROWTH

Economic development and growth are essential indicators of a country's progress and prosperity. Various measurements and metrics are used to assess and analyze these aspects. Some of the key indicators commonly employed include:

1. **National Income**: GDP is the total value of all goods and services produced within the boundaries of countries over a specific period. It is one of the most widely used indicators to measure a country's economic output and growth. As GDP, GNP measures the total value of goods and services produced within the boundary of countries (including those abroad) over a specific period. GNP is often used in conjunction with GDP to assess a country's economic performance. GNI is the total income earned by a country's residents (both domestically and abroad) over a specific period. which includes GDP along with net income from foreign sources, such as remittances and investments.
2. **Human Development Index (HDI):** The HDI ranges from 0 to 1, with higher values indicating higher levels of human development. A value close to 1 indicates a higher level of development, whereas a value close to 0 indicates lower development.
   a) **Life expectancy**: Given the importance that people have on living a long and healthy life, life expectancy has been regarded as an essential indication. If people are properly fed, healthy, and educated, they can live for a very long time. The number of years a newborn infant would live if current mortality trends persisted throughout that child's life is known as life expectancy at birth.
   b) **Education attainment:** The percentage of people, 15 years of age and older, who can understandably read and write is known as the literacy rate. The literacy rate represents the accessibility of education for people. A literate individual can have a fruitful and satisfying life.
      - Adult Literacy Rate: indicates the percentage of people above 15 years of age who can read and write.
      - Mean years of schooling: The average number of years of education received by people aged 25 years and older.

- Expected years of schooling: The number of years of schooling a child entering school at the current age can expect to receive if prevailing patterns of enrolment rates stay the same throughout their life.

It provides a more holistic view of a country's development, combining economic and social indicators.

c) **Per Capita Income:** Per capita income refers to the average income earned per person in a given region or country during a specified year. It is obtained by dividing the country's national income by its population.

Per Capita Income = National Income/ Population

In general, per capita income is seen as a country's level of development. This is founded on the fundamental tenet that a nation's amount of income determines its rate of development. The standard of living and progress rise with income. National income has several shortcomings, even though it can also be used as a measure of economic development.

3. **PQLI:** PQLI stands for the Physical Quality of Life Index. It is a composite measurement used to assess the overall quality of life and well-being of the population in a particular region or country. The PQLI was introduced as an alternative index to measure human development and living standards beyond traditional economic indicators like Gross Domestic Product (GDP).

The Physical Quality of Life Index was developed by sociologist Morris David Morris in the 1970s. It combines three basic indicators that are crucial for human well-being:

a. **Life Expectancy at Birth:** This indicator measures the average number of years a newborn is expected to live if current mortality rates remain constant throughout their lifetime. It reflects the overall health and longevity of the population.
b. **Infant Mortality Rate:** The infant mortality rate represents the number of deaths of infants (under one year of age) per 1,000 live births. It serves as an important measure of the quality of healthcare and the well-being of mothers and children in society.
c. **Literacy Rate:** The literacy rate indicates the percentage of people above a certain age (usually 15 years and older) who can read and write. It is an essential indicator of educational attainment and human capital development.

The formula for calculating the PQLI is relatively straightforward:

PQLI = (Life Expectancy + Literacy Rate + Infant Mortality Rate)/ 3

Each component is normalized between 0 and 100, and the PQLI itself is also scaled between 0 and 100. A higher PQLI score indicates a higher overall quality of life and well-being for the population.

4. **Economic Welfare**: Economic welfare is a measure that measures the well-being or standard of living of individuals and households within an economy. It is a broader concept than traditional economic measures like Gross Domestic Product (GDP) or Gross National Income (GNI), as it takes into account not only income and production but also factors that directly impact the quality of life and happiness of the population.
5. **Standard of Living**: Standard of living is an important component in measuring the Human Development Index (HDI). It refers to the level of wealth, comfort, material goods, and necessities available to individuals and households within a specific geographic area, typically a country. It is a broader measure of well-being beyond just income or GDP, as it takes into account various factors that influence the quality of life of a population.
6. **Savings and Investment**: The levels of investment and savings in an economy can indicate the capacity for future economic growth and development. More saving leads to more investment which indicates more economic development.
7. **Economic Welfare**: According to some economists, advancing the general public's economic welfare should be economic development's overarching goal. The improvement in economic welfare is therefore seen as the most effective indicator of economic development in their view. In addition to knowing the size of the national income, understanding how it is produced and spread is essential for estimating economic growth. Understanding the nature of national income is also crucial. It is also necessary to estimate the social cost of the national output. The estimation of each of these components faces numerous practical challenges. As a result, a lot of economists simply use economic welfare as a theoretical yardstick for measuring economic development.
8. **Trade Balance:** The trade balance is the difference between a country's exports and imports. A positive trade balance when exports exceed imports is called a positive trade balance which can contribute to economic growth.

It's important to note that each indicator has its strengths and limitations, and no single measure can provide a complete picture of economic development and growth. Economists and policymakers often use a combination of these indicators to get a more comprehensive understanding of a country's economic performance.

1.5 DETERMINANTS OF ECONOMIC DEVELOPMENT

Economic development refers to the process by which a country or region experiences growth in its economy, leading to an increase in its standard of living and overall well-being. It typically involves improvements in infrastructure, technology, education, and institutions, as well as an expansion in productive capacity, employment opportunities, and income levels.

The determinants of economic development are numerous and complex, and they vary depending on the specific context and country in question. Some of the most important determinants of economic development include:

1. **Human capital:** This refers to the skills, knowledge, and education of a country's workforce. A highly educated and skilled workforce is better able to innovate, adapt to changing technologies, and engage in productive economic activities. Investments in education and training can help to build human capital and improve a country's productivity, competitiveness, and overall economic growth.
2. **Technology and innovation**: The adoption and development of new technologies is a critical driver of economic growth and development. Countries that can invest in and utilize advanced technologies are often able to increase productivity and create new industries, leading to higher levels of economic growth. Investments in research and development can help to drive innovation and support the development of new technologies.
3. **Political stability and institutions**: The quality of a country's institutions, including its legal and regulatory framework, political stability, and governance, can have a significant impact on its economic development. Countries with stable political systems and effective institutions are often better able to attract investment and create an environment conducive to economic growth. Corruption, instability, and weak institutions can all undermine economic development.

4. **Financial systems**: A well-functioning financial system is essential for economic development, as it allows for the efficient allocation of resources, facilitates investment and innovation, and provides access to credit and other financial services. Countries with strong financial systems tend to have higher levels of economic growth and development.
5. **Infrastructure**: Adequate infrastructure, including transportation networks, telecommunications systems, and energy infrastructure, is essential for economic development. Countries with well-developed infrastructure are often better able to facilitate trade and commerce, attract investment, and create employment opportunities. Investments in infrastructure can also improve access to basic services, such as healthcare and education, and help to reduce poverty and inequality.
6. **Natural resources**: Natural resources can include land, minerals, energy, water, and other resources that are essential for economic development. Countries with abundant natural resources can leverage them to drive economic growth, but it's important to note that simply having natural resources does not guarantee economic development. It's also important to manage these resources sustainably to ensure long-term benefits for the country and its citizens.
7. **Trade and globalization**: The level of integration with the global economy can also impact a country's economic development. Countries that engage in international trade and are open to foreign investment can often experience higher levels of economic growth and development. However, it's important to note that globalization can also create challenges, such as increased competition and the potential for economic volatility.
8. **Macroeconomic stability**: Sound macroeconomic policies, including monetary and fiscal policies, can help create an environment of stability and predictability, which can encourage investment and growth. Low inflation, a stable currency, and manageable debt levels can all contribute to macroeconomic stability.
9. **Social capital**: Social capital refers to the networks, norms, and trust that exist within a society, and it can play an important role in economic development. Strong social capital can support cooperation, collaboration, and collective action, which can help to create a more supportive environment for economic growth.

10. **Health and nutrition**: Good health and nutrition are essential for economic development, as they can improve productivity, reduce healthcare costs, and increase educational attainment. Investments in healthcare and nutrition can help to improve overall well-being and support economic growth.
11. **Environmental sustainability**: Environmental sustainability is an important determinant of economic development, as countries seek to balance economic growth with environmental protection. Sustainable development requires managing natural resources in a way that ensures their availability for future generations, while also addressing issues such as climate change and pollution.
12. **Cultural factors**: Cultural factors, such as attitudes towards entrepreneurship and risk-taking, can also impact economic development. Cultures that value innovation, entrepreneurship, and hard work can help to create an environment that is conducive to economic growth.
13. **Access to Finance**: Access to credit, savings, and other financial services is critical for individuals and businesses to invest in education, training, and entrepreneurship, which can drive economic growth.
14. **Quality of Institutions**: The quality of public institutions, such as the legal system, regulatory environment, and public services, can have a significant impact on economic development. Strong institutions can help protect property rights, enforce contracts, and promote social welfare.
15. **Demographics**: Population growth and demographic factors such as age structure and migration can also influence economic development. For instance, a young population can drive economic growth by creating a large labor force and increasing demand for goods and services.
16. **Environmental Sustainability**: The impact of economic development on the environment and natural resources is a critical consideration. Sustainable economic growth requires the responsible use of natural resources, the reduction of pollution, and the promotion of green technologies.

17. **Entrepreneurship and Innovation**: Entrepreneurship and innovation are key drivers of economic growth, creating new products, services, and markets, and driving productivity gains.
18. **Quality of Education**: A high-quality education system that provides access to knowledge, skills, and training can help develop a skilled workforce that can contribute to economic development.
19. **Economic Integration**: Integration into regional or global economic systems can help stimulate economic growth by providing access to larger markets, increasing competition, and promoting specialization.

These factors work in tandem to create an environment that fosters economic growth. Policymakers must carefully balance and prioritize these factors to promote sustainable and inclusive economic development.

1.6 DIFFICULTIES TO MEASURE ECONOMIC DEVELOPMENT

Due to several considerations, including the complexity of economies, the broad range of indicators involved, and the variety of economic activity, measuring economic development can be difficult. The following are some of the main challenges in evaluating economic development:

(1) Lack of correct index of measurement: Some of the economist's national income as an ideal index of measurement, while others emphasized the per capita income. However, some economists attach more significance to the level of living with particular emphasis on the consumption of electricity, steel, and food per capita Thus economists do not have any settled opinion on the index of measurement of economic development.

(2) Non-economic factors ignored while measuring economic development: Non-economic factors like social, political, religious, and other factors are ignored, while these factors affect economic growth. However, it is very difficult to exactly account for the significance of these factors in the measurement of economic development.

(3) Difficulties of International Comparison: There is no such internationally accepted index of measurement of economic development that facilitates international comparisons. Measuring economic development across countries becomes complicated due to differences in economic structures, cultural contexts, political systems, and levels of institutional development.

(4) Controversy over National Income and Per Capita Income: Economists also differ on the point as to whether national income or per capita should be deemed as an appropriate index of growth. Suppose, in countries A and B national income is rising at that same rate. But if country A population rises at a rate twice that of country B, then per capita income in country A would be rising only 1/2 of country B. It is therefore essential that one has the knowledge of both the parameters, viz national income and per capita income.

(5) Difficulties in the measurement of the standard of living: It is very difficult to figure out the high and low standard of living, also the standard of living is related to the level of prices. Even when national income and per capita income remain the same, the standard of living would change following any change in the level of prices. Such a situation, however, may not reflect a true change in the level of development. Hence, standard of living is not so very appropriate index for the measurement of economic development.

(6) Regional Differences: Economic development varies significantly across regions within a country. Therefore, it is difficult to create a one-size-fits-all measurement approach. All the religions are different from each other so they might have different growth rates.

(7) Human Development vs. Economic Growth: Economic development is not only about increasing GDP; it also considers the overall well-being of the population. But focusing on economic growth only may overlook important aspects like education, healthcare, standard of living and quality of life as well.

(8) Data Availability and Quality: In developing countries, obtaining reliable and comprehensive data is an important challenge, especially with limited resources and data collection infrastructure. Some regions may lack the capacity to collect accurate and up-to-date statistics, making it difficult to assess their economic development accurately.

CHECK YOUR PROGRESS (B)

Q1: What do you mean by the Human Development Index (HDI)?

Ans:_____

_____

Q2: Explain the term PQLI.

Ans:_____

_____

Q3: Give any two Determinants of Economic Development

Ans:_____

_____

Q4: Explain any three Difficulties to Measure Economic Development

Ans:_____

_____

1.7 SUM UP

Economic development studies the causes and cures of general poverty. Economic development refers to the process by which per capita income and economic welfare of a country increase over time. It may be noted that the terms Economic Development and Economic Growth are used interchangeably, but economists make a distinction between them. According to them, economic development means growth with change. In this chapter, we shall study the meaning, determinants and obstacles of economic development. Economics development and growth can be measured by national income, per capita income, economic welfare, standard of living, HDI and PQLI.

1.8 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1 What is economic growth

Q2 What is economic development

Q3 Give two measures of development

Q4 Define HDI

Q5 Define PQLI

Q6 Give two measures to examine economic development

B. Long Answer Type Questions

Q1 What do you mean by economic development? How does it differ from economic growth?

Q2 What are the various methods and measures of economic development?

Q3 Give the various features of an Underdeveloped Economy.

Q4 What are the determinants of Economic Development?

Q5 Explain the difficulties in measuring economic development.

1.9 FURTHER READING

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT- 2 DEVELOPMENT AND STRUCTURAL CHANGE

STRUCTURE

2.0 OBJECTIVES

After reading this unit, you will be able to:

- Define structural changes approach of development
- Critically evaluate Lewis's theory of unlimited supply of labour
- Explain Rostow's various stages of growth.

2.1 INTRODUCTION

The term "structural change" refers to changes in the composition of output and the use of factors of production (labour and capital) in economic activities. The structure of production changes when the proportion of non-agriculture output rises and as a result, employment opportunities are stimulated in non-agricultural activities. However, this structural change must occur in a way that enhances the output of both the production sector as well as the agriculture sectors. Hence, the structural approach to economics describes economic development as *growth through structural change*. Structure change is evaluated through GDP composition and industrial labour distribution. It shows changes in the demand for goods and services, on the one hand, and changes in the demand for labour in different sectors due to technological changes in production, on the other hand. Several economic theories analyze and explain growth through structural changes. In this unit, we examine two major structural change growth theories for underdeveloped economies: (i) Lewis's theory of unlimited supply of labour and (ii) Rostow's stages of growth.

2.2 LEWIS' THEORY OF UNLIMITED SUPPLY OF LABOUR

In his pioneer work "Economic Development with Unlimited Supplies of Labour" Prof. W.A. Lewis[1] propounded a growth model based on structural changes. In underdeveloped countries, there is a shortage of capital but the labour supply is almost unlimited and by judiciously exploiting this unlimited supply of labour these countries can stimulate their growth process. According to Lewis, if a country has to take off it must invest 15 per cent to 20 per cent of its national income. But in underdeveloped countries, this range is 5 per cent to 10 per cent of national income. Thus, the only way to accelerate capital formation is to utilize labour, the other factor of production.

2.2.1 ASSUMPTIONS

Following are the major assumptions of Lewis' theory of unlimited supply of labour

i) There is a high density of Population in less developed countries

ii) Many people are disguised unemployed with zero marginal productivity.

iii) The supply of labour is perfectly elastic at the subsistence rate of wages

[1] Lewis, W. Arthur (1954). "Economic Development with Unlimited Supplies of Labour". *The Manchester School*. **22** (2): pg.139–91.

iv) There is the existence of both the capitalist sector and the subsistence sector. Thus economy is dual.

v) In the subsistence sector, wage rates stagnate at the subsistence level.

vi) Wage rate is higher in the capital sector compared to the subsistence sector.

2.2.2 THE GROWTH PROCESS

According to Prof. Lewis, the unlimited supply of labour is a principal feature of less developed economies. As there is a rapid increase in population in these countries, the labour supply is over its demand. Due to an excess supply of labour, the problems of unemployment, underemployment and disguised unemployment are common in these countries. Disguised unemployment means *more people are occupied in work than actually needed.* The marginal productivity of these workers is zero. It implies that if these people withdraw from work even then there is no change in total output. There is the existence of two sectors: the capitalist sector and the subsistence sector. The capitalist sector has high productivity, high wages and a high level of capital formation. Vice-versa is true for the subsistence sector. A large number of labours are employed in the subsistence or primary sector, where the wage rate is very low and is almost stagnant at the subsistence level. The theory argues that if some labour is withdrawn from the subsistence sector and is set to work in the capitalist sector at their prevailing wage rate, the marginal productivity of these workers will be higher than their paid-out wages. This will boost the capitalist sector's profit which is called *capitalists surplus.* This surplus will be reinvested and will stimulate the process of capital formation. There would be continued growth until the labour pool shifted from the subsistence to the capitalist sectors, and workers are ready to work for wages less than capitalist average productivity. It is only in these conditions that a capital surplus can continue to be generated. Prof. Lewis also mentions the significance of bank credit to stimulate capital formation. Initially, bank credit boosts the production of capital goods, which in turn raises wage income. It may lead to inflation. But with the increase in consumer goods production, the price settles down. A rise in national income also leads to an increase in tax revenue. As a result, inflation facilitates economic growth.

2.2.3 END OF GROWTH PROCESS

The growth process, according to Prof. Lewis would come to an end at a point when the primary sector workers are willing to work only at capitalist wage rates. It may be due to the following reasons:

a) As the growth process accelerates, demand for labour increases continuously in the capitalist sector. As demand rises above surplus labour, wages rise as well.

b) With technological progress, the marginal productivity of labour in the subsistence sector rises. Workers demand more wages.

c) With the persistent shifting of labour from the subsistence sector to the capitalist sector, the supply of labour in this sector will be less than the demand. This will also result in higher wages in the subsistence sector. As a result, the capitalist sector needs to raise wages in order to attract more labour.

d) Also, trade unions pressured the capitalist sector to raise wages.

Thus, in underdeveloped countries, the capitalist surplus generated by the unlimited supply of labour shrinks and eventually disappears. The rate of capital formation is reduced and the growth process of the economy is halted. Prof Lewis suggested at this point that the entrepreneur in an open economy should try to migration of workers from other low-income areas or countries. These migrant workers will be ready to work at a lower wage rate as the situation is worse in their native areas. A second option is to export capital to other countries. This will reduce domestic production, which in turn decreases labour demand. As a result, wages are lowered in the home country.

2.2.4 CRITICISM OF LEWIS' THEORY OF UNLIMITED SUPPLY OF LABOUR

Lewis' theory is criticized by many economists on the following basis:

1. Lewis' theory of unlimited supply of labour is based on the assumption that there is an unlimited supply of labour in the country and this labour is movable. But in reality, there are certain underdeveloped countries in Africa and Latin America region where labour supply is limited. Also, the underdeveloped country has some social and religious constraints which restricted the free movement of labour from the subsistence sector to the capitalist sector.

2. Shifting labour from the primary sector to the industrial sector has some technical and practical constraints as well. Out of an unlimited supply of subsistence sector employees, few are skilled and able to work in the capitalist sector. Others need training. This may require a lot of time and money. It is therefore impossible to achieve growth by simply shifting labour from one sector to another.
3. Also, there is a lack of skilled entrepreneurs in underdeveloped countries. This prevents fuller exploitation of an unlimited supply of labour
4. Kuznet criticizes Lewis' theory for its capitalist surplus concept. According to Kuznet, the theory encourages an unequal distribution of wealth. But it is not always essential that owners of capitalist surplus invest it, rather they spend it on conspicuous consumption. Thus in underdeveloped countries, inequalities might not always result in desired growth.
5. Prof. Olivers believes that inflation in underdeveloped countries may not be self-liquidating. It has been shown empirically that once inflation has been triggered, it is beyond the control of the government.
6. Lewis in his theory neglects the concept of aggregate demand. Products of the capitalist sector are consumed by different sectors including the subsistence sector. But as the income of the primary sector is low, their propensity to consume is also low. This affects the aggregate demand in the country which ultimately leads to a slow rate of capital formation.

In short, Lewis' theory of unlimited supply of labour has many shortcomings but offers a clear understanding of the growth process. Growth variables, such as population growth, capital formation, inflation, and international mobility, are clearly viewed in theory.

2.3 ROSTOW'S THEORY OF STAGES OF GROWTH

Economic development is multidimensional. The process of growth is accelerated by various economic, social and institutional factors. Economic and non-economic factors together cause structural changes in an economy. Development economists of the 50s and 60s viewed economic development as a process involving structural changes in an economy. American economist W. W. Rostow[2] in his first-of-its-kind work analysed these factors and drew a series of successive

[2] W.W. Rostow (1953). *The Process of Economic Growth.* London: Cambridge University Press.

stages of economic growth that all countries must pass through. Rostow discusses the following six *Propensities* of the peoples of a country on which the development of that country depends:

i) Propensity to develop fundamental science

ii) Propensity to apply this science to economic ends

iii) Propensity to accept innovations

iv) Propensity to search for material advances

v) Propensity to consume

vi) Propensity to have children.

These social, institutional and financial propensities are governed by the attitudes, aspirations and motivations of people. These attitudes, aspirations and motivations originate from a country's social, political and economic environment. Therefore, economic development is dependent on both economic and non-economic factors.

2.3.1 STAGES OF ECONOMIC GROWTH

Rostow classifies the process of growth into five successive stages

1) The Traditional Society
2) Pre-conditions of Take-off
3) Take-off
4) Drive to maturity
5) The stage of High Mass Consumption

1) The Traditional Society

This is the initial stage, every economy to begin with. In traditional society, agriculture is the primary occupation which is traditional in nature. People mostly live in villages and are dependent on agriculture. Family and caste systems prevail in society. Social status is determined by caste and family reputation in society. economic decisions are always hindered by backward traditions. Political power is captured by a few powerful groups like zamindar, administrators, religious leaders etc. Science and technological progress are almost zero at this stage. Therefore Rostow called it the *Pre-Newtonian* stage of the economy. There prevails the law of diminishing returns

in agriculture. Also, Malthus's law of population is applicable. Thus, per capita output is very low. A huge part of the income generated is spent on religious places, monuments, war and non-economic activities. Therefore, at this stage, the economy remains traditional and backward.

2) Pre-conditions of Take-off

This is the second stage of growth. It is during this stage that societies in transition are preparing for take-off. According to Rostow, the duration of this stage is nearly 100 years. Now, people start thinking beyond local issues and take an interest in national and international affairs. Agriculture is still the main occupation but dependence on it has been declining now. Other sectors like industry, trade, transport, and services start developing. Economic activities are diversified. Education expands and technical progress commences. At this stage, people are less interested to enlarge their families and the birth rate decline. Importance is given to individuality rather than family and caste. People gain confidence and there is proper utilization of human resources. A part of national income is spent on social overhead capital. At this stage, the rate of capital formation enhances. Funds are mobilized by the financial sector. Capital goods and final products are imported and raw materials and minerals are exported. According to Rostow, Western Europe went through this stage from the end of the 17th century to the beginning of the 18th century.

3) Take-off

This is a crucial stage of economic growth. At this point, the economy is self-sustaining and no longer dependent on other countries. As technology advances, innovations occur, the rate of investment increases, the industry grows, and surpluses are generated. The take-off stage has the following key specifications:

a) At this stage, the national product growth rate is higher than the population growth rate. Therefore, the per capita income is stabilized at a high level. To reach this stage, it is a pre-requisite that investment rates should be more than 10 per cent of GNP. For this, there is required an adequate supply of loanable funds that may come from internal sources or through the import of capital.

b) The take-off stage has witnessed the growth of leading sectors. Rostow divides the economy into three major sectors: primary growth sector, supplementary growth sector and derived sector. The primary sector is the major sector of every economy. Each country has its own

primary sector. Technological progress and advancement lead to higher growth in this sector. Growth initiated in the primary sector causes growth in other sectors. These sectors are called supplementary growth sectors. For example, the growth of the railway as a primary sector leads to the growth of the iron, coal and steel industries as supplementary growth sectors. The derived growth sector derives its growth potential from other economic components like national income, population, industry etc. For example, a rise in income leads to an increase in demand for luxury goods. This results in the growth of the luxury goods industry. The growth of these three sectors depends on effective demand and an increase in real income.

c) Another condition at this stage is a change in the social and political framework in favour of modernization. This will generate domestic capital for new investment. Government policies support technological research and training. New entrepreneurs are encouraged and investment is promoted.

4) Drive to Maturity

Through the Take-off Stage, investments and technical progress lead to self-sustainability. The point where the economy reaches self-sufficiency is called the drive to maturity stage. At this stage, investment and population increase proportionally. The economy is boosted by exports and earns a distinguished place internationally. Structural changes occurred. Dependence on agriculture declined rapidly. As the economy developed, it became urban and modern. People enjoy financial and social security. Production and entrepreneur's role change. Large cooperatives emerge run by a new class of professional managers. Per capita income and standard of living both rise to high levels. In Rostow's view, an economy takes 40 to 60 years to reach this stage. The UK, Japan, and France are examples of this stage.

5) The Stage of High Mass Consumption

This is the last stage of Rostow’s theory of economic growth. This stage is marked by high production, high profit, and therefore high per capita income. Consumption of luxury reached its highest level. The country's motive has changed from maximum production to maximum welfare. In order to achieve equality of distribution, the government is implementing progressive taxes as well as various social security and leisure measures. Life becomes easy and comfortable in such countries. At this stage, the amount of money spent on military operations increases. As a result,

the country became a world power. Other countries accept its political influence. The USA and China are examples of this stage.

2.3.2 CRITICISM OF ROSTOW'S THEORY OF STAGES OF GROWTH

Rostow explains his growth theory with historical evidence but it is not free from criticism. Rostow's theory of growth has been criticized on the following basis:

1. There is no logic behind Rostow's claim that all economies must pass through five stages. The USA, Canada and Australia are just a few examples without a traditional society. They derived their development preconditions from Great Britain, an advanced nation. A revolution in agriculture is also not necessary before takeoff. New Zealand and Denmark, for example, developed agriculture during takeoff.
2. Rostow's stage analysis doesn't accurately predict the direction in which economic growth will take. The theory is focused on the historical growth path and does not narrate various determinants of growth. In addition, Rostow fails to address what would happen after a high level of mass consumption.
3. The stages of Rostow's theory seem to overlap each other. It is difficult to determine when one stage ends and another begins. The features of one stage are also mixed with the features of successive stages. This is a serious limitation.
4. Rostow's take-off stage is also controversial. During take-off, investment is boosted by socioeconomic factors that change with time and place. Rostow ignores the aspect of time and place in his theory. The concept of take-off is derived from aeronautics. When a plane takes off, it gets its force from internal mechanisms. In the same way, when a country takes off, its economic force comes from within. However, underdeveloped countries cannot develop these forces internally due to a lack of resources. Thus, they need foreign assistance which is not mentioned by Rostow.
5. Rostow's theory is also criticised for its misleading drive to maturity stage. An economy becomes mature when it becomes self-sufficient during the take-off stage. Consequently, it is nothing more than a step in the takeoff process. Thus, there is no need for a separate stage.

6. Rostow's stages of growth are not based on any good theory of development economics. The theory reads more like a declaration from a historian than an analytical formulation from an economist.

In short, Rostow's theory of growth has many limitations but it is still considered a notable blueprint of the world economy's development history. The linear pattern of his stages of growth can still be used to explain the development path of many post-colonial countries. Also, Rostow was the first economist to incorporate non-economic factors into his theory of economic growth. He should be appreciated for this.

2.4 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1.What do you mean by concept of structural changes?

Q2.What are the characteristics of the stage of 'Drive to Maturity'

Q3.Define capitalist surplus.

Q4.List the six Propensities of people as given by Rostow.

Q5.What do you mean by disguised unemployment?

B. Long Answer Type Questions

Q1.Critically evaluate Lewis's theory of unlimited supply of labour.

Q2.Discuss the various stages of economic growth as propounded by Rostow.

Q3.Critically evaluate the Rostow's theory of stages of growth.

2.5 SUGGESTED READINGS

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT- III GROWTH MODELS OF DEVELOPING ECONOMIES

STRUCTURE

3.0 OBJECTIVES

After reading this unit, you will be able to:

- Define balanced and unbalanced growth
- Describe Rosenstein Rodan's theory of balanced growth;
- Explain Rangar Nurkse's theory of balanced growth.

- Discuss Hirschman's strategy of unbalanced growth

3.1 INTRODUCTION

Economic development is of utmost significance to all economies. Developing countries need large scale investment to get rid from all his problems like: poverty, unemployment, low living standard etc. Investment is essential but what should be the strategy of investment in developing countries? To answer this question development economist divided into two groups. Economists like Rodon, Nurkse and Lewis etc. support instantaneous investment in all sectors for the rapid development in these low-income economies. However, some other economists such as Hirschman, Singer, Fleming, etc., believe that these economies should create imbalances by investing in a single sector. As such, economic development strategy can be analysed according to two theories: The theory of balanced growth and the theory of unbalanced growth.

3.2 THEORY OF BALANCE GROWTH

3.2.1 Meaning

The idea of balanced growth was first propounded by Fredrick List. His analysis of balance growth is a strategy of development in agriculture, industry and trade simultaneously. In 1928, Arthur Young used the concept to show the interdependence between different industries. Rosenstein Rodan wrote about this concept in his 1943 article titled "Problems of Industrialization of Eastern and South Eastern Europe." After this the concept was examined by various economists like Prof. Nurkse, Prof. Lewis, Stovasky etc. Balance growth means a simultaneous investment all sectors of economy for the rapid development. It implies a balance between agriculture and industry; domestic production and exports; and vertical and horizontal external economies. Balanced growth is based strictly on economic planning.

According to Lewis, "*Balanced growth means that all sectors of economy should grow simultaneously so as to keep a proper balance between industry and agriculture and between production for home consumption and production for exports. The truth is that all sectors should be expanded simultaneously"*

3.2.2 Rosenstein Rodan's Theory of Balance Growth

Rosenstein Rodan emphasizes that large-scale investment is essential to make an underdeveloped economy self-reliant. This approach is also known as Rodan's *Theory of Big Push.* According to

Rodan, '*Balanced growth means investment in mutually supporting industries, which would create the market for each other's products"*[3] It will increase the market's size because different industries will demand each other's products. Thus, according to this theory, in order to exploit external economies of supply and demand, a large-scale investment in numerous fields is essential. To support his views Rosenstein gives an example of a shoe factory. If there is investment in a shoe-making factory, then all those who work in factory will get income. But they cannot spend all their income on shoes only. They need several other goods which can be produce by other factories. Thus, one-way development will not succeed. Economies grow when multiple industries produce different products simultaneously. According to Rodan, external economies are enjoyed by indivisibilities and there are three types of indivisibilities related to balance growth.

a) **Indivisibility in Production Function:** it is also called indivisibility of supply of social overhead costs. Social overhead capital means all type of facilities like transport and communication, irrigation facilities, power supply, sewerage etc. Building social overhead costs is essential condition for industrialization. A huge investment is needed for this. For example, if electricity is to be supplied in the country, it will require a huge investment in thermal plants, power generating machines, electricity wires and pole factories, skilled engineers and other human resources simultaneously. Social overhead capital industry is indivisible due to many reasons. As a result, a developing country has to invest approximately 30 to 40 per cent of its total investment in building this infrastructure. These indivisibilities lead to external economies in other industries. With industrialization, the demand for social overhead capital increases and costs decreases.

b) **Indivisibility of Demand:** indivisibility of demand means investment decisions in different industries are interrelated to each other. Rodan explain this with the help of example of shoe-making factory, discussed earlier. If there is only shoe-making factory in market, the labor of this factory cannot spend their all income. Also, the demand for shoes will be less than its supply. An entrepreneur will not take risk to set up shoe factory. But if 10 different factories are set-up simultaneously, then there will be more employment opportunities and 10 types of

[3] Rosenstein-Rodan, P.N. (1943). "Problems of Industrialization of Eastern and South Eastern Europe". *Economic Journal,* 53, Article ID: 202211. https://doi.org/10.2307/2226317

products in market. Now, labor demand each other's products and demand will be equal to supply. Hence, large-scale investment in different projects will prove more useful.

c) **Indivisibility of Supply of Savings:** Large-scale investment requires large-scale savings which ultimately entails large incomes. Raising income levels requires huge investment in the initial stage. This will increase the marginal rate of savings in the next stage. Saving is more income elastic.

Thus, due to the above three indivisibilities, large-scale simultaneous investment is needed in developing economies.

3.2.3 Nurkse's Theory of Balance Growth

Prof. Ragnar Nurkse[4] has a clear vision on balance growth approach. According to him, in underdeveloped countries, the biggest obstacle is the vicious circle of poverty. Income is low in these countries, so savings are small. Small savings mean less investment. As a result, the output is minimal. Low output leads to low income. With a small income, goods are in low demand. Thus, the market size will be small and there is no inducement to invest. To develop these underdeveloped countries, it is, therefore, necessary to break the vicious cycle of poverty. In order to do so, a balance between supply and demand must be maintained. According to Nurkse, it is possible to achieve economic growth through balance growth in the following ways:

a) **Complementarity of Demand:** Nurkse supports Rodan's view that to expand demand it is necessary to invest in more than one industry. To put it another way, several factories should be built simultaneously to produce different kinds of goods. The demand for products would rise as workers from different industries bought each other's products. This will increase production on one side and market size on the other side. Employment opportunities will increase. Rise in income leads to market demand. There is expansion in capital formation and the vicious circle of poverty will be wrecked.

[4] Nurkse, Ragnar (1961). *Problems of Capital Formation in Underdeveloped Countries*. New York: Oxford University Press.

b) **Contribution of Government**: It is Nurkse's belief that the progressive industrialists and entrepreneurs can be easily motivated to invest. Thus, government has a limited role to play in economic progress of a country.

c) **External Economies:** External economies refer to benefits to other industries with the establishment of another industry. It leads to an increase in demand and widens the market. It is also assumed that external economies increase production returns. As a result, production costs fall and the economy grows.

In short, according to Nurkse, the vicious circle of poverty can be broken by balanced growth.

3.2.4 Critical Evaluation of Theory of Balance Growth

The theory of balance growth is widely criticized by some economists like Hirscman, Fleming, Singer, Kurihara etc. on following basis:

i. Prof. Hirschman believes that the concept of balanced growth is unrealistic as it suggests simultaneous investment in several sectors. For this, a country needs capital and labor in huge amount. But underdeveloped countries already have scarcity of capital. Hence, the suggestion sounds good but not practical.

ii. According to Prof. Nurkse's government has a limited role to play in economic progress of a country. This is not true. For simultaneous huge investment in several sectors, there needs central planning which is not possible without government intervention. The task of investment in priority sectors cannot be left in the hands of private sector. The overall growth is possible only under planned economy.

iii. According to theory of balance growth, expansion of existing industry or establishment of a new industry increase demand in market, widens the market size and leads to external economies. But according to Fleming, by expansion or establishment of an industry causes increase in demand of inputs which increase the costs of production. It leads to rise in price of goods and demand falls. The industry might then have to deal with external diseconomies instead of external economies.

iv. According to Hirschman, theory of balance growth is not a theory of development. The views in this theory just support a *dual economy* in an underdeveloped country. Backwards

underdeveloped countries are forced to adopt the modern industrial sector, which doesn't lead to their economic development.

v. The economic history of world does not support the theory of balance growth. The empirical evidence of developed countries like America, England, Japan etc. reveals that they invest in one or two sectors and grow. For example, England invests, first of all, in the textile industry whereas Japan grows up with the help of the iron and steel industry. Thus, it can be said that their economic development is due to unbalanced growth.

vi. This theory is against the concept of comparative costs. The theory of comparative costs states that a country should produce and export only those goods in which it has comparative advantage. The rest will be imported from other countries that have a comparative advantage in producing those goods. Hence, in every country, some industries will expand more while others will not. By going with the comparative advantage concept, balanced growth is impossible.

In short, policymakers should invest in only those projects in which available resources may expand demand and market size. So that the balance between demand and supply is maintained and economic progress occurs.

3.3 THEORY OF UNBALANCED GROWTH

3.3.1 Meaning

Contrary to the balanced growth approach, unbalanced growth emphasizes investments in some strategic sectors rather than in all sectors at once. The other sectors will automatically develop through the 'linkage effect'. The idea of unbalanced growth is propounded by Hirschman, Fleming and Singer as against the doctrine of balanced growth. According to Hirschman, *"If the economy is to be kept moving ahead, the task of development policy is to maintain tensions, disproportions and disequilibria"*[5].

3.3.5 Explanation of the Theory of unbalanced Growth

[5] Hirschman, Albert O. (1958). *The Strategy of Economic Development*. New Haven, Conn.: Yale University Press. ISBN 0-300-00559-8

Hirschman believes that planned disequilibrium in the economy is the most effective way to achieve economic growth particularly in underdeveloped countries. Underdeveloped countries have a chronic scarcity of resources (especially capital) and it is very essential to fully exploit the available resources. For this, resources must be focused on strategic sectors. The growth of these sectors will automatically develop other sectors by 'linkage effect'. Hirschman does not deny the need for a big push in underdeveloped countries but he emphasizes that investment capacity is a major bottleneck. Investment ability depends mainly on the amount of initial investment already been made. Investment or big push in priority sectors will open new ways of development of other sectors due to two types of linkages:

a) **Forward Linkages:** it refers to growth of certain industries owing to the initial growth of raw material suppliers. A growing iron industry, for example, would promote industries that use iron to make machines and tools.

b) **Backward Linkages:** Growth of a specific type of industries would develop the raw material suppliers of that product. For example, setting up a textile industry would increase the income of cotton producers.

Hirschman argues that industries generating maximum linkages should be developed first. Therefore, it is crucial to study the inter-linkages of economic activities. It is believed that the intermediate industries like steel, iron, coal, etc. can generate maximum linkages. Hirschman suggests a big push in such industries. Growth of a set of industries would stimulate growth of other sectors due to following reasons:

I. **External Economies: A**ccording to the doctrine of unbalanced growth, disproportional investment in the strategic sector generates externalities through backward and forward linkages. Industry A may stimulate industries B and C to grow. Further growth of industries B and C will link itself to that industries E, F, and G, etc. Every time one already grows industry stimulates a new set of industries, and a fresh array of externalities is generated.

II. **Complementaries:** There are some technical Complementaries also which helps to grow. Production of output in industry A would generate the demand for the products of industries B and C as inputs. Similarly, output of industry A would use as input in industry D and E. these inter-linkages mar reduce the marginal cost of production in these industries. And investment travel from one industry to other.

According to Hirschman, there are two types of investment in every economy: Social overhead capital (SOC) and Direct Productive Activities (DPA). SOC means expenditure on infrastructure. This is a basic investment without which no economic activity can work. This type of investment is not induced by profit and is usually undertaken by government agencies. DPA, on the other hand, is a direct investment in production. This is an induced investment. The scarcity of resources prevents simultaneous investment in SOC and DPA in underdeveloped countries. Thus, it is suggested to unbalance the economy through investment in SOC or DPA. Investment in one will stimulate the other as well. For example, cheap electricity encourages small and medium-scale industry units. Similarly, roads and communication systems develop mechanically in industrial areas.

3.3.6 Path of Development

Figure 3.1 reveals the path of development by using the strategy of unbalanced growth. In diagram costs of new investment in SOC is shown on OX-axis and costs of investment n DPA is revealed on OY-axis. AB, CD and EF are equi-product curves, indicating various combinations of SOC and DPA corresponding to a given level of national income. The 45-degree lineis balance growth path that express the idea of balance investment in both DPA and SOC. Hirschman assumed that underdeveloped countries cannot invest in both simultaneously. If development is placed by expanding SOC first, the economy will follow abbdc path of development. Increase in investment in SOC from a to b will stimulate larger investment in DPA up to point b' because infrastructure become cheaper and easily available. This will bring economy on higher equi-product curve. Persistence new investment in DPA brings the economy up to point c. Points a, b and c on 45-degree line is points of equilibrium. On the other hand, if initial investment is done in DPA, the economy will follow the path of b'abc'. It will also in equilibrium at point c. Figure reveals that unbalance investment in

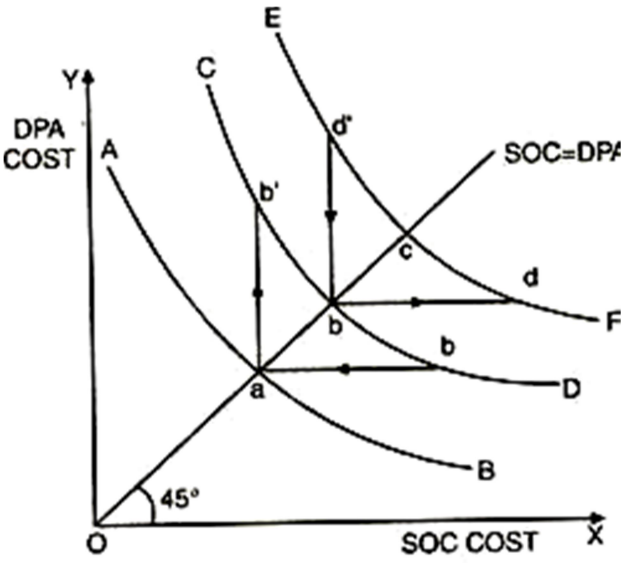

Figure 3.1

either SOC or DPA will leads to overall development of economy. Hence, creation of unbalance is a pre-requisite of economic growth.

3.3.7 Critical Evaluation of Theory of Unbalance Growth

Paul Streeten and other criticized the doctrine on following basis:

i) Theory of unbalanced growth is criticized due to its undue emphasis to development through industrialization only. It ignores agriculture and territory sector. Industry has a long gestation period which may cause inflation in country.

ii) Theory pays no attention to possible difficulties in establishment of strategic industries. In the preliminary development era, it is not possible to set-up new industries. There involve several social, institutional and economic constraints. The theory does not account for these obstacles.

iii) This theory suggests that limited resources need to be invested in strategically important sectors in order to unbalance the economy. However, it doesn't specify what level of imbalance is optimal.

iv) It describes an inducement mechanism that can only be implemented only with internal mobilization of resources. However, factors are less mobile in underdeveloped countries. Moving resources and factors between sectors is extremely difficult.

v) Hirschman's linkage effect is not supported by any empirical data. Such types of linkages require mutual dependence of industries which is difficult to attain in initial stage of development.

To sum up, Hirschman's unbalanced growth theory realistically considers all aspects of development planning. The theory suggests that countries with limited resources can accelerate their economic development using resource allocation to the most strategic sectors and industries. However, the theory has certain limitations, but it has been accepted as a novel development strategy.

3.4 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1.Differentiate balance growth and unbalance growth

Q2.Briefly describe Nurkse's Vicious Circle of Poverty.

Q3. Write a short note on Rodan's concept of indivisibilities.

Q4. What do you mean by external economies?

Q5. Briefly describe Hirschman's forward and backward linkages.

B. Long Answer Type Questions

Q1. Critically evaluate theory of balance growth.

Q2. Explain unbalanced growth theory of development in detail. Also write its criticism.

3.5 SUGGESTED READINGS

- Higgins, B (1959), Economic Development Principles, Problems and Policies, Norton.
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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT IV- GROWTH MODELS OF DEVELOPED ECONOMY

STRUCTURE

4.0 OBJECTIVES

The study of this unit will help you to:

- Explain the meaning of developed economy
- Define the model
- Describe the emergence of growth models of developed economy;
- List the assumptions of exogenous and endogenous growth models;
- Discuss and evaluate the working of these growth models;
- Identify the limitations of these models; and
- Be familiar with Kuznets' Characteristics of High-Income Countries

4.1 WHAT IS DEVELOPED ECONOMY?

Typically, a developed economy is one where economic growth and living conditions are moderately high. Several factors are used to evaluate a country's level of development. They include income per capita, gross domestic product per capita, industrialization, living standards, and technological infrastructure etc.

4.2 MEANING OF MODEL

Models in economics explain a problem based on certain assumptions. Assuming certain assumptions, the economic model illustrates how various elements of economic growth such as investment, capital-output ratios, technical progress, etc. interact with each other to achieve the specific goal of growth and development. According to Prof. Koutsoyiannis[6], "*A model is a simplified representation of a real situation. It includes the main features of the real situation which it represents*." Economic models of growth have been around as long as economic development itself. Since the nation's formation, economic growth and development have been of concern to political thinkers. To analyse and explain the growth process, various theories and models are proposed. In this chapter, we examine growth models for developed economies.

4.3 HARROD- DOMAR'S MODEL OF GROWTH

4.3.1 Introduction

R. F. Harrod and E. D. Domar developed dynamic growth models appropriate for changing economic conditions. Both models are so similar in the sense that sometimes it is said that Domar's model is the American version of Harrod's model. Both these models emphasize the conditions for steady growth. For a steady growth process, the Harrod-Domar model stress on the growth of capital accumulation or investment. Capital accumulation has dual characteristics. It generates income on the one hand and increases productivity on the other hand. Income generation by changing investment rates is known as the '*Multiplier*' effect. The effect on production is known as the '*Productivity'* effect. Multiplier is a Keynesian tool and productivity is a Classical tool. Thus, in short, we can say that the Harrod-Domar model is partially Keynesian and partially Classical.

4.3.2Assumptions

The main assumptions of Harrod-Domar model are as follow:

a) An initial full-employment level of income has already been achieved.There is Laissez Faire economy. The economic activities are free from any government interference.

[6] Anna Koutsoyiannis, *Modern Microeconomics*, 2011, Pg.3

b) The economy is closed one.

c) There are no time lags, i.e., the economic variables such as saving, investment; income and expenditure adjust themselves in the same period of time.

d) The average propensity to save and marginal propensity to save are equal to each other. In other words, the absolute change in savings is equal to relative change in savings.

e) The law of constant returns prevails in economy. In other words, capital-output ratio is assumed to be constant.

f) There are not any depreciation charges. It means investment; income and savings are measured in Net sense only.

g) There is no shortage of any resource including capital.

h) As a proportion of aggregate income, ex-ante aggregate saving is constant.

i) Technical progress has a neutral effect.

4.3.3 Harrod Model

4.3.3.1 Explanation

Sir Roy F. Harrod illustrated the conditions for achieving and maintaining the dynamic equilibrium in his seminal paper on 'An Essay in Dynamic Theory' which later on published in his book called '*Towards Dynamic Equilibrium'* (1939). Harrod model deals with developed countries which have already achieved full employment. According to Harrod, there are three types of growth rate namely:

a) Actual Growth Rate

b) Warranted Growth Rate

c) Natural Growth Rate

Let's explain these three growth rates separately.

a) **Actual Growth Rate:** it is the growth rate which is determined by the actual amount of saving and investment in the country. In other words, actual growth rate (donated by G) is defined as ratio of change in income to the total income i.e.

$$\mathbf{G = \frac{\Delta Y}{Y}}$$

As per Harrod, actual growth rate is determined two factors, saving-income ratio and capital-output ratio. Second factor assumes constant. Thus,

$$\mathbf{GC = s} \qquad \text{.....(1)}$$

Where,

G= Actual growth rate

C= Capital- output ratio ($\Delta K/\Delta Y$ or $I/\Delta Y$)

S = Saving-income ratio or APS (S/Y)

Substituting the values of G, C and s in equation (1), we have

$$GC = s$$

$$\frac{\Delta Y}{Y} \times \frac{I}{\Delta Y} = \frac{S}{Y}$$

$$\frac{I}{Y} = \frac{S}{Y}$$

$$\mathbf{I = S}$$

Hence, it is proved that to achieve steady growth rate, ex-post savings should be equal ex-post investment.

b) **Warranted Growth Rate:** it is defined as the growth rate of an economy that is working at full capacity by optimally utilizing its machines and manpower to the fullest possible extent. It is also known as '*full-capacity growth rate'* or *'potential growth rate'* and is denoted by G_w. warranted growth rate is determined by two factors: Capital-output ratio and saving-income ratio. This relationship can be expressed in following equation:

$\mathbf{G_w C_r = s}$

Where,

G_w = Warranted growth rate

$\mathbf{C_r}$ = Required capital-output ratio

S= Saving-income ratio or APS

According to Harrod, the economy can achieve the steady growth if **G= G_w** and **C= C_r .** Hence, two conditions are required for dynamic equilibrium.

(i) Firstly, actual growth rate must be equal to warranted growth rate. It implies that growth rate of income has to be equal to growth rate of output.

(ii) Secondly, capital-output ratio needed to get G ought to be equal to required capital-output ratio of G_w. it implies that ex-post investment must be equal to ex-ante investment to attain the goal of steady growth.

c) **Natural Growth Rate:** it is the maximum possible growth rate of an economy with its available natural resources and is denoted by G_n. Natural growth rate is measured with the help of macro variables like population, technological progress, natural resources and capital equipments. These macro variables have a limit to expand the production called 'full employment ceiling'. Only voluntary unemployment prevails in this situation. According to Harrod, natural growth rate is expressed as:

$$\mathbf{G_n\, C_r = or \neq s}$$

Where,

G_n = Natural growth rate

C_r = Required capital-output ratio

S= Saving-income ratio or APS

4.3.3.2 The Growth Process

Figure 4.1 demonstrates the growth process of Harrod's model. On X-axis, income is shown whereas on Y-axis saving and investment is represented. OS is saving line which indicates different levels of savings at different levels on income. OS has 45^o slope which shows the equality between APS and MPS. The slopes of Y_1l_1, Y_2l_2 and Y_3l_3 represent capital-output ratio which remain constant at each income level Y_1, Y_2, Y_3. In the beginning,

income is OY_1 and out of this income saving is S_1Y_1. This saving is invested which raise the income level to Y_1Y_2. At OY_2 level of income, saving is S_2Y_2. This would arouse investment and Income is multiplied and reaches to OY_3 level. Here saving is S_3Y_3. This growth process repeats itself continuously.

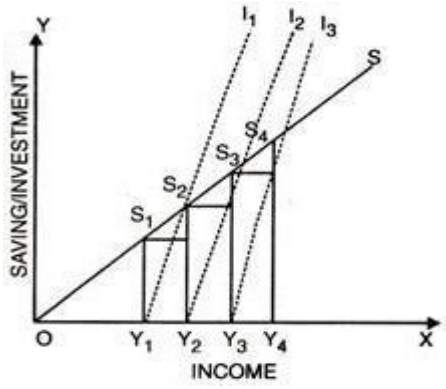


Figure 4.1

4.3.3.3 State of Equilibrium

According to Harrod, economy will be in equilibrium only when all the three growth rates are equal. i.e.

$$\mathbf{G = G_w = G_n}$$

This equality is rarely found due to various economic and non-economic factors which affect both G and G_w. A minor change in economic or political conditions of a country would disturb the equilibrium. Therefore, this equilibrium is called '*Knife-edge equilibrium'* and it is inbuilt in Harrod model. According to Harrod's model, Instability occurs in economy:

a) **When $G > G_w$**, C will be lesser than C_r, demand for output is higher than supply of output which leads to inflation in economy.

b) **When $G < G_w$** , C will be higher than C_r, supply of output is higher than demand for output which leads to deflation in economy.

c) **When $G_w > G_n$,** growth rate of capital formation is greater than growth rate of labor supply which adversely affect the investment and causes depression. (situation of world-wide depression of 1930s)

d) **When $G_w < G_n$,** actual rate of growth increase which induce investment. There will be demand inflation with growing unemployment.

The stable growth is not possible in both inflation and depression. Thus, equality between actual and warranted rate of growth is essential condition for steady growth.

4.3.4 Domar's Model

Prof. Evesy D. Domar in his book '*Essay in the Theory of Economic Growth'* (1947) re-discovered the Harrod's model of growth. According to Domar, net investment has dual characteristics; firstly it expands production capacity and secondly it generates income. The fundamental condition for a dynamic equilibrium is that productive capacity of an economy must be equal to its national income.

4.3.4.1 Some Standard Notions

To understand Domar's model, let's examine some standard notions used further in the study:

Y_d = level of national income or level of effective demand at full employment

Y_s = level of productive capacity or supply at full employment level

K = real capital

I = net investment which makes a change in real stock

ΔK = change in real stock

α = marginal propensity to save (Also, MPS = 1/ multiplier)

σ = productivity of capital

4.3.4.2 Explanation

a) Demand Side: Domar uses Keynesian multiplier to explain demand side of growth process. The demand is a function of income and income is function of investment. Change in investment implies multiple changes in income. Also, there is inverse relationship between effective demand and marginal propensity to save (MPS). Higher the MPS lower the effective demand and vice-versa. The effective demand in Domar's model can be explained with the equation originally given by K. Kurihara[7]:

$$Y_d = \frac{1}{\alpha} . I$$

b) Supply Side: supply side of Domar's model is depends on two factors: productive capacity (σ) and amount of real capital (). Any change in these two factors has a positive effect on supply of output. Thus, supply is also a function of investment.

[7] K.K. Kurihara, *The Keynesian Theory of Economic Development,* 1959, p.67.

$$Y_s = \sigma.K$$

For equilibrium,

Demand Side = Supply Side

$$Y_d = Y_s$$

$$\frac{1}{\alpha} . I = \sigma. K$$

$$I = \alpha.\sigma. K$$

It implies that steady growth is possible when investment is equal to the product of saving-income ratio, capital productivity and capital stock. Now, let's assume, there is changes in demand and supply side of investment. Then the two equations have been changed as per following:

$$\Delta Y_d = \frac{1}{\alpha} . \Delta I$$

$$\Delta Y_s = \sigma.\Delta K$$

Now, change in real capital is equal to net investment. Therefore,

$$\Delta Y_s = \sigma.I$$

The condition for steady growth or dynamic equilibrium is;

$$\mathbf{\Delta Y_d = \Delta Y_s}$$

$$\frac{1}{\alpha} . \Delta I = \sigma. I$$

$$\frac{\Delta I}{I} = \alpha.\sigma.$$

It implies that for dynamic equilibrium the growth rate of net investment must be equal to product of marginal propensity

4.3.4.3 The Growth Process

The growth process of Domar's model can be explained with the help of figure 2. In Figure 4.2, income is shown on X-axis whereas on Y-axis saving and investment is represented. OS is saving line. The slope of OS indicates the equality between APS and MPS. The slopes of Y_oP_o and Y_1P_1 represent capital-output ratio which remain constant at each income level Y_o, Y_1, Y_2. At the full employment level, income is OY_o and S_oY_o is the level of investment. Investment is autonomous to income; thus it is straight line. l_o represents the effect of investment on productive capacity. Its slope represents marginal capital-output ratio. After initial investment, income raise to the amount Y_oY_1. At this level investment is l_1. If investment increase to S_1Y_1, income again raise by amount Y_1Y_2. According to Domar, if increase in investment is uninterrupted, steady state growth at full employment level can be achieved.

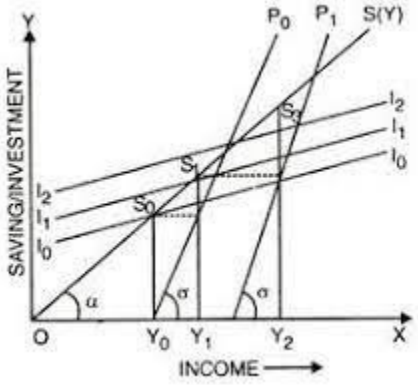


Figure 4.2

4.3.5 Criticism

The Harrod-Domar model explains the conditions of steady state growth for fully employed developed economies. The model analyzes the determinants and policy implications of economic development. However, the model is not without criticism. Following are some major criticisms of the Harrod-Domar model:

a) Harrod assumes that labor and capital are combined in fixed proportion, with no substitution. But in long run, there is possibility of substitution of factors of production due to changes in various technological and organizational elements. Harrod's model is therefore criticized for this reason.

b) Another assumption of Harrod-Domar model of constant propensity to save is also unrealistic. Constant propensity to save means peoples have tendency to save and consume in a fixed proportion of their income. In other words, there is no change in taste, habits and living standard of peoples. This is not true in long run.

c) It is also not true that capital-output ratio remains constant. In reality, it is different in different industries. In long run, technical changes imply changes in capital-output ratio.

d) Harrod-Domar model ignores the significance of monetary factors. Model assumes that price level remains constant which is far away from realism. In reality, monetary factors play a critical role in steady growth

e) Harrod's concept of natural growth rate is not practical. According to Harrod, natural rate is the maximum possible growth rate that an economy can achieve. Prof. L.B. Yeager[8] raised questions on this concept. He is of the opinion that output and growth rate can be changed with the help of technical progress even if labor and capital remain constant. Harrod's assumption that there is upper limit of total production due to fix quantity of labor and capital does not hold good.

f) Harrod-Domar model ignores the role of government in economic growth. The model pays no heed to the fiscal policy as tool of economic growth. However, in modern world, no economy could work smoothly without planning and government interference.

g) Harrod and Domar assume a closed economy which is far away from reality in modern era.

h) Harrod-Domar growth model is restricted in scope. As this model is applicable only in the presence of constant saving-income ratio and constant capital-output ratio. Thus, the model is not useful for an economy that has an unbalanced or discontinuous growth process.

4.3.6 Conclusion

The Harrod-Domar growth model was designed originally for industrial economies. However, the growth process of a developed economy can be appropriately framed by this approach. This model successfully analyses the interaction between income, investment, and savings. Investment is necessary to increase productivity capacity. It is therefore recommended to keep investment levels as high as possible in every country.

4.4 SOLOW'S MODEL OF STEADY STATE GROWTH

4.4.1 Introduction

Modern economists like Solow, Meade and Swan recognized the problems caused by Harrod-Domar's rigid production function and to overcome it they introduced new models of growth based

[8] Leland B. Yeager, 'Some questions about Growth Economics", *American Economic Review,* March 1954

on the neo-classical economics that assumes the perfect substitution between labor and capital. In this section we will discuss the Solow's model of steady state growth. The Nobel Prize winner Robert Solow in his classic work "*A Contribution to the Theory of Economic Growth*" (1956) emphasis that by assuming flexibility and substitutability of capital and labor, an economy can maintain steady state growth. The Solow model was originally propounded to analyze industrial economics. Even so, it is the cornerstone of most economic growth theories in developed and developing countries and has an enormous influence in development economics.

4.4.2 Assumptions

Solow's neo classical model is based on following main assumptions:

a) There are two factors of production: capital and labor.

b) There is unitary elasticity of substitution between the factors of production.

c) Production is under constant returns to scale but factors of production (viz: capital and labor) has diminishing returns individually.

d) There is full employment in economy

e) There is perfect competition in economy

f) Prices are flexible.

4.4.3 Explanation

Solow expresses all major factors in per worker terms e.g., output per worker and capital per worker. Output is function of capital and labor. Thus, production function equation is:

$$Y= F (K, L)$$

Where, Y= output; K= capital and L= labor supply

Dividing both sides of production function equation by L

$$Y/L = F (K/L, 1)$$

The equation indicates that output per worker (Y/L) is function of Capital per worker (K/L). This equation can be written as:

$$y = f (k) \qquad \ldots\ldots (1)$$

Where, y= Y/L and k= K/L

This is called first equation of Solow's model. According to the above equation, capital per worker is essential condition of steady state growth. The model assumes diminishing returns to capital. It means that with a fixed supply of labor, output increases at a diminishing rate as more and more capital is employed. The change in capital stock is determined by net investment (total level of investment minus deprecation of capital) and real income savings. Level of investment, aggregate savings and deprecation all combined in an equation is expressed as:

$$\Delta K = sY - d \times K$$

Dividing both sides of equation by K

$$\Delta K/K = s \times Y/K - d \qquad \ldots\ldots (2)$$

Let's focus on growth rate of capital per worker (k) which is equal to growh rae of K minus growth rate of l. i.e.

$$\Delta k/k = \Delta K/K - \Delta L/L$$

By rearranging:

$$\Delta K/K = \Delta k/k + \Delta L/L$$

It has been assumed that labor force grows at rate of n. Thus, $\Delta L/L=n$ and equation is:

$$\Delta K/K = \Delta k/k + n \qquad \ldots\ldots (3)$$

Substituting values of equation (3) in equation (2):

$$\Delta k/k + n = s \times Y/K - d$$

By subtracting n from both sides:

$$\Delta k/k + n - n = s \times Y/K - d - n$$

or $$\Delta k/k = s \times Y/K - d - n$$

Multiplying both sides by k:

$$\Delta k = s \times Y/K \times k - (d + n)\, k$$

$$\Delta k = sy - (d + n)\, k \qquad \ldots\ldots (4)$$

Equation (4) is called second equation of Solow's model. In this equation: Δk = change in capital per worker; s = saving-income ratio (S/Y); y = output per worker; n = growth rate of labor force or population (ΔL/L); d = depreciation of capital and k = capital per worker (K/L). According to second equation of Solow's model, capital per worker (k) is determinants of three elements which are followings:

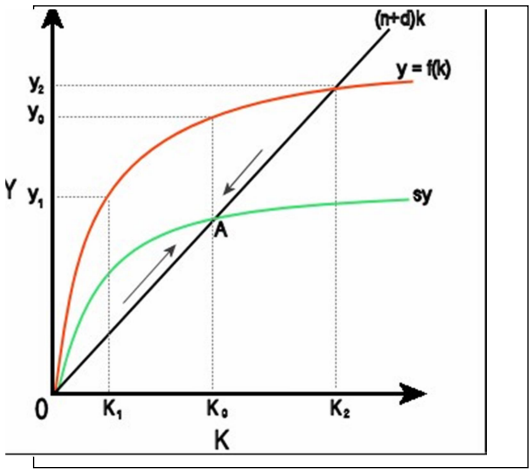
(i) Change in capital per worker (Δk) has positive relations with saving per worker (sy). Increase in saving per worker leads to rise up investment per worker which ultimately enlarges the capital stock per worker.

(ii) Change in capital per worker (Δk) has negative relations with population growth (nk). The increase in labor force in the absence of investment leads to fall in capital stocks or capital per worker.

(iii) Also, the equation says that depreciation causes the amount of capital per worker to fall annually by -dk.

Hence, according to Solow, savings and investment enhance to capital per worker, while labor force growth and depreciation reduce it. The process of increasing the stock of capital per worker in economy is called *capital deepening*. Contrary to this, *capital widening* occurs when the increase in capital stock as fast as labour force growth and depreciation.

The growth process in Solow's model can be explained with the help of Figure 4.3. In figure, X-axis shows capital per worker (k) and Y-axis represent output per worker (y). There are three curves shown in diagram. The first is production function curve y= f(k), given by first equation of Solow's model. The second curve sy represents the saving per capita. It is saving function curve.



Since, savings is assumed to be fixed fraction of income, sy curve is equivalent to production function curve. The third curve (n+d) k is a straight line which shows changes in capital stock as a result of growths in labor force and depreciation. Second and third curves are depiction of second equation of Solow's model. The curve sy intersect straight line curve at point A. at point A, capital

per worker remains constant. On the left side of point, A, the saving will be greater than the compensation needed to hire new workers and deal with depreciation. While saving per person on the right side of point A is less than the amount necessary for new workers and depreciation. In both the cases, economy will shift until it reaches to point A again. Hence, A is point of steady growth and output at this point (y_o) is called steady state output per worker.

4.4.4 Limitations

Following are some major limitations of Solow's model of steady state growth:

a) The model laid major stress that capital accumulation and productivity play major role in growth process. However, there is no mention of what determinants of capital accumulation and productivity affect more the steady-state growth.

b) Solow's model has many unrealistic assumptions like perfect competition, full employment, no government interference etc.

c) According to Solow's model the process of growth is gradual, harmonious and continuous. But Schumpeter theory states that the process of growth is not gradual but spontaneous and discontinuous.

d) Solow's model is criticized because it talks about a single sector. It does not address how capital and labor are allocated across different sectors (such as agriculture, industry, etc.).

e) Due to its many assumptions like full employment, perfect competition etc. Solow's model is not applicable for developing economies.

4.4.5 Conclusion

Despite some limitations, Solow's model provides a strong approach to the growth process in developed economies. The model simply states that output or income per worker depends on capital per worker. Capital stock on the other hand, depends on savings, the supply of labor and depreciation.

4.5 ENDOGENOUS GROWTH THEORY (ROMER AND LUCAS)

4.5.1 Introduction

Endogenous growth theories are new generation growth models. These models pick up where the Solow model left off. They look beyond the neo-classic assumptions and develop more

sophisticated models with increasing returns to scale. The new generation of economists like Paul Romar, Robert Lucas, Kenneth Arrow, Hirofumi Uzawa etc. emphasize that economic growth is primarily driven by internal forces like government policies, human capital, innovation and investment capital. It is argued that governments and private sectors should invest more in human capital to increase productivity.

4.5.2 Assumptions

Endogenous growth theories are based on following main assumptions:

i. There are two sectors of economy: household and production sector.
ii. There are a number of firms in a market. The growth process in economy is initially started from firm or industry level
iii. The growth process in economy is initially started from firm or industry level
iv. Each firm/industry individually produces constant returns to scale and there are increasing returns to scale at economy level
v. Government provides subsidies and incentives to private business which help entrepreneurs to format new opportunities of employment.
vi. The positive externalities are associated with human capital formation.
vii. Technological progress is non-rival and is based on the creation of new ideas.
viii. Economy is closed one.

4.5.3 The Romer Model

In order to explain the new growth theories, a simplified version of Romer's model is used here. Romer's pioneer work "*Increasing Returns and Long Run Growth*" published in Journal of Political Economy in 1986. The simplicity of this model arises from the fact that he maintains his significant innovations in predicting technology spillovers and avoids delving into unnecessary details about saving determination and general equilibrium.

The aggregate production function of Romer's model is:

$$Y = AK^{\alpha+\beta}. L^{1-\alpha}$$

Here, Y is output, K is capital stock of economy and L is labor supply and A is stock of ideas or innovation. For a given technological progress, A is constant. It exhibits Constant returns to scale.

With some knowledge of differential calculus, the per capita growth rate of economy can be derived from above equation and it would be:

$$g\text{-}n = \frac{\beta}{1-(\alpha+\beta)} \cdot n$$

Here, g is the output growth rate and n is the population growth rate. For a given technological progress, $\beta = 0$, hence per capita growth rate would be zero. Romer assumes that income per capita (Y/L) will increase only when $\beta > 0$. In other words, when the stock of new ideas 'A' is introduced as the third input (along with labour and capital) to the production process, there are increasing returns to scale in the economy. In Romer's model, growth is endogenous and not driven exogenously by saving, investment and productivity. A technology spillover prevents Romer's model from diminishing capital returns. However, the increasing returns in model result from technological progress's non-rival nature.

4.5.4 The Lucas Model

R. Lucas in his work "*On the Mechanic of Economic Development*" (1988) develop a growth model based on the role of human capital as the crucial endogenous factor of growth. Lucas assume that investment in education enhance the human capital formation in a country. Investment in human capital has two side effects: firstly, with the help of training and learning by doing, a worker produces more efficiently and his individual productivity and income both increases. It is called internal effect. And secondly, investment in human capital has spillover effect and it increase the productivity of capital and other workers in economy. It is called external effect. According to Lucas, it is an investment in human capital instead of physical capital that increases the level of technology.

The production function for Firm i is expressed as follow

$$\mathbf{Y_i = A(K_i).\ (H_i)H^e}$$

Where,

A - The technical coefficient

Ki - The input of physical capital used by firm i to produce output Yi

Hi- The input of human capital used by firm i to produce output Yi

H - The economy's average level of human capital and

e - Stands for strength of the external effects from human capital to each firm's productivity

The model exhibits constant returns to scale for each individual firm, while there are increasing returns to scale economy wide. Both internal and external effects of investment in human capital facilitate the firms to grow. Thus, **the human capital of each firm is valuable.** In other words**,** according to Lucas' model, the growth of the economy depends upon the average skills and knowledge of the economy rather than the experience or knowledge of firms.

4.5.4 Critical Evaluation of Endogenous Growth Theory

The new growth theories are considered as improvement over the neo-classical growth models. But still, it has many limitations. Some of them are followings:

a) The endogenous growth theory adopted some neo classical assumptions which make it inappropriate for new world. For example: it assumes single sector of production and a closed economy.

b) The new growth theory overlooks the inefficiency arise in human capital due to poor infrastructure, inadequate institutional structures and imperfect capital and goods market. These are common problems of a less developed economy. Thus, the model has limited applicability in LDCs.

c) Endogenous model fails to explain the causes of income divergence between developing and developed countries.

d) The new growth models determine long run growth process and ignore the importance of short- and medium-term growth. As a consequence, the theory provides partial explanation of growth and therefore has a restricted hold in empirical studies.

4.5.5 Conclusion

The most interesting features of endogenous model which differentiate it from neo classical models are avoiding diminishing returns and enlighten the significance of public and private investment for generating external economies. These models successfully answer the question that why and how the advanced countries of the world exhibit sustained economic growth.

4.6 KUZNETS CHARACTERISTICS OF HIGH-INCOME COUNTRIES

In 1971, Simon Kuznets[9] in his Nobel Memorial Lecture defines major characteristics of economic growth in high income countries. Originally, Kuznet listed fifteen characteristics of a modern economic growth at the end of a book published in 1966[10].

These fifteen characteristics were drawn from quantitative data relating to growth before the mid-nineteenth century in three developed countries named Great Britain, the United States and France. In his famous lecture in London, he refines his longer list into the famous "*Six Characteristics*", common to all the high-income countries. Kuznet's six characteristics can be classified into three major groups:

1) **Aggregate Growth**
    i. Growth of per capita output and population
    ii. Growth of total factor productivity
2) **Structural Transformation**
    i. Structural transformation
    ii. Social and ideological transformation
3) **International Spread**
    i. International economic outreach
    ii. Limited spread of economic growth

These characteristics are interrelated to each other. Let's discuss them one by one:

i. **Growth of per capita output and population**: There is high rate of growth of Population and per capita income in modern economies. Historically, populations in European countries grew after the industrial revolution. GDP Per capita is also growing parallel to population growth in high-income countries.

[9] Kuznets, Simon [1971] (1974a), "Modern Economic Growth: Findings and Reflections", (Nobel Memorial Lecture, in Kuznets, Simon, Population, Capital, and Growth: Selected Essays, London: Heinemann, 165-184.

[10] Kuznets, Simon (1966), Modern Economic Growth: Rate, Structure and Spread, New Haven: Yale University Press

ii. **Growth of total factor productivity:** An increase in GDP in modern economies leads to a dramatic increase in input productivity including labor. Hence, there is a rise in overall efficiency in production.

iii. **Structural transformation**: As an economy grows, the primary area of production is changed. For example: from agriculture sector to industrial sector and then service sector; or from small and medium scale industry to large scale corporations. This structural shift enhances the output. Historically, the innovation of steam engine shift Europe from feudalism to capitalism. UK develops as the 'workshop' of the world with this first industrial revolution. The industrial sector became the primary sector of the economy and generated an enormous amount of employment. Eventually, the industrial sector gave way to the service sector, which now accounts for a large segment of the human capital of the country.

iv. **Social and ideological transformation**: Structural transformation in production sector of economy open the way for urbanization. Rural society has a traditional way of living. They kept alive their culture and ideology. But urban societies outline and follow their own rules and regulation, as per comfort of life. Urban society is contemporary than rural society. Thus, the rate of social and ideological transformation is also high in high-income economies.

v. **International economic outreach:** Sound financial status and enlarged industrial production shaped the foreign relations of high-income economies. Developed countries always hunt for new source of raw material and new market for their final products. Also, they offer financial help to LCDs which strengthen their political influence on international level.

vi. **Limited spread of economic growth:** Modern economic growth has a limited spread. The benefits of growth reach up to only $1/3^{rd}$ of the World population and a vast area still struggling for. Initially, the growth was spread in Western Europe, North America, Japan, Australia and New Zealand. The recent high-income economies include China, South Korea, Singapore, Eastern Europe and in oil rich West Asian countries. Thus, it can be said that when one economy experiences modern growth, there is no guarantee that other economies will follow suit. Consequently, there is a greater economic gap between various regions of the world.

4.7 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1. What do you mean by developed economy?

Q2. Define Model.

Q3. Write a note on Warranted growth rate

Q4. Where is state of equilibrium in Harrod model of growth?

Q5. What is structural transformation?

B. Long Answer Type Questions

Q1. Critically explain Harrod- Domar's Model of Growth.

Q2. Explain Solow's Model of Steady State Growth. Also write its limitations.

Q3. Critically evaluate endogenous growth theory.

Q4. Explain in detail Kuznets' characteristics of high-income countries

4.8 SUGGESTED READINGS

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER – V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT V- DEVELOPMENT PLANNING

STRUCTURE

5.6 Suggested Readings

5.0 OBJECTIVES

After reading this unit, you will be able to know about:

- Meaning of Project
- Define project cycle
- Project planning types
- Investment criteria
- Choice of techniques

5.1 INTRODUCTION

With the disintegration of the USSR, the socialistic model of development was replaced by the liberal capitalist mechanism of the free market. Capitalism as a world order shifts the development economic paradigm in both developed as well as developing countries. International agencies like World Bank, WTO, and IMF recommendations heavily influence public policies in developing countries. As earlier models had failed to reduce poverty in the Third World, it was suggested to remove international trade barriers and open up economies. This would result in greater business opportunities that would further lead to new jobs as well as new modes of capital formation. But it is also factual that a rapid rate of economic growth implies active government participation in a planned manner. In the words of Durbin, *"We all are planners now".* The process of planning constituents: (i) formulation of draft, (ii) adoption of draft plan (ii) implementation of plan, and (iv) supervision of plan. An investment activity that lends itself to using scarce resources in the process of planning is called a project.

5.2 PROJECT PLANNING

A Project is defined as a proposal of investment in scarce resources of an economy to draft, finance, and implement any plan to achieve specific goals of development. It is an economic activity that occurs within a specific period to achieve a specific goal. For example, the construction of a bridge, highway, or power plant, repair and maintenance of an oil refinery or an aeroplane; design, development, and marketing of a new product, research and development work, etc. It is a complex economic activity that involves creating, expanding, and developing certain facilities to increase outputs and employment. A series of steps that determine how to set and

achieve a particular project is called project planning. According to Kloppenborg, "*Project management is defined as an application of knowledge, skills, tools, and techniques to project activities to meet project requirements*".

Project planning is based on economic goals and strategies. Project planning is essential to find out and address the hurdles in the way of meeting development goals. Project management and planning is a logical and continuous process divided into various phases.

5.2.1 The Project Cycle

The project cycle includes the following stages through which a project is managed and planned:

a) Identification: Under this phase, there is identified and assessed the needs and problems in an economy.
b) Designing: actual planning and designing of the draft of a project done under this phase.
c) Implementation: The project is implemented under this phase.
d) Evaluation: evaluation of the project done at the end of a project. Here determine whether the set goals are achieved or not. A second evaluation stage determines whether additional or persistent problems exist, which restarts the cycle.
e) Monitoring: To ensure the success of a project, monitoring is carried out at every stage, allowing for small changes to be made to the planning, design, and implementation.

5.2.2 Types of Projects

There are various types and sizes of projects. A country has many medium-sized to large projects and each project has its impact on the development process of that country. Following are some major types of projects in developing countries:

- Public Housing,
- Literacy,
- Industrial Facilities,
- Commercial Buildings,
- Power Plants.
- Dams,
- Irrigation Systems,

- Roads and Transportation,
- Water Purification Plants,
- Health and Sanitation Facilities.

These projects are considered the backbone of the development process of a country. These included also several programs related to agriculture, education, law enforcement, financial management, rural and urban development, etc.

5.2.3 Rationale of Project Planning

Project planning is essential for development planning in the following ways:

a) A Project creates assets. It is only through projects resources are converted into productive assets.

b) Through project planning the probability of accomplishing the project on time and within budget increases.

c) It clarifies goals and develops a vision for the future.

d) It helps to identify controversial issues that immediately need solutions.

e) It helps planners to choose the optimum option so that the best use of resources can be made.

f) It motivates people to work effectively together.

g) It ensures to obtain efficient and faster results.

h) It helps to eliminate poor, overambitious, and unsustainable projects.

5.2.4 Challenges to Project Planning

a) Time, Budget, and Quality: All countries wishing to implement project planning face the challenge of ensuring their projects meet the settled goals within time, budget, and specific quality. The overall scope of the project is based on these three factors.

b) Physical Resources: A project needs several physical resources– and these will cost money. Development countries must ensure that they maximize these finite resources in the most efficient way possible.

c) Human Resources: Human capital is probably the most important resource on any project. It is essential for the successful completion of a project that the right people are employed who are well-trained and experienced. They must be clear on the objectives of the project.

d) Technology: Each project needs unique and new technology. The challenge will be obtaining and using this new technology. A team of expert professionals is needed to deal with this issue.

e) Legal: It must be ensured that there are not any legal complications or hurdles when embarking on a project. Project-specific and industry-specific legislation must be followed to avoid any permissible delay in the project.

5.2.5 Essentials for the Success of Project Planning in Developing Countries

A careful selection of organizational models, project managers, and personnel can greatly increase the probability of the success of a project. The following are some essentials for the successful and effective implementation of project planning in a developing country:

a) **Start with a pilot project**: There will always be a period of trial for a new management tool or approach until it proves itself and is accepted as a standard in the developing country. The best approach is, therefore, to begin with, a single pilot project that is carefully selected and adheres to all of the following guidelines.

b) **Choose a safe selection first:** The very first project should be chosen that is low-risk, noncontroversial, and can easily gain support from the public and government. Also, the manager and staff must be effective and supportive. As the first project manager, choose someone with considerable authority and/or prestige, such as a government official or another important person. The pilot project will enhance the people's trust in the planning approach and system. However, if the pilot project fails, the project management should be immediately rejected

c) **Keep it Simple:** Those projects should be chosen that can be implemented by using domestic resources, knowledge, and techniques only. Technologically complex projects should be avoided. The people of developing countries will most likely accept simple approaches when they are used with local personnel, methods, and materials.

d) **Seek People's involvement:** For a successful implementation of project planning, the people of the country must have total involvement in that specific project. People will be involved in a public project only when it has a significant impact on their present or future. When the people and bureaucracy of a country commit to a project, the word of its success will spread by word of mouth and it has become the people's project.

e) **Avoid severe changes:** Drastic changes like changes in work conditions, changing management during the project, job elimination, power struggle, etc. must be avoided. If managers or personnel involved in the project view the project as a threat to their job security, they can ruin the project.

In developing countries, project planning must be used as an effective means of change. An effective project effort can serve as a valuable training ground for future managers and skilled workers, as well as an effective strategy for administrative and economic reforms.

5.3 INVESTMENT CRITERIA

In developing countries, there are limited sources of savings which leads to limited resources for investment and capital formation. It became crucial that these limited resources must be invested appropriately in tune with the objectives of development plans. Distribution of available capital amongst alternative investment plans is an important aspect of development planning. Economists have put forth various criteria for this, popularly known as '*Investment Criteria'*. Investment criteria are defined as a guide to the appropriate utilization of limited investment resources.

According to Prof. Meier," *Investment Criterion refers to the problem of determining the best utilization of investment resource to minimize capital intensity to maximize social marginal productivity of capital and employment absorption".*

Alternative investment criteria affect total output differently. Thus, there are not any fixed criteria for the best allocation of investment resources and different criteria would be used to fulfil different types of investment objectives.

5.3.1 Types of Investment Criteria

- Social Marginal Productivity Criterion
- Reinvestment Criterion
- Capital Turnover Criterion
- Time Factor Criterion
- Employment Absorption Criterion

5.3.1.1 Social Marginal Productivity Criterion

The social marginal productivity criterion is propounded by **Kahn** and **Chenery.** It is a Neo-classical concept that states that the efficient allocation of investment resources can be attained by equating the marginal productivity of investment with its alternative uses. The social marginal productivity of investment is calculated from the total net contributors of the marginal unit of investment to the national product. The investment resources must be used in such projects that yield maximum social marginal productivity. Chenery presents an improved version of this criteria. According to him, investment should be such that (i) a minimum of capital yields a maximum of output; (ii) it may enhance the efficiency of labour and (iii) it should solve the problem of balance of payment by stimulating the production of export commodities. Prof. Chenery's social marginal productivity can be calculated by the following equation:

$$\text{SMP}= \frac{V}{K} - \frac{C}{K} + \frac{Br}{K}$$

Here,

V= (X+E-Mi);

X= increased market value of production;

E= value added due to external economies;

Mi= cost of imported goods.

C= (L+MD+O);

L= cost of labour;

MD= cost of internal output;

O= overhead cost.

B=demand for foreign exchange;

r=balance of payment equilibrium;

K= investment.

From above;

$$SMP = \frac{X + E - Mi - L - MD - O + Br}{K}$$

SMP includes all aspects of the effects of investment on the economy. Therefore, it has wider applicability. The biggest limitation of this criterion is that it ignores the multiplier effect of investment.

5.3.1.2 Reinvestment Criterion

The reinvestment criterion is also known as the 'Criterion for accelerated growth' or 'Criterion of marginal per capita investment quotient'. It was propounded by **Prof. Galenson** and **Leibenstein** in 1955. An investment is said to increase capital per unit of labour, thereby enhancing the efficiency of labour. To achieve economic development, we need to increase the level of investment and to raise the level of investment it is a must that a greater part of the increased income is reinvested. As growth rates increase over time, annual reinvestment becomes a more significant variable. For reinvestment, the proportion of profits must be higher in national income than the proportion of wages. To achieve this capital- capital-intensive techniques will be most suitable. Capital-intensive techniques raise the efficiency of labour and thus higher surplus available for reinvestment. The investable surplus of a country can be calculated by the following formula:

$$r = \frac{p - ew}{C}$$

To increase investible surplus (r), production (p) should be increased proportionately to the cost of the machine (c) and real wages (ew) should be minimized. **Prof. Galenson** and **Leibenstein** replaced the SMP with MRQ (marginal reinvestment quotient). According to Galeson," *best allocation of resources can be achieved by equating the marginal reinvestment quotient of capital on various alternative uses."* For rapid development, MRQ must be maximum. In other words, the rate of capital formation from alternative sources should be maximum. This can be done by adopting capital-intensive techniques only. According to Leibenstein, large-scale investment programs should be initiated in developing economies. He called it 'Critical Minimum Effort'.

The criterion is criticized for its emphasis on capital-intensive techniques which violates the social welfare in densely populated developing economies.

5.3.1.3 Capital Turnover Criterion

This is also called the 'factor endowment criterion', 'rate of turnover criterion', or 'equal marginal productivity criterion'. This criterion is propounded by **Prof. Polak and Buchanan.** According to

this criterion, investment should be made in such a way that low investment of capital leads to a high rate of profit plus new job opportunities. Less developed countries have a scarcity of capital and an abundance of labour. Thus, investment should be made in labour-intensive projects. In other words, such investment projects should be initiated in which the capital-output ratio is low. Investment resources should be equally distributed according to the marginal productivity of investment.

This criterion is criticised due to its ignorance of the time element. Also, it is argued that with labour-intensive techniques, employment can be increased in small amounts in a short period. But to increase employment opportunities for a long period, capital-intensive technique is a must.

5.3.1.4 Time Factor Criterion

The time factor criterion of investment is propounded by **Prof. A. K. Sen. The** Time factor is an important element in the choice of technique. While calculating the cost of an investment an entrepreneur not only estimates the expenditure incurred but also estimates the time involved between investment and output. According to this criterion, the project that yields the highest output within the specified timeframe should be preferred. So, if the yields of the two techniques are compared, and the time is reduced, or if the higher yield of labour-intensive technology does not counterbalance the higher yield of capital-intensive technology in the future, then only labour-intensive techniques will be used in both cases. Contrary to this, a capital-intensive approach would be used.

The major limitation of this criterion is that it is scientifically difficult to determine the time factor.

5.3.1.5 Employment Absorption Criterion

This criterion is propounded by **Prof. Nurkse.** Underdeveloped economies are mostly densely populated and there prevail widespread unemployment, underemployment, and disguised unemployment. Thus, the investment policy should be such that maximum possible employment opportunities would be generated. There is a shortage of capital and an abundance of labour in such countries. Therefore, capital-saving and labour-consuming projects should be allocated.

The criterion is criticized based on the shortcomings of labour-intensive techniques. Labour-intensive techniques result in a low rate of economic growth. Therefore, this criterion is not suitable for the long run.

5.4 CHOICE OF TECHNIQUES

Technical progress is a significant determinant of economic development. Karl Marx and Schumpeter discussed its importance in their growth models. A technique is a particular method of investing expressed as a combination of inputs with different capital outputs and labour ratios. Schmookier defined technique as a *social pool of knowledge*. Technical progress helps to optimum utilisation of available resources of the country. It also facilitates the discovery of new resources. It helps in import substitution and export promotion.

5.4.1 Types of Techniques

Prof. Hicks mentioned three types of techniques: Neutral Technique, Labour-intensive Technique and Capital-Intensive Technique.

1. Neutral Technique: If ΔK_1 and ΔL_1 denote the marginal productivity of capital and labour, initially and ΔK_2 and ΔL_2 denote the marginal productivity of labour and capital after the application of technique, the according to netural type of technique:

$$\frac{\Delta K2}{\Delta L2} = \frac{\Delta K1}{\Delta L1}$$

Thus, in neutral technological progress at any constant value of the capital-labour ratio, there is no change in the marginal productivity of capital to that of labour.

2. Labour-Intensive Technique: It is a technique in which one uses a larger amount of labour combined with a smaller amount of capital. In other words, the labour-intensive technique is defined as a technique by which at a given value of the capital-labour ratio, the ratio of marginal product of capital to that of labour is decreasing. Symbolically:

$$\frac{\Delta K2}{\Delta L2} < \frac{\Delta K1}{\Delta L1}$$

Here, more of labour and relatively less of capital are used. Therefore, it is also called the *capital-saving technique.*

3. Capital-Intensive Technique: It is a technique in which one uses a larger amount of capital combined with a smaller amount of labour. In other words, the capital-intensive technique is defined as a technique by which at a given value of the capital-labour ratio, the ratio of marginal product of capital to that of labour is increasing. Symbolically:

$$\frac{\Delta K2}{\Delta L2} > \frac{\Delta K1}{\Delta L1}$$

Here, more of capital and relatively less of labour are used. Therefore, it is also called *Labour saving technique.*

5.4.2 Choice of Technique

To maximize growth, developing nations must optimize the utilization of scarce resources. Thus, the choice of technique is crucial in these nations. Choice of technique refers to choosing an efficient method for producing a given set of goods and services at the lowest cost. These ways or techniques may be labour-intensive, capital-intensive or some intermediate ways of producing goods and services. In choosing a technique, it is important to focus primarily on reducing production costs. There is a wide difference between economists when it comes to choosing between labour-intensive and capital-intensive production methods. To provide a definitive answer to the question of which technique is optimum, let us first examine the arguments for and against these two options.

5.4.2.1 Labour-Intensive Techniques

Nurkse and Kindelberger were in favour of labour-intensive techniques in developing nations. As labour is abundant in these countries, the labour-intensive technique is appropriate. Also, capital is scarce in such nations, thus adopting capital-intensive techniques of production the developing nation may be the victim of the demonstration effect. The following points are in favour of the labour-intensive technique:

a) This technique can help to create more job opportunities and thus solve the problem of unemployment and disguised unemployment in developing nations.

b) As more and more peoples are employed with the use of this technique, the consumption level of the country increase. The level of investment and capital formation improves. All this will lead to the enlargement of the market in the country.

c) There is a scarcity of capital in developing nations which may affect production. The labour-intensive technique facilitates an increase in production by substituting the labour to capital.

d) Labour-intensive techniques need not advance technology for production. Labour produces goods with simple tools which are available in the country. Thus, it saves the foreign exchange.

e) Labour-intensive technology facilitates the quick production of consumer goods. Thus, supply remains identical to demand. This assures price stability in the economy.

f) Labour-intensive techniques tend to raise the income of a larger number of lower-level workers. Thus, it leads to a reduction in inequality of income.

The following arguments are given against labour-intensive techniques:

a) This technique is less efficient. The proper utilization of this technique is dependent on many variables like skill, education, health discipline etc. In developing nations labour is abundant but it is usually unskilled, illiterate and undisciplined. Thus, their efficiency level is low.

b) Inefficiency of labour increases the cost of production. Also, when rural labour transfers to industrial areas, it is required to make provisions for their better livings like housing, schools, health care centres etc. This will raise the cost of production. All this results in a rise in prices.

c) The labour-intensive techniques may be equivalent to the demand and supply in the short run. But in the long run, it is capital capital-intensive technique only that may achieve equilibrium in the economy.

d) This technique helps to reduce the inequalities by redistributing the income in favour of lower-level workers whose MPS is always very low. Thus, an increase in employment would be at the cost of capital formation. As a result, the objective of maximum economic growth is suffered.

e) Labour-intensive techniques may help to promote small-scale industry but it would not be helpful to develop large-scale and heavy industry.

5.4.2.2 Capital-Intensive Techniques

Economists like Prof. Mahalanobis, Leibenstein and Rostow believe that to fully exploit the resources of a developing country, capital-intensive techniques should be adopted. Following are the arguments in favour of capital-intensive technique of production:

a) The use of modern technology and machines raises both efficiency and productivity. The level of production increases at the low cost of production.

b) Reduction in cost of production causes a reduction in prices. Reduction in prices leads to a higher standard of living.

c) Capital-intensive techniques raise the level of investment and improve capital formation. Per capita income was raised which improved the level of savings. High savings means high investment. Thus, the vicious circle of poverty is broken. The process of growth becomes self-sustained and the economy achieves long-term development.

d) By enlarging the level of investment and capital formation in the economy, capital-intensive techniques create new job opportunities over a long period.

e) Capital-intensive techniques lower the cost of production and generate more surplus in the long term. This means more profit to entrepreneurs. This provides the necessary encouragement to the entrepreneur to take risks.

f) Capital-intensive techniques generate more economies (both external and internal) than labour-intensive techniques.

The biggest argument against the capital-intensive technique is that it replaces labour with machines. This results in immediate unemployment. Developing nations already struggling with the problem of unemployment, under-employment and disguised unemployment. Thus, use of this technique may aggravate the situation. Also, it increases inequality in the economy. The high maintenance cost of capital equipment is another serious problem for developing nations.

5.4.2.3 Intermediate Techniques

Choice of technique is a central problem in the context of the development of industrialization in developing nations like India. There is a large number of unemployed youths. Also, capital is scarce in these nations. Thus, the capital-intensive technique is inappropriate here. But at the same time, for accelerating economic growth it would not be wise to depend upon the labour-intensive techniques. Therefore, intermediate techniques become almost inevitable for such countries. This technique of production is suggested by Prof. Schumpeter in his book 'Small is Beautiful'. According to him, to achieve sustainable growth neither capital-intensive nor labour-intensive

technique is feasible. Thus. It is suggested to use an intermediate technique. The nature of the intermediate technique can be highlighted by the following points:

1. There should be a concentration of workplaces in small towns and villages, not in huge cities.
2. Secondly, these workplaces must be low-cost and require minimum inputs, especially capital
3. To keep the demand for highly skilled workers low, production methods must be simple
4. Production, raw material supply, credit, maintenance, and other activities must be local and simple.

Hence, the intermediate technique encourages the regional development of the industry. This technique represents a real leap into new territory where labour saving and job elimination can be accomplished without increasing production costs and complexity.

5.5 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1. Define project planning. Write various types of projects.

Q2. Write a short note on various stages of the project cycle

Q3. Discuss the importance of project planning.

Q4. What is the social marginal productivity investment criterion

Q5. Write a brief note on the reinvestment criterion

Q6. Write various types of techniques

Q7. Differentiate labour-intensive techniques and capital-intensive techniques.

Q8. Write the meaning of intermediate techniques.

B. Long Answer Type Questions

Q1. What do you mean by project planning? What type of challenges a country has to face for the successful implementation of a project? Also, write the essentials for the success of project planning in Developing Countries.

Q2. What is project? Write its various types. Also, discuss the rationale of project planning in developing nations.

Q3. Discuss the problem of choice of technique in developing nations in detail. Which technique is appropriate for countries like India?

Q4. Define the concept of investment criterion. Explain various types of investment criteria in detail.

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER – V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT- VI DEMOGRAPHIC FEATURES OF INDIA

STRUCTURE

6.0 OBJECTIVES

After reading this unit, you will be able to:

- Explain various demographic features of the Indian Population
- Describe the meaning of Demographic dividends

- Explain the demographic dividend of India
- Explain the meaning of Human development
- Discuss the situation of HDI for India

6.1 INTRODUCTION

Demography refers to the systematic study of the human resources of a country. The term is derived from two Greek words, *Demo* (people) and *Graphein (*describe). Demography describes the people. It analyses various characteristics of the population, such as growth, size, births, deaths and migration patterns. It also analyses the structure and composition of the population, such as gender and age distributions. This analysis is based on census data or surveys conducted by other organizations. Knowledge of the demographic features of a country is essential to understand the basic problems of its people. The demographic features of the Indian economy are based on the Census of India, held every ten years. The most recent was the 2011 Census. Census 2021 is under course of action. However, World Bank data represent recent data.

6.2 DEMOGRAPHIC FEATURES/ PROBLEMS OF POPULATION IN INDIA

The central problem of the Indian economy is that its population is growing geometrically while production is growing arithmetically. Some major features of the demography of India's population like the Population growth rate, birth and death rate, density of population, age composition, sex ratio etc. have been discussed below:

6.2.1 Population Growth Rate

India holds only 2.4 per cent of the world's total area but it hosts about 18 per cent of the world's population. It ranks 7th in terms of area and 1st in terms of population. In 2011 the total population of India was 1.21 billion; it increased to 1.4 billion in 2022. According to UN Projection, India's population is expected to be 1.5 billion by 2030, and 1.7 billion by 2050. However, the population of the country is increasing at a declining rate. India's population's annual growth rate was 11.90 per cent in 2017 which was 17.81 per cent in 2011. Historically, major trends in India's population can be categorized into four phases:

1891-1921: Stagnant Phase

1921-9151: Steady Growth

1951-1981: Rapid high growth

1981 onward: High growth with a declining rate

Table 6.1 Growth of Population in India (1891-2011)

Census Year	Population (in Millions)	Growth Rate
1891	236	
1901	236	0.0
1911	252	5.7
1921	251	-0.3
(1891-1921) Compound Annual Growth Rate		0.19
1931	279	11.0
1941	319	14.2
1951	361	13.3
(1921-1951) Compound Annual Growth Rate		1.22
1961	439	21.5
1971	548	24.8
1981	683	24.7
(1951-1981) Compound Annual Growth Rate		2.14
1991	844	23.5
2001	1027	21.6
2011	1210	17.81
2022 (projected)	1428	18.02

Source: Census of India https://censusindia.gov.in/

As clear from Table 6.1, in the first phase of 30 years (1891-1921), the population of India grew from 236 million in 1891 to 251 in 1921 with a compound annual growth rate of 0.91 per cent. There is a high birth rate followed by a high birth rate during this period. Thus, this era was

characterized as a stagnant population era. After 1921, the second phase of population growth is started. The population of India was 279 million according to 1931 Census. It reached to 361 million in 1951. The compound growth rate of the population during the second phase is 1.22. The population increased more in this phase due to a decline in the death rate from about 49 per thousand to 27 per thousand. However, there is a negligible decline in the birth rate. This period marked a steady but low growth rate of the population.

The third phase witnesses a population outburst in the country. The population of India grew from 439 million in 1961 to 683 million in 1981. The annual compound growth rate is 2.14 per cent during this period. Widespread health facilities and medical awareness check the death rate and it reached to 15 per thousand in 1971-80. But the birth rate is not controlled and it was 37.2 per thousand in the same period. From 1981 onwards India considered into the fourth phase of population growth. The population of the country increased from 683 million in 1981 to 1210 million in 2011. It is projected to reach to a level of 1428 million in 2022. India is presently ranked as the world's most populace country.

6.2.2 Birth Rate and Death Rate

The growth rate of the population has two major determinants: birth rate and death rate. The population will be stagnant if both are in balance; vice-versa is also true.

Table 6.2 Average Annual Birth Rates and Death Rates in India

Census Year	Birth (per thousand)	Death (per thousand)
1891	45.8	44.4
1901	48.1	42.6
1911	49.2	48.6
1921	46.4	36.3
1931	45.2	31.2
1941	39.9	27.4
1951	40.0	18.0

1961	41.2	19.2
1971	37.2	15.0
1981	32.6	11.1
1991	29.5	9.8
2001	25.4	8.4
2011	21.8	7.1
2022 (projected)	17.2	7.4

Source: Census of India https://censusindia.gov.in/

Table 6.2 reveals average annual birth rate and death rate in India from 1891 to 2022. It is clear from the table that India's demography featured a variation in birth rate and death rate which accelerated the growth of the population in the country. There was a prevalent high birth rate and high death rate up to 1921. But after 1921, there is a clear fall in death rate from 48.6 per thousand in 1911 to 15.0 per thousand in 1971. But the birth rate shows a slight decline from 49.2 per thousand in 1911 to 37.2 per thousand in 1971. During the fourth phase of the demographic transition, there is awareness of family planning. Also, there are improvements in the marriageable age of girls due to an increase in female education. As a consequence, the birth rate registered an incessant decline to 21.8 per thousand in 2011. While the death rate declined sharply to 7.1 per thousand in the same Census year. High Disparity in birth rate and death rate causes population explosion in India.

6.2.3 The Sex Composition

A disturbing feature of India's demography is the declining sex ratio i.e., the ratio of females per 1000 males. According to Census of India data, there were 934 females per 1000 males in 1981. There was a distinct improvement in 2011, reaching 943 females per 1000 males. NFHS-4 reveals that in 2015-16, the Indian population had 991 females per 1,000 males. Census presents the scenario of various MCH programs in the country. The state of Kerala shows the highest proportion of females at 1084 per 1000 males in the 2011 Census. Pondicherry ranked first among UTs with 1037 females per 1000 males, in the same Census year. The states with a lower ratio than the national average include Arunachal Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Bihar, Punjab

etc. The situation is more severe in Punjab and Haryana respectively with 846 and 834 females per 100 males in the 2011 Census.

6.2.4 The Density of Population

The density of population implies the average number of persons living per square kilometre. The problem of density in India can be described by the fact that the country holds only 2.4 per cent of the earth's total surface area but it hosts about 18 per cent of the earth's total population. The density of the population in India is escalating constantly. In 1901 the density of population was 77 persons per sq. km. which jumped to 216 persons per sq. km. in 1981. In 1991, there were 267 people living per sq. km. which shot up to 324 persons per sq. km. in 2001 and further 382 persons per sq. km. in 2011. Density of the population and its state-wise distribution is shown in Table 6.4. As clear from the table the density of the population is distributed unevenly among different regions and states of India. The metropolitan cities and UTs like Delhi, Chandigarh, Daman and Diu are highly dense. The density of the population is determined by the availability of natural resources, economic development and opportunities for employment. People also accumulated near the banks of rivers. It is the reason that river basin areas of north India are highly dense.

Table 6.3 Density of Population in India (2011 Census)

S. No.	State/ Union Territory	Area Sq. Km	Density per sq. km (Census 2011)	Density per sq. km (Census 2001)
-	**India (Average)**	**3,287,240**	**382**	**324**
1	Uttar Pradesh	240,928	829	690
2	Maharashtra	307,713	365	315
3	Bihar	94,163	1,106	881
4	West Bengal	88,752	1,028	903
5	Andhra Pradesh	275,045	308	277
6	Madhya Pradesh	308,252	236	196
7	Tamil Nadu	130,060	555	480
8	Rajasthan	342,239	200	165

S. No.	State/ Union Territory	Area Sq. Km	Density per sq. km (Census 2011)	Density per sq. km (Census 2001)
9	Karnataka	191,791	319	276
10	Gujarat	196,244	308	258
11	Orissa	155,707	270	236
12	Kerala	38,852	860	819
13	Jharkhand	79,716	414	338
14	Assam	78,438	398	340
15	Punjab	50,362	551	484
16	Chhattisgarh	135,192	189	154
17	Haryana	44,212	573	478
18	Delhi	1,483	11,320	9,340
19	Jammu and Kashmir	222,236	56	46
20	Uttarakhand	53,483	189	159
21	Himachal Pradesh	55,673	123	109
22	Tripura	10,486	350	305
23	Meghalaya	22,429	132	103
24	Manipur	22,327	128	103
25	Nagaland	16,579	119	120
26	Goa	3,702	394	364
27	Arunachal Pradesh	83,743	17	13
28	Pondicherry	490	2,547	2,034
29	Mizoram	21,081	52	42
30	Chandigarh	114	9,258	7,900
31	Sikkim	7,096	86	76
32	Andaman and Nicobar Islands	8,249	46	43
33	Dadra and Nagar Haveli	491	700	449
34	Daman and Diu	111	2,191	1,413

S. No.	State/ Union Territory	Area Sq. Km	Density per sq. km (Census 2011)	Density per sq. km (Census 2001)
35	Lakshadweep	30	2,149	1,895

Source: Population Census. https://www.census2011.co.in/density.php

6.2.5 Age Composition

The rapid increase in population has a favourable feature for India. The ratio of the working population (15 to 60 years of age) to other age groups is the highest in India. Hence, the country enjoys a *demographic dividend*. The percentage age structure of India's population is shown in Table 6.3.

Table 6.3 Percentage Age composition of India's Population (1911-2023)

Year	0-14	15-60	60 and above
1911	38.8	60.2	1.0
1921	39.2	59.6	1.2
1931	38.3	60.2	1.5
1961	41.0	53.3	5.7
1971	41.4	53.4	5.2
1981	39.7	54.1	6.2
1991	36.5	57.1	6.4
2001	35.6	58.2	6.3
2011	30.5	64.3	5.1
2021	25.7	67.5	6.8

Source: Census of India https://censusindia.gov.in/

Table 6.3 indicates that the percentage of working age population in India is increasing every year. While the percentage of the population in 0-14 years is declining this shows a check on the total

fertility rate. In the year 2021, approximately 25 per cent of the Indian population is aged 0-14 years, 18 per cent of the population is aged 10-19 years, 26 per cent is aged 10-24 years, 68 per cent is aged 15 to 64 years and 7 per cent is over 65 years of age.

6.3 DEMOGRAPHIC DIVIDEND

6.3.1 Meaning

A demographic dividend refers to a situation in which an economy grows due to changes in population age structure. In other words, the demographic dividend is the phase in which a country has a significant number of working people aged between 15 and 64 years relative to the dependent or non-working population which is less than 14 and more than 65 years of age. Changing age composition is typically caused by a decline in both birth and death rates. Low birth rates and low death rates in a country lead to a proportional increase in working populations in comparison with children and old age. When there is a low birth rate along with a low death rate in a country, it leads to a proportional increase in the working population as compared to children and old age people. When fewer people need to be supported and more people are employed, economic resources can be invested elsewhere. As a result, a country's economic development and future prosperity are accelerated. Demographic dividend benefits can be tapped into in the following four ways:

1. The savings of young labourers can stimulate capital formation in a country.
2. The participation rate of the labour force including the female labour force increase
3. As there is a low birth rate, parents can provide better health and education facilities for their children. It leads to human capital development.
4. A decline in dependency and improvements in productivity resulted in an increase in GDP per capita and further economic growth during this period.

6.3.2 Demographic Dividend in India

As clear from Table 6.3, in 2021, approximately 68 per cent of the total population is aged 15 to 64 years in India. Thus, here the ratio of the youngest people to other age groups is the highest. The median age in India is less than in China. As shown in Table 6.4, during the year 2021, the median age of an Indian is 28.7 years while the median age of a Chinese is 38.4 years. In terms of global rankings, India and China are ranked 94th and 170th youngest among the 237 countries. A

broad-based regional analysis shows that India's median age is significantly lower than that of Sri Lanka while it is older than Pakistan, Nepal, and Bangladesh.

Table 6.4 Median Age India and Neighbours (2021)

Country Name	Median Age	Life Expectancy
India	28.7	70.2
Sri Lanka	33.7	76.5
Pakistan	22.0	66.4
Nepal	25.3	69.3
Bangladesh	27.9	72.1
China	38.4	78.1

Source: Worlddata.info https://www.worlddata.info/average-age.php

The demographic dividend in India is caused by a constant decline in the birth rate in the country. As clear from Table 6.2, the birth rate is almost halved from 1981 till now. However, there are some variations, state-wise. Delhi, Maharashtra, and Tamil Nadu have lower total fertility rates whereas Bihar, Madhya Pradesh, and Uttar Pradesh have higher ones. The government of India implements various schemes like Atmanirbhar Bharat, make in India, and Startup India etc. to fully tap the benefits of demographic dividends. But still, the country has to face the following challenges:

1. The literacy rate is low in India. Indian working people, especially in rural areas, lack both skill and technical know-how.
2. There is a need to improve the Human Development Index perimeter, that is, health, education, and standard of living.
3. More than half of the Indian population still relies on agriculture and allied activities. Thus, disguised unemployed, cyclic unemployed, and less unemployed are common problems in India.
4. Another challenge is the growth of the unorganized sector. There is a problem with low wages, no social security, long working hours and poor employment conditions in this sector.

5. Demographic dividends are also hindered by gender inequality. Indian women have much potential but they always work under social and family pressure. In the unorganized sector, women face wage discrimination. It discourages them and lowers their productivity as a result.
6. According to the NSSO's periodic labour force survey 2017-18, the labour force participation rate for the age group 15 to 59 years is around 53 per cent only. It indicates that near to 50 per cent of the working population is jobless or not on the job due to various reasons.

To tap into the full benefits of demographic dividends, the country must address the challenges listed above.

6.4 HUMAN DEVELOPMENT

6.4.1 Meaning

The concept of human development is defined by the United Nations Development Program in its Human Development Report (1997) as 'the process of widening people's choices and the level of well-being they achieve are at the core of the notion of human development. Regardless of the level of development, the three essential choices for people are to lead a long and healthy life, to acquire knowledge and to have access to the resources needed for a decent standard of living .....Income clearly is the only one option that people would like to have though an important one. Income is also a means, with human development the end.'[11]

As a multidimensional concept human development constitutes three key dimensions. These are a long and healthy life, being knowledgeable and having a decent standard of living. By providing these key dimensions at first, other areas of human life will benefit as well. UNDP measures these three under Human Development Index, formed by Mahbub-ul-Haq.

6.4.2 Human Development Index (HDI)

HDI is the average of the three dimensions of life discussed above. It measures statistically:

1. Life expectancy at birth: to assess a long and healthy life

[11] UNDP, Human Development Report (1997), pg. 13-14

2. Adult literacy rate: to assess access to knowledge of the older generation
3. Gross enrolment ratio: to assess access to knowledge of the young generation
4. GDP per capita (PPP US$): to assess the standard of living

An index for each of the four matrices is formed. UNDP set maximum and minimum limits for each indicator as below:

Dimension	Indicator	Maximum Value	Minimum Value
Health	Life Expectancy at Birth	85	25
Education	Adult Literacy Rate	100	0
	Gross Enrollment Ratio	100	0
Standard of Living	GDP per capita (PPP US$)	40,000	100

Performance of each of the four metrics is expressed in the index by applying the following formula:

$$\textbf{Dimension Index} = \frac{Actual\ Value - Minmum\ Value}{Maximum\ Value - minimum\ value}$$

The HDI is calculated as a simple average of the dimension indices. The value of the index is lies between 0 and 1.

6.4.3 Human Development Index (HDI) for India

- India's human development index is not so impressive. According to Human Development Report (HDR) 2021, India's HDI value stood at 0.633 in 2021**,** against the world average of 0.732. The value declines every year. In 2020, the HDI was 0.642, which was lower than the pre-Covid level of 2019 i.e., 0.645. As far as ranking is concerned, there is no improvement. According to HDR, India ranked 131st among 189 countries in 2020 and 132nd among 190 countries in 2021. The decline in the country's performance from its previous level was due to a fall in life expectancy. As per HDR 2021, let's examine the different dimensions of life.
    a. Life Expectancy: Indians live 67.2 years at birth in 2021. Female life expectancy dropped from 71 years in the 2020 report to 68.8 years in the 2021 report.

b. Education: The number of schooling years expected in India is 11.9 years, down from 12.2 years in the 2020 report. However, the mean schooling years have increased to 6.7 from **6.5** in the 2020 report.

c. GDP Per Capita US$: According to the statistics, the GDP per capita was USD 6,599.

d. Gender Inequality Index: India ranks 122 on the Gender Inequality Index.

e. Multidimensional Poverty Index (MPI): Using MPI as a measure of poverty, India scored 0.123, with a headcount ratio of 27.9 per cent. 8.8 per cent of people suffer from severe multidimensional poverty. The report noted that India had lifted 271 million people out of multidimensional poverty over the last decade.

Table 6.5 HDI (2021) for Top and Important Countries

HDI rank	Country	HDI Value 2021
1	Switzerland	0.962
2	Norway	0.961
3	Iceland	0.959
4	Hong Kong, China (SAR)	0.952
5	Australia	0.951
6	Denmark	0.948
7	Sweden	0.947
8	Ireland	0.945
9	Germany	0.942
10	Netherlands	0.941
18	United Kingdom	0.929
19	Japan	0.925
21	United States	0.921
79	China	0.768
132	India	0.633

Source: UNDP, Human Development Report 2021

Switzerland has highest HDI value followed by Norway and Iceland. Almost all European countries have impressive human development. Among India's neighbours, Sri Lanka (73rd), China (79th), Bangladesh (129th), and Bhutan (127th) are ranked above India, while Pakistan (161st), Nepal (143rd), and Myanmar (149th) are worse off. The 2021 HDR has a disturbing revelation that around 90 per cent of countries recorded a decline in their HDI value during the 2020 or 2021. it may be the post-effect of COVID-19.

6.5 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1. Write meaning of demography

Q2. What is birth rate and death rate

Q3. When does a country signifies to have entered a phase of 'demographic dividend'? What are its implications for economic planning?

Q4. What is human development?

Q5. How do calculate the HDI. Discuss.

B. Long Answer Type Questions

Q1. Explain various demographic features of Indian Population

Q2. Describe the meaning of Demographic dividends. Write a detail note on demographic dividend of India

Q3. Discuss the situation of HDI for India in detail

6.6 SUGGESTED READINGS

- Cassen, R.H. (1958). India: Population, Economy, Society, Chapter 4, The Macmillan Co. of India Ltd., Delhi.
- Colin Newell (1994). Methods and Models in Demography, John Willey and Sons, England.
- Human Development Report, (Recent). UNDP.

BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT 7: CHARACTERISTICS OF INDIAN AGRICULTURE

STRUCTURE

7.0 LEARNING OBJECTIVES

After studying the Unit, students will be able to:

- Cropping pattern

- Growth and Constraints
- Agricultural Policies
- Land Reforms
- Green Revolution
- Recent Developments in Agricultural Policy

7.1 INTRODUCTION

Agriculture is the practice of cultivating land, raising animals, and producing food, fiber, and other products to sustain human life. It encompasses a wide range of activities, including planting and harvesting crops, breeding and raising livestock, managing soil fertility, controlling pests and diseases, and managing water resources. Agriculture has played a crucial role in the Indian economy and continues to be a vital industry worldwide, providing food and other resources for people's daily needs. It has grown from subsistence farming to modern industrial agriculture that employs advanced technologies and scientific practices to increase productivity and efficiency.

7.2 CROPPING PATTERN OF AGRICULTURE IN THE INDIAN ECONOMY

The cropping pattern in Indian agriculture is diverse and varies across regions and seasons. India is primarily an agriculture-based economy, with more than half of its population dependent on agriculture and related activities for their livelihoods.

The major cropping patterns in India for food crops are classified into four broad categories:

7.2.1 FOOD CROPS

a) **Kharif Crops:** Kharif crops are typically grown in the monsoon season, which lasts from June to September. The crops require abundant rainfall and warm temperatures to grow and mature. Major kharif crops include rice, maize, cotton, sugarcane, jowar, bajra, tur, moong, and urad. Rice is the most important Kharif crop in India and is primarily grown in the eastern and southern states, such as West Bengal, Odisha, Andhra Pradesh, Tamil Nadu, and Karnataka. Maize is another major kharif crop that is grown in states such as Karnataka, Andhra Pradesh, Bihar, and Madhya Pradesh. Cotton is primarily grown in Maharashtra, Gujarat, Andhra Pradesh, and Punjab.

b) **Rabi Crops:** Rabi crops are typically grown in the winter season, which lasts from October to March. The crops require cool temperatures and low humidity to grow and mature. Major rabi

crops include wheat, barley, gram, mustard, peas, and lentils. Wheat is the most important rabi crop in India and is predominantly grown in the northern states such as Punjab, Haryana, Uttar Pradesh, and Rajasthan. Barley is another important rabi crop that is grown in the northern and western states such as Uttar Pradesh, Rajasthan, Madhya Pradesh, and Gujarat.

c) **Zaid Crops:** Zaid crops are typically grown in the summer season, which lasts from April to June. The crops require high temperatures and low humidity to grow and mature. Major zaid crops include watermelon, cucumber, bitter gourd, and muskmelon. These crops are primarily grown in the southern states such as Andhra Pradesh, Karnataka, and Tamil Nadu, as well as in the western states such as Gujarat, Maharashtra, and Rajasthan.

d) **High-Value Cash Crops**: In recent years, there has been a shift towards high-value cash crops such as fruits, vegetables, and spices, which have a higher economic value than traditional food crops. This shift has been driven by rising demand from domestic and international markets and the availability of advanced technologies and infrastructure. Fruits such as mangoes, bananas, and apples, vegetables such as tomatoes, onions, and potatoes, and spices such as turmeric, cumin, and coriander are some of the high-value cash crops that are grown in India. These crops are predominantly grown in states such as Maharashtra, Karnataka, Andhra Pradesh, and Tamil Nadu.

7.2.2 Non-Food Crops:

Non-food crops such as cotton, sugarcane, and tobacco are also important crops in India. These crops have a higher economic value and are primarily grown for industrial purposes. Cotton is predominantly grown in Maharashtra, Gujarat, Andhra Pradesh, and Punjab, while sugarcane is predominantly grown in Uttar Pradesh, Maharashtra, and Karnataka. Tobacco is primarily grown in Andhra Pradesh, Karnataka, and Gujarat. The cropping pattern in Indian agriculture is diverse and varies across regions and seasons. The agriculture sector plays a vital role in the Indian economy and is a major source of employment and income for millions of people.

India is primarily an agriculture-based economy, with more than half of its population dependent on agriculture and related activities for their livelihoods. The agriculture sector has played a vital role in the country's economic development and has been a major source of employment and income for millions of people. However, the sector has faced several growth constraints over the years, which have limited its potential to contribute to the country's economic growth.

7.3 GROWTH OF INDIAN AGRICULTURE

The agriculture sector in India has undergone significant changes over the years, driven by various policy initiatives and technological advancements. Some of the factors that have contributed to the growth of Indian agriculture are:

1. **Green Revolution**: The Green Revolution, which began in the 1960s, played a crucial role in increasing agricultural productivity in India. The introduction of high-yielding varieties of crops, along with the use of modern irrigation methods, fertilizers, and pesticides, led to a significant increase in agricultural output.
2. **Technological Advancements**: The use of modern technologies such as biotechnology, precision agriculture, and farm mechanization has helped to increase productivity and efficiency in the agriculture sector. The government has also encouraged the adoption of these technologies by providing subsidies and incentives to farmers.
3. **Government Policies**: The government has implemented various policies to support the agriculture sector, such as minimum support prices, subsidies, and credit facilities. These policies have helped to improve farmers' incomes and reduce their dependence on moneylenders.
4. **Diversification**: In recent years, there has been a shift towards high-value cash crops such as fruits, vegetables, and spices, as well as non-food crops such as cotton, sugarcane, and tobacco, which have a higher economic value than traditional food crops. This shift has been driven by rising demand from domestic and international markets and the availability of advanced technologies and infrastructure.
5. **Export Potential**: Indian agriculture has significant export potential, with rising demand from international markets for high-value crops such as fruits, vegetables, and spices. This provides an opportunity for farmers to earn higher incomes and improve their livelihoods.
6. **Farmer Producer Organizations**: The government has encouraged the formation of Farmer Producer Organizations (FPOs) to help farmers collectively market their produce, access credit facilities, and adopt modern technologies and practices. This has helped to improve the bargaining power of farmers and increase their profitability.
7. **Crop Diversification**: There has been a shift towards crop diversification in recent years, with farmers cultivating a wide variety of crops to reduce risks and increase incomes. This has been facilitated by the availability of advanced technologies, market linkages, and government

support.

7.4 CONSTRAINTS OF INDIAN AGRICULTURE

Despite the growth in the agriculture sector, several constraints continue to limit its potential to contribute to the country's economic growth. Some of the key constraints are:

1. **Fragmentation of Land**: The average size of land holdings in India is small, which makes it difficult for farmers to adopt modern technologies and practices. The fragmented land holdings also result in low productivity and high transaction costs.
2. **Lack of Irrigation**: India is highly dependent on monsoon rains for agriculture, and only around 45% of the total cultivated area is irrigated. This results in low crop yields and low agricultural productivity, especially in dryland areas.
3. **Soil Degradation**: Soil degradation is a major problem in India, with around 30% of the total land area affected by soil erosion, nutrient depletion, and salinization. This has resulted in declining soil fertility, reduced crop yields, and increased input costs.
4. **Poor Infrastructure**: The lack of adequate infrastructure, such as roads, storage facilities, and market linkages, makes it difficult for farmers to transport and sell their produce. This results in low prices for farmers and high prices for consumers.
5. **Climate Change**: Climate change is a major threat to Indian agriculture, with rising temperatures, erratic rainfall, and extreme weather events leading to crop losses and reduced productivity. This poses a significant challenge to the country's food security and agricultural sustainability.
6. **Lack of Agricultural Credit**: Access to credit is a major constraint for farmers in India, especially small and marginal farmers. The lack of credit facilities makes it difficult for farmers to invest in modern technologies and practices, which limits their productivity and profitability.
7. **Input Costs**: The high cost of inputs such as seeds, fertilizers, and pesticides is a major constraint for farmers in India, especially small and marginal farmers. This limits their ability to adopt modern technologies and practices, which results in low productivity and profitability.
8. **Inadequate Extension Services**: Extension services play a crucial role in disseminating information on modern technologies and practices to farmers. However, the extension services in India are inadequate and often fail to reach the farmers in remote and marginalized areas.
9. **Land Tenure Issues**: Land tenure issues, such as land disputes and insecure land rights, are a

major constraint for farmers in India. This limits their ability to invest in their land and adopt modern technologies and practices, which reduces their productivity and profitability.

10. **Lack of Market Reforms**: The agriculture sector in India is highly regulated, which limits the ability of farmers to sell their produce in open markets and receive fair prices. The lack of market reforms also results in high transaction costs and poor market linkages, which reduces the profitability of farmers.
11. **Poor Credit Facilities**: Access to credit is a major constraint for farmers in India, especially small and marginal farmers. The credit facilities provided by banks and financial institutions are often inadequate and fail to meet the needs of farmers.

In conclusion, while Indian agriculture has undergone significant growth over the years, there are still several constraints that limit its potential to contribute to the country's economic growth and development. Addressing these constraints requires a comprehensive approach that involves policy reforms, technological advancements, and investments in infrastructure and human capital. By addressing these constraints, Indian agriculture can realize its full potential and contribute to the country's economic growth and development.

7.5 AGRICULTURE POLICIES

Agriculture is one of the most important sectors of the Indian economy, providing livelihoods to a significant portion of the population. To promote the growth and development of agriculture, the Indian government has implemented various agricultural policies over the years. In this Unit, we will discuss the major agricultural policies in the Indian economy.

1. **Green Revolution**: The Green Revolution was a major agricultural policy introduced in the 1960s to increase the productivity of food grains, especially wheat and rice. The policy focused on the use of high-yielding varieties of seeds, chemical fertilizers, and pesticides. The Green Revolution helped to increase food production and make India self-sufficient in food grains.
2. **Land Reforms**: Land reforms were introduced in India after independence to address the issue of unequal distribution of land. The policy aimed to redistribute land to the landless and marginal farmers and to provide them with secure land rights. Land reforms also facilitated the introduction of modern technologies and practices in agriculture.
3. **Minimum Support Price (MSP)**: The Minimum Support Price (MSP) is a policy introduced by the government to ensure that farmers receive a fair price for their produce. The government

announces MSPs for various crops each year and procures the produce from farmers at the MSP. This policy provides price stability and income security to farmers.

4. **Agricultural Credit**: The government provides agricultural credit to farmers at subsidized interest rates through various institutions such as the National Bank for Agriculture and Rural Development (NABARD), regional rural banks, and cooperative banks. This policy helps farmers to access credit at affordable rates and invest in their farms.
5. **National Agricultural Policy (2000):** The National Agricultural Policy was introduced in 2000 to promote sustainable agricultural growth and development in the country. The policy aimed to increase the productivity of agriculture, promote diversification of crops, improve infrastructure and market linkages, and strengthen research and development in agriculture.
6. **Rashtriya Krishi Vikas Yojana (RKVY):** The Rashtriya Krishi Vikas Yojana is a policy introduced by the government in 2007 to provide financial assistance to states for agriculture and allied activities. The policy aims to promote holistic growth and development of agriculture in the country by focusing on various areas such as crop diversification, infrastructure development, and market linkages.
7. **Pradhan Mantri Fasal Bima Yojana (PMFBY):** The Pradhan Mantri Fasal Bima Yojana is a crop insurance scheme introduced by the government in 2016 to provide insurance coverage to farmers against crop loss due to natural calamities, pests, and diseases. The scheme aims to reduce the financial burden on farmers due to crop loss and promote risk management in agriculture.
8. **Soil Health Card Scheme:** The Soil Health Card Scheme is a policy introduced by the government in 2015 to provide farmers with information on the nutrient status of their soil and recommendations on the application of fertilizers. The scheme aims to promote balanced and judicious use of fertilizers and improve soil health.
9. **E-NAM:** The Electronic National Agriculture Market (E-NAM) is an online platform introduced by the government in 2016 to facilitate the trading of agricultural produce across the country. The platform aims to promote transparent and efficient price discovery and improve market linkages for farmers.

In conclusion, agricultural policies have played a significant role in promoting the growth and development of agriculture in the Indian economy. These policies have helped to increase productivity, provide price stability and income security to farmers, and promote sustainable

agricultural growth. However, there are still several challenges facing the agriculture sector, such as low productivity, high input costs, inadequate market linkages, and climate change.

CHECK YOUR PROGRESS (A)

Q1: What do you mean by food crops?

Ans:_____

_____

Q2: Explain the term non-food crops.

Ans:_____

_____

Q3: Give any two constraints for the growth of agriculture in the Indian economy.

Ans:_____

_____

Q4: Explain any three agricultural policies.

Ans:_____

_____

7.6 GREEN REVOLUTION

The Green Revolution refers to a series of initiatives and innovations in agricultural technology and practices that began in the 1940s and 1950s and aimed to increase agricultural productivity and achieve food security, particularly in developing countries. The term "green" refers to the increased use of chemical fertilizers, pesticides, and improved seed varieties that led to a significant increase in crop yields.

It was characterized by the widespread adoption of modern farming techniques, such as the use of high-yielding crop varieties, irrigation, and mechanization. The initiative helped to alleviate hunger and poverty in many developing countries by increasing food production and reducing dependence on imported food. The term "Green Revolution" was coined by the American biologist William Gaud in the early 1960s to describe the technological and policy changes that transformed agriculture in many developing countries. The primary focus of the Green Revolution was to increase the production of wheat and rice, the two major food grains in India. The strategy included

the use of high-yielding varieties (HYVs) of seeds, chemical fertilizers, pesticides, and irrigation. It was successful in increasing food production in India and making the country self-sufficient in food grains. The introduction of HYVs of seeds, which had higher yield potential than traditional seeds, played a major role in increasing productivity. The use of chemical fertilizers and pesticides helped to control pests and diseases and improve crop yields. The expansion of irrigation facilities also helped to increase crop productivity.

The Green Revolution had an important impact on the agricultural sector in India. The production of wheat and rice increased from 52 million tonnes in 1960-61 to 275 million tonnes in 2019-20. The adoption of new technologies and practices led to the emergence of a new class of progressive farmers who were able to benefit from the increased productivity and profitability of agriculture.

However, the Green Revolution also had some negative consequences. The increased use of chemical fertilizers and pesticides led to environmental problems such as soil degradation, water pollution, and health hazards. The reliance on a few high-yielding varieties of seeds led to the loss of biodiversity and genetic diversity. The Green Revolution also exacerbated income inequalities, as large farmers with access to credit and irrigation facilities were able to benefit more than small and marginal farmers.

7.7 IMPACTS OF THE GREEN REVOLUTION

The Green Revolution in India had a significant impact on the Indian economy, particularly on the agricultural sector.

A. Positive Impacts

1. **Improved agricultural productivity**: The Green Revolution led to a significant increase in agricultural productivity in India. The use of high-yielding varieties of seeds, fertilizers, and pesticides helped to increase crop yields and reduce crop losses due to pests and diseases. As a result, India was able to achieve self-sufficiency in food grain production and even become a net exporter of food grains.
2. **Better food security**: The Green Revolution helped to improve food security in India by increasing the production of food grains. The increased food production helped to reduce food shortages, particularly in the 1960s and 1970s when India faced severe food shortages. The Green Revolution helped to ensure that food was available and accessible to all, particularly

the poor.

3. **Emergence of a new class of farmers**: The Green Revolution led to the emergence of a new class of farmers who were able to benefit from the increased productivity and profitability of agriculture. These farmers, often referred to as Green Revolution farmers, were able to adopt new technologies and practices and increase their income and standard of living.
4. **Growth of Agro-industries**: The Green Revolution led to the growth of agro-industries such as seed production, fertilizer production, and pesticide production. The increased demand for these inputs led to the growth of these industries and the creation of new jobs.
5. **Increase in rural incomes:** The Green Revolution led to an increase in rural revenues, particularly for the Green Revolution farmers who were able to adopt new technologies and practices. The increase in rural incomes helped to reduce poverty in rural areas and improve the standard of living of rural people.

B. Negative Impacts

Green Revolution also had a verse impact on the Indian economy, particularly in the long run. Here are some of the main negative influences:

1. **Environmental degradation**: The increased use of fertilizers and pesticides led to soil degradation and water pollution. The intensive use of groundwater for irrigation led to the depletion of aquifers and a decline in water quality. The overuse of chemical inputs also led to the loss of biodiversity and genetic diversity.
2. **Income inequality:** The Green Revolution exacerbated income inequality, as large farmers with access to credit and irrigation facilities were able to benefit more than small and marginal farmers. This led to an increase in income inequality and a concentration of land ownership.
3. **Vulnerability to market fluctuations**: The Green Revolution led to the production of a few high-yielding varieties of crops, which made the agricultural sector vulnerable to market fluctuations. Any disruption in the market could have a significant impact on the production and prices of these crops, leading to volatility in the agricultural sector.
4. **Dependence on external inputs**: The Green Revolution led to a dependence on external inputs such as seeds, fertilizers, and pesticides. This dependence made the agricultural sector vulnerable to fluctuations in input prices and supply disruptions.

Therefore, green revolution had both positive and negative impacts on the Indian economy. While it helped to increase agricultural productivity and improve food security, it also led to environmental degradation, income inequality, and vulnerability to market fluctuations.

7.8 LAND REFORMS

Land reform refers to the process of redistributing agricultural land to landless farmers or small and marginal farmers to reduce income inequality and poverty in rural areas. In India, land reforms have been an important policy objective since the country's independence in 1947. Here are some of the key land reforms that have been implemented in the Indian agricultural sector:

1. **Abolition of intermediaries:** One of the first land reforms implemented in India was the abolition of intermediaries such as zamindars and jagirdars, who were feudal landlords who held large tracts of land and controlled the rural economy. The abolition of intermediaries was aimed at transferring ownership of land to the actual cultivators, which helped to reduce the concentration of land ownership.
2. **Tenancy reforms**: Tenancy reforms aimed to protect tenants from eviction and ensure that they received a fair share of the crop produced on the land they cultivated. Tenancy reforms varied from state to state, but generally involved setting a ceiling on the amount of land a landlord could own and distributing the surplus land to landless farmers.
3. **Ceiling on land holdings**: Ceiling on land holdings refers to the maximum amount of land that an individual or family can own. This policy was aimed at reducing land concentration and redistributing surplus land to the landless. Ceiling laws were implemented at the state level and varied from state to state.
4. **Land consolidation**: Land consolidation involves the exchange of scattered plots of land among farmers to create larger, more contiguous plots. This policy aimed to increase productivity by enabling farmers to use modern machinery and irrigation facilities more efficiently.
5. **Land records modernization**: Land records modernization refers to the computerization of land records to provide a transparent and efficient system of land ownership and transfer. This policy aimed to reduce disputes over land ownership and improve access to credit and other agricultural services.

However, here are some of the challenges:

1. **Resistance from landlords**: Land reforms have faced resistance from landlords who have opposed the redistribution of land. Landlords have used political influence and legal means to stall the implementation of land reform measures.
2. **Inadequate implementation**: Land reforms have not been implemented adequately in some states, which has led to low levels of land redistribution and continued concentration of land ownership.
3. **Corruption and fraud**: Land records modernization has faced challenges due to corruption and fraud, as some officials have manipulated land records to benefit themselves or their acquaintances.
4. **Lack of resources**: Land reforms require significant resources to implement effectively, which has been a challenge in a country like India, where resources are limited.

In conclusion, land reforms have been an important policy objective in the Indian agricultural sector. While they have had some positive impacts, such as reducing income inequality and improving land productivity, they have also faced several challenges, including resistance from landlords, inadequate implementation, corruption and fraud, and lack of resources.

7.9 RECENT DEVELOPMENTS IN AGRICULTURAL POLICY

In recent years, India has implemented several policy measures to support the growth and development of the agricultural sector. Here are some of the key recent developments in agricultural policy:

1. **The Pradhan Mantri Fasal Bima Yojana (PMFBY):** PMFBY is a crop insurance scheme launched in 2016 that aims to provide insurance coverage and financial support to farmers in case of crop losses due to natural calamities, pests, and diseases. The scheme covers both yield loss and post-harvest losses.
2. **The Soil Health Card Scheme**: The Soil Health Card Scheme was launched in 2015 to provide soil health cards to farmers, which contain information about the nutrient status of their soil and recommendations for appropriate doses of nutrients to maintain soil health and improve crop productivity.
3. **The National Agriculture Market (eNAM**): eNAM is an online platform launched in 2016 that aims to create a unified national market for agricultural commodities by connecting existing physical markets through an electronic trading portal. The platform aims to provide

transparent pricing and reduce the role of intermediaries in the market.

4. **The Pradhan Mantri Krishi Sinchai Yojana (PMKSY)**: PMKSY is a scheme launched in 2015 that aims to expand the coverage of irrigation infrastructure and improve water use efficiency in the agricultural sector. The scheme focuses on creating new water sources, improving existing water sources, and distributing water through efficient micro-irrigation systems.
5. **The Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017**: This act was passed in 2017 to provide a framework for the creation of an efficient and transparent agricultural marketing system in the country. The act allows farmers to sell their produce outside of the mandis (wholesale markets) and eliminates the role of intermediaries in the market.
6. **The Kisan Credit Card Scheme**: The Kisan Credit Card Scheme was launched in 1998 to provide credit facilities to farmers for their agricultural and related activities. The scheme has been recently expanded to provide credit facilities for allied activities like animal husbandry, dairy, and fisheries.

These recent developments in agricultural policy have aimed to address some of the challenges faced by the Indian agricultural sector, such as low productivity, lack of access to credit and insurance, and inefficient marketing systems. However, there are still several challenges that need to be addressed, such as fragmented land holdings, low adoption of modern technology, and lack of access to markets for small and marginal farmers. These policies have aimed to address some of the challenges faced by the sector and improve the lives of farmers. However, there is still a long way to go in achieving sustainable and inclusive growth in the Indian agricultural sector.

CHECK YOUR PROGRESS (B)

Q1: Explain the term green revolution.

Ans:_____

_____

Q2: Give any three impacts of the green revolution on Indian economy.

Ans:_____

_____

Q3: Explain land reforms.

Ans:_____

_____

Q4: Describe recent developments in agriculture policies.

Ans:_____

_____

7.10 SUMMARY

Food and other resources for daily requirements are provided by agriculture, an important industry that has played a significant part in the Indian economy and continues to do so now. Subsistence farming has given way to contemporary industrial agriculture, which uses cutting-edge technology and scientific procedures to boost productivity and efficiency. major cropping patterns of India followed by food crops and non-food crops. Food crops are classified into four broad categories as food crops, which include, Kharif Crops, Rabi Crops, Zaid Crops, and High-Value Cash Crops. The Green Revolution was characterized by the widespread adoption of modern farming techniques, such as the use of high-yielding crop varieties, irrigation, and mechanization. The initiative helped to alleviate hunger and poverty in many developing countries by increasing food production and reducing dependence on imported food. The term "Green Revolution" was coined by the American biologist William Gaud in the early 1960s to describe the technological and policy changes that transformed agriculture in many developing countries.

7.11QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1.Explain the terms

a) Food Crops
b) Non-Food crops

Q2. Define Green Revolution.

Q3. Define the below policies

a) National Agriculture Market (eNAM)
b) Kisan Credit Card Scheme

Q4. Explain land Reforms.

B. Long Answer Type Questions

Q1. What is the cropping pattern of agriculture in the Indian economy?

Q2. Explain the growth of Indian agriculture.

Q3. What are the various constraints of Indian agriculture?

Q4. Explain different types of agriculture policies.

Q5. What do you mean by green revolution?

Q6. What are the good and bad impacts of the green revolution?

Q7. Discuss land reforms.

Q8. What are the recent developments in agricultural policy?

7.12 SUGGESTED READINGS

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT- VIII INDIAN INDUSTRY

STRUCTURE

8.0 OBJECTIVES

After reading this unit, you will be able to:

- Explain the pattern of industrial growth since independence
- Discuss various industrial policies

8.1 INTRODUCTION

Industrialization is the process of socio-economic transformation of an agrarian society into an industrial society. Throughout this transformation, inventions and innovations helped the economy grow and prosper over time. The first industrial revolution in modern history occurred in Europe in the mid-18th century. The major players in this revolution were Great Britain, Belgium, Switzerland, Germany, and France. Several technological and innovative changes were implemented, causing a multiplier effect on production levels. The result was the transformation of rural feudal workers into industrial workers. Following that, North America's economy transitioned from agriculture to industry. Asian and African countries like Brazil, Russia, India, China, and South Africa industrialized between the mid-19th and 20th centuries.

8.2 GROWTH AND PATTERN OF INDUSTRIALIZATION IN INDIA

The process of industrialization begins in India in the mid-19th century. In 1854, Asia's first steam-powered cotton mill was set up in Bombay (Mumbai). After slow initial growth, this modernized cotton mill industry only began expanding in the early 80s. A real industrial revolution took place in the country after independence, during the planning era. To fully exploit demographic dividends, industrial growth is crucial for creating new jobs in the country today. It also helps to overcome trade deterioration, bring technological progress and provide the necessary elements for strengthening the economy.

8.2.1 Growth and Pattern of Industrialization in India during the Planning Era:

Industrial growth in this era was further divided into four stages:

a. First Stage (1951- 1965)

b. Second Stage (1965-1980)

c. Third Stage (1981-1990)

d. Fourth Stage (1991-2014)

The source of data used in this chapter is taken from various Five Years Plan reports of the Indian Planning Commission.

8.2.1.1 First Stage (1951-1965):

It is also called the Premature Stage. It comprises the first three five-year plans except for the years 1965-66. A strong industrial base is built during this period. The first five-year plan (1951-55) emphasizes on to build basic amenities for industrialization like power and irrigation. This way, the first plan only aimed to fully utilization of existing capacity. But the growth rate is significant during this period. It achieved a compound annual growth rate of 7 per cent during the first plan. During the second plan (1956-61), investments were made in heavy industries, including iron, steel, and machine-building sectors. Three steel plants were built in the public sector. These are Rourkela Steel Plant in Orissa, Bhilai Steel Plant in MP and Durgapur Steel Plant in West Bengal. Also, during this time, there is development of manufacturing units like Hindustan Machine Tools, Hindustan Shipyard and Chittaranjan Locomotive factory. A fertilizer factory was established in Nangal. There is an investment in both existing and new types of industries during this period. The government of India had set up approximately 60 industrial estates, which include more than 1000 small factories. Small entrepreneurship flourished during this period. The first and Second Five-year plans crafted the base for industrialization in India. The Third plan (1961-66) emphasized achieving the maximum rate of investment in industry, power generation and transport. The major goal was to achieve self-sufficiency in the capital goods industry. The industry grows at the rate of 7.6 per cent per annum during the period 1961-65. In total, the compound annual growth rate for this stage ranged between 5.0 and 8.0 per cent.

8.2.1.2 Second Stage (1965-1980):

The last year of the Third Plan witnessed a considerable slowdown in the industrial sector of India which lasted till 1980. The growth rate of heavy industries like machinery, transport equipment and basic metals critically decelerated. There were mainly two major reasons behind this slow-down. First of all, there occurred two severe droughts in India in mid- 1960s. The state of affairs was so worse that the country had to import wheat from the USA. This leads to a budgetary crunch. Also, there was a decline in foreign aid as India was at war with Pakistan. The worse effect of the deceleration process was on industries related to paper and paper products, rubber products, non-metallic mineral products, basic metals and metal products. Textiles and food manufacturing are two industries that remain indifferent from this deceleration process. The textile industry accounted for 20 per cent of the total value added in manufacturing units of India. But it has had a

modest growth rate from the early period. It was 2.3 per cent per annum during 1956-65 which slowly rise to 4.4 per cent per annum during 1966-69. However, during this period the overall industry sector growth rate was around 5 per cent. On the other hand, the food manufacturing industry has a volatile growth rate which fluctuates almost every year. However, it recorded slow growth. The targeted growth rate of the Fourth plan (1969-74) was 8 per cent. But the country achieved only a 5 per cent growth rate in the industrial sector during this period. Hence, the performance of this sector is far short than expected. The situation is not so good even in the Fifth plan which achieves on average only a 5.3 per cent annual growth rate. However, to attract investment from the private and foreign sectors, the revised fifth plan removed monopolistic and license-related restrictions.

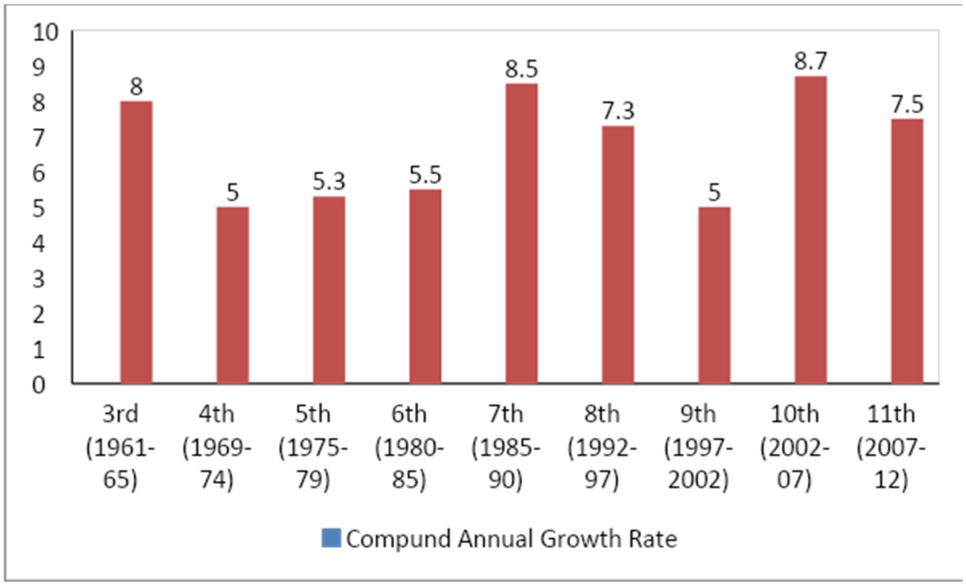
8.2.1.3 Third Stage (1981-1990):

The deceleration period ended in 1980 and the Indian industrial sector recovered. The third stage, also known as the Recovery stage, includes the sixth and seventh five-year plans. This phase lasted until 1991 when economic reforms occurred. During the Sixth Plan (1980-85), the emphasis was on structural diversification, modernization and self-reliance. Exports of engineering goods and industrial products were encouraged during this period. On the other hand, domestic know-how substitutes technology imports. As a result, the country attempted to increase its foreign reserves by encouraging exports and substituting imports. The expansion of the cottage industry was also a motive in this period. Overall, the industrial growth rate during 1980-85 was just 5.5 per cent. The industrial sector showed signs of revival during this period. The next five years (1985-90) witnessed a rapid recovery, and the average growth rate reached 8.5 per cent. The industries that showed rapid development in this period were Petrochemicals and Chemicals with an average growth rate of 11.19 per cent. This shifted the pattern of Indian industry from *Heavy Industry* to *Chemical Industry* and the country entered a new era of industrialization. This period also saw the manufacturing industry grow by 7.5 per cent per annum, the basic goods sector by 8.7 percent per annum, while both the capital goods and intermediate goods sectors grew by around 6 percent. Among the main reasons for this rapid recovery were: the restructuring of domestic industrial policies, simplification of procedures, and easier access to better technology and intermediate materials, as well as more flexibility in utilizing installed capacity. This resulted in a significant increase in factor productivity.

8.2.1.4 Fourth Stage (1991-2014):

India's industrial revolution during the planning era ended with this phase. The fourth stage began in 1991 with economic reforms in the country and lasted until the dissolution of the planning commission in 2014. Government policies and economic reforms caused a rapid decline in the secondary sector. The industrial growth rate fluctuates heavily, during this phase. Industrial growth in 1992-93 was just 2.3%. In 1993-94, it increased to 6 per cent, in 1994-95 it increased to 9.1 per cent, and in 1995-96 it reached a respectable 13 per cent. The growth rate again declined in 1996-97 to 6.7 per cent. Hence, industrial sector growth during the Eighth plan (1992-97) was 7.3 per cent. However, the ninth five-year (1997-2002) plan had a lower growth rate, 5 per cent only. In the 1990s, the Indian economy began to undergo significant liberalization and privatization, which led to some major changes in the industrial sector. Earlier Indian industry operated in a protective environment. Now, the sudden opening of the economy to the private and foreign sectors exposed Indian industry to foreign competition for which it was hardly prepared. Therefore, the slowdown reflects in earlier years. Hydrocarbon, copper, and paper industries are negatively affected by the reduced import duties. Dumping by foreigners was another serious problem. Also, inadequate infrastructure was a major hurdle to industrialization. The cyclical slowdown covered almost all sectors including manufacturing, electricity, mining, capital goods, intermediate goods and even both groups of consumer goods (durable and non-durable). After that, the Tenth (2002-07) and Eleventh (2007-12) five-year plans witnessed a high growth rate of domestic production. In the Tenth Plan (2002-07), industrial growth was 8.74 per cent, while service growth was 9.28 per cent. Manufacturing and capital goods drive this period's growth. **T**he Eleventh Plan, however, witnessed significant fluctuations in industrial growth rates. In 2008-09, growth collapsed from over 8 per cent to 2.8 per cent. The Global Financial Crisis of 2008 was the main reason for this collapse. Industrial growth recovered in 2009-10 and reached 10 per cent**.** It recovered to 8.2 per cent in 2010-11 after some setbacks.

Diagram 8.1 Trends in Industrial growth rate (Plan Wise)



Source: Data extracted from the Planning Commission of India.

Available at **https://www.india.gov.in/website-planning-commission**

8.2.2 Growth and pattern of industrialization in India Year 2015 onwards

Since 2014 Government took various policy measures and initiatives under NITI Aayog to develop the industrialization to next level. For example, the Make in India campaign is launched to attract new start-ups and ventures. In 2022-22 there registered 39,539 new businesses in the manufacturing sector. This is almost double the last financial year i.e. 2020-21. The government of India has a vision to make a USD 5 trillion economy up to 2026-27 which can be only possible with the help of industrialization. For this, there is identified a core sector including eight major industrial sectors. These are refinery products, electricity, steel, coal, crude oil, natural gas, cement and fertilizers. The core sector reported a revival from the COVID period and achieved an 8 per cent annual growth rate in June 2022. There is a pleased performance of all the sectors, except steel and crude oil. But the development of the industrial sector is still less the targeted one. There are some major reasons for this slowdown:

a. Due to Global Recession, the demand for Indian exports in European countries is declining continuously.

b. There is a decline in domestic demand.

c. High and persistent inflation leads to tight monetary policy by RBI. This block the investment in the industry.

d. Returns are not so certain due to the global financial crisis. Thus, there is a slowdown in private investment.

e. Indian government policies encourage privatization and unwillingness to increase public investment.

f. There is a lack of efficient human capital and infrastructure in India.

8.3 Industrial Policy

Industrial policy is defined as all those procedures, policies, rules and regulations which control the industrial units of a country. It includes monetary policy, fiscal policy, tariff policy, labour policy and other government policies related to both the public and private sectors.

8.3.1 Industrial Policy Resolution, 1948

The first industrial resolution was laid down in April 1948. This plan considered a mixed economy including both the public sector and private sector. The resolution divided the industries into four extensive units:

1. The Central Government has exclusive ownership in sectors of arms and ammunition, atomic energy and railway.
2. The new ventures in sectors of coal, iron, steel, aircraft manufacturing, shipbuilding, telephone manufacturing, telegraph and wireless apparatus will be undertaken only by the state.
3. The industries which the Central Government feels are of basic importance can be planned and regulated.
4. The remainder of industrial fields will be left open to private individuals and organizations.

8.3.2 Industrial Policy Resolution of 1956

In January 1950, India's Constitution was adopted. After that, the planning era started in India. In 1951, the Industrial (Department and Regulation) Act (IDR Act) was enacted. Under this Act, the government attempted to regulate the industrialization process through licensing. All this led to

the first comprehensive industrial development strategy in India, the Industrial Policy Resolution 1956. Under this resolution, the revised three-tier industry classification was outlined as follows:

1. Schedule A: It consisted of 17 sectors including railways, air transportation, arms and ammunition, iron and steel, and atomic energy etc. The ownership of these industrial units was owned by the Government.
2. Schedule B: It consisted of 12 sectors envisaged to be state-owned, with the private sector supplementing state efforts.
3. Schedule C**:** The remaining sectors were listed under Schedule C. These industrial units were expected to be developed by the private sector, though they remained open to the state as well.

It should be noted that the demarcation of industries was not so rigid and there was flexibility to allow adjustments and modifications in the national interest. For example, the resolution provided that the private sector could produce goods in Schedule A under certain conditions. The resolution directed the State to develop cottage and small-scale industries by restricting production volume in the large-scale sector through taxes and other policies. The 1956 resolution recognized the need for foreign capital but also stipulated that 'ownership and effective control should always be in Indian hands'. The Industrial Policy Resolution of 1956 formed the basis of successive industrial policies.

8.3.3 The Industrial Policy Statement, 1977

A New industrial policy of 1977 was announced by Janta Government as a statement in the parliament. Therefore, it is called 'The Industrial Policy Statement of 1977'. In this statement, decentralization of the industrial sector was emphasized, which underlines the importance of small, tiny and cottage industries in the Indian economy. The policy divided the small sector into three categories:

1. Cottage and Household Industry
2. Tiny Sector with an investment of Rs. 1 lakh in machinery and equipment.
3. Small Scale industry with an investment from Rs. 1 lakh to 10 lakhs.

The number of goods reserved for the only cottage, tiny and small-scale production was also raised from 180 to 807. A special place is given to Khadi Udyog, with a view to improving the earnings

of spinners and weavers related to this field. There is a clear-cut demarcation of the large-scale sector also. According to the statement, a large-scale undertaking would work in the field of basic industry, capital goods, high technology industry and other industrial production which is not reserved for small-scale enterprises. The 1977 Industrial Policy Statement expanded the role of the public sector also. It directed the government to maintain essential supplies for the consumer.

8.3.4 The Industrial Policy Statement of 1980

In 1980, Congress Government announced its new industrial policy. This policy put emphasis on competition, technological gradation and the reconstruction of industries. For this policy suggested following measures:

1. Revive the efficiency of public sector undertakings
2. Integrating industrial development in the private sector by promoting the concept of economic federalism
3. A capacity expansion of up to 5 per cent per year was allowed in the core sectors and industries with long-term export potential.
4. To encourage the use of alternate energy sources and optimum energy utilization in industrial processes, special incentives were granted to industrial units.
5. To develop small industries, the investment limit was raised to 20 lakh rupees for small-scale units; 15 to 25 lakh rupees for ancillary units and 2 lakh rupees for tiny units.
6. To improve the performance of the public sector, the merger of sick units into healthy units was encouraged.

The industrial policy of 1980 made large business houses free from the provisions of the MRTP Act and FERA. The industrial enterprises that wanted to achieve modernization and economies of scale had been permitted a regular increase with a maximum 49 per cent rise in capacity. Also, it promoted large-scale industries at the expense of small-scale industries by blurring the distinction between them. It can be said that by promoting large-scale enterprises, this policy adopted the capitalistic way of development. Hence the goal of employment generation is underplayed.

8.3.5 The Industrial Policy, 1991

Under Congress Prime Minister Mr P.V. Narsimha Rao, the New Industrial Policy was announced in July 1991. The objectives of this policy were:

a) To remove the unnecessary bureaucratic control over Indian industry

b) To introduce liberalization

To remove unnecessary restrictions such as the MRTP Act.

d) To encourage FDI

e) To reduce the number of public sector sick units.

To accomplish these objectives, the following policy measures have been taken:

1. Industrial Licensing Policy

Under this policy, it was recommended to abolish the licensing requirement for almost all industries except the 18 industries listed under security and strategic concerns, hazardous chemicals and environmental reasons. The major industries requiring licenses now were: Coal and Lignite; Petroleum (other than crude) and its distillation products; Distillation and brewing of alcoholic drinks; Sugar; animal fats and oil; cigars and cigarettes of tobacco; asbestos and asbestos products; raw hides and skins; leather products; motor cars; etc. Also, eight industries were reserved for the Public Sector. These include arms and ammunition and allied items of defence equipment, defence aircraft; atomic energy; coal and lignite; mineral oils; mining of iron ore, manganese ore, chrome ore, gypsum, sulphur, gold and diamond; mining of copper, lead, zinc, tin, molybdenum and wolfram, minerals specified in the schedule to atomic energy; railway.

2. Foreign Investment

FDI was vital for modernization and technological development in the 1990s. To attract FDI in high-priority industries, it was decided to expand foreign equity limits up to 51 per cent. The approval was for only those foreign equities that cover foreign exchange requirements for imported capital goods. For export houses, the limit of foreign equity was raised to 74 per cent.

3. Foreign technology

To achieve the desired level of technological development, it was suggested to automatically approve technological agreements related to high-priority industries, under specific conditions. No permission will be required for hiring foreign technicians and testing indigenous technology in foreign laboratories.

4. Public Sector Policy

The number of sick units was increasing continuously in the public sector. These units have become a burden rather than an asset to Government. Also, the public sector units related to the consumer goods and service sector demanded extra attention. The Industrial Policy of 1990 tried to solve these problems and adopted a new approach toward public sector units. High priority is given to infrastructure, exploration and exploitation of oil and minerals, building manufacturing capability in areas with insufficient private investment, and defence equipment.

The government adopted the policy of disinvestment and privatization for sick public enterprises. Strategically and essential services units are retained under public ownership whereas other areas are opened to private sectors. The public sector was also permitted to enter in unreserved areas. Chronically sick units were referred to Board for Industrial and Financial Reconstruction (BIFR) to draft the revival schemes. There was drafted a social mechanism under these schemes to protect the interest of workers during the rehabilitation process. The shares of public sector units are issued for public and financial institutions.

5. MRTP Act

Industries are becoming increasingly complex and economies of scale are vital to higher productivity and competitive advantage in international markets. Thus, it was recommended to limit the MRTP Act's interference in the industrial sector. The pre-investment scrutiny by MRTP was not required in the present scenario. Under the 1991 industrial policy, more emphasis will be given to controlling the unfair practices of monopolistic houses rather than restricting them to do trade in the market.

In short, the new Industrial Policy of 1991 eliminated the 'Licence, Permit, and Quota Raj' system. By removing bureaucratic barriers to industrial growth, it attempted to liberalize the economy.

The BJP Government is now working on the draft of a new industrial policy – *'Industrial Policy 2022—Make in India for the World'*. It will be the third full fledge industrial policy of India after 1956 and 1991. Since 1991, the Indian economy witnessed a drastically changed over the years. Thus, the proposed industrial policy focuses on changing conditions and will be tried to achieve the objectives such as improving competitiveness, achieving international scale, integration with global supply chains, facilitating the movement of the local industry up the value

chain, becoming an innovative knowledge economy, improving the ease of doing business, and creating skills and employment.

8.4 QUESTIONS FOR PRACTICE

A. Short Answer Type Questions

Q1. Write a brief note on Industrial policy of India1956

Q2. What is MRTP Act. When was it abolished?

Q3. What were the areas in which the First Phase of industrial development received a major thrust?

Q4. Write a brief note on New Industrial policy 1991.

Q5. **T**he development of the industrial sector in India is still less the targeted one. Give reasons.

B. Long Answer Type Questions

Q1. Explain the pattern of industrial growth in India since independence.

Q2. Discuss various industrial policies adopted by India for industrialization.

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT IX: ROLE OF PUBLIC AND PRIVATE SECTOR IN INDIA

STRUCTURE

9.0 LEARNING OBJECTIVES

After studying the Unit, students will be able to know:

- meaning of public and private sector
- significance of the sectors
- causes for the low productivity

- suggestion to improve both sectors in the economy.

9.1 INTRODUCTION: MEANING OF PUBLIC SECTOR

Indian economy is a mixed economy, in which both the public as well as private sector have their distinct significance. The public sector is the part of the economy that is owned, controlled, and operated by the government or its agencies. It includes organizations and activities that are funded by taxpayers and provide essential services to the public, such as healthcare, education, law enforcement, and public utilities. The public sector also includes government businesses and corporations, such as postal services, public transportation, and public housing. The prime objective of the public sector is to serve the public interest and ensure that essential services and resources are available to all members of society, regardless of their ability to pay.

According to S.H. Khera, "Public enterprises are industrial, commercial and economic activities carried on by the central government or by the state government or jointly by the central and the state government".

9.2 OBJECTIVES OF PUBLIC ENTERPRISES/PUBLIC SECTOR

1. **Economic Development:** Public enterprises often play a crucial role in fostering economic development by investing in sectors that are vital for the country's growth. This can include infrastructure development, energy production, transportation, and technology advancement. These enterprises are expected to contribute to the overall economic prosperity of the nation.
2. **Increase in capital formation:** Savings that constitute an important component of capital formation are generally low in less developed countries. Thus, to accelerate the rate of economic growth, such industries by the government may stimulate production, encourage other industries, increase saving, and promote investment.
3. **Economic Stability:** During economic crises or times of market volatility, public enterprises can act as stabilizing forces by ensuring the availability of essential goods and services and preventing market failures.
4. **Promote Economic Equality**: To avoid concentration of economic power. Key industries in the economy must be run by the state; as private sector enterprises may result in the concentration of economic power. Thus, public sector enterprises help achieve economic equality.

5. **Welfare Activities**: Public enterprises can be tasked with providing essential services to the public, such as healthcare, education, housing, and utilities. Their primary objective in these cases is to ensure that these services are accessible, affordable, and of high quality, thereby promoting the welfare and well-being of the population.
6. **Set up Defence Industries**: The state depends upon public sector enterprises for its defense needs, Defence industries cannot be left to the uncertainties of the private enterprises
7. **Regional Equality**: Public enterprises may be used as instruments for regional development by establishing operations in underdeveloped or remote areas to stimulate economic growth and reduce regional disparities. On the one hand, there are industrially developed regions like Maharashtra, Gujarat, Tamil Nadu and West Bengal. On the other hand, regions like Odisha, Bihar, Jharkhand, and Rajasthan are relatively backward. As a result of it, regional equality can be promoted.
8. **Increase in Income**: Public enterprises are expected to generate income for the government. Public enterprises often generate revenue for the government through profits, dividends, and taxes. This revenue can be used to fund public services, infrastructure projects, and other government initiatives.
9. **Self-reliance**: Self-reliance in the field of capital goods and technical know-how is another objective of public sector enterprises.
10. **Increase in employment**: Public enterprises can serve as significant sources of employment. Governments often establish or support these enterprises to generate jobs and reduce unemployment rates in specific regions or industries. This objective is especially important in times of economic downturns or high unemployment.

Central Public Enterprises (CPEs) are government-owned corporations in India that operate in a wide range of industries, from telecommunications to heavy engineering. Here is a list of some of the main central public enterprises of India:

Oil and Natural Gas Corporation Limited (ONGC)

Bharat Heavy Electricals Limited (BHEL)

National Thermal Power Corporation Limited (NTPC)

Coal India Limited (CIL)

Steel Authority of India Limited (SAIL)

Indian Oil Corporation Limited (IOCL)

Hindustan Petroleum Corporation Limited (HPCL)

Bharat Petroleum Corporation Limited (BPCL)

Gas Authority of India Limited (GAIL)

Power Grid Corporation of India Limited (PGCIL)

Airports Authority of India (AAI)

Shipping Corporation of India (SCI)

Rail Vikas Nigam Limited (RVNL)

National Hydroelectric Power Corporation Limited (NHPC)

Hindustan Aeronautics Limited (HAL)

There are many other central public enterprises in India

9.3 SIGNIFICANCE OF THE PUBLIC SECTOR

1. **Providing essential goods and services**: The public sector plays a crucial role in providing essential goods and services that may not be profitable or practical for private companies to provide. For example, the government may establish public schools and hospitals to ensure that everyone has access to education and healthcare, regardless of their financial situation. The public sector is also responsible for providing and maintaining essential infrastructure such as roads, bridges, and public transportation, which are vital for economic growth and development.
2. **Regulation and monitoring**: The public sector regulates and monitors private entities to ensure they comply with specific standards and regulations, such as environmental regulations, health and safety standards, and labor laws. For example, the government may set factory emission standards to limit pollution or establish minimum wage laws to ensure workers are paid fairly. The public sector also plays a critical role in consumer protection by ensuring that products and services are safe, and advertising is truthful.
3. **Social welfare**: The public sector is responsible for providing social welfare services such as social security, welfare programs, and housing support to vulnerable populations. These services are crucial for helping people who are unable to support themselves, such as the elderly, disabled, and low-income individuals and families.

4. **Ensuring equality and justice**: The public sector plays a crucial role in ensuring equality and justice by implementing policies and programs to protect individual rights and promote social justice. For example, the government may establish anti-discrimination laws to protect minorities and women from discrimination in the workplace. They may also implement policies to reduce income inequality, such as progressive taxation or minimum wage laws.
5. **Provide Public Health:** Government agencies of health departments play a vital role in public health. They oversee disease control, vaccination programs, health inspections, and emergency responses to health crises. Public health initiatives have historically led to increased life expectancy and reduced mortality rates.
6. **Promotion of economic growth**: The public sector can promote economic growth by investing in infrastructure, research and development, and strategic sectors of the economy. For example, the government may invest in building new highways or airports to promote trade and commerce. They may also provide funding for research and development in industries such as healthcare, technology, and renewable energy. In addition, the government may provide incentives or tax breaks to promote business growth and investment.
7. **Development of Infrastructure:** Governments invest in infrastructure projects that are essential for economic development and the quality of life. This includes building and maintaining roads, bridges, airports, ports, and public transit systems. These investments facilitate trade, create jobs, and improve the overall quality of life.
8. **Economic Stability and Development:** Governments use fiscal and monetary policies to manage the economy, stabilize fluctuations, and promote economic growth. The public sector can invest in strategic industries, support small businesses, and provide incentives for research and development.
9. **Environmental Protection**: Public sector agencies enforce environmental laws and regulations to protect natural resources and mitigate the impact of climate change. They oversee initiatives for clean air, water, and sustainable land use practices.
10. **Crisis Response**: During emergencies, such as natural disasters or pandemics, the public sector plays a central role in coordinating relief efforts, providing assistance, and maintaining public order.

11. **Provides Public Infrastructure for Private Enterprise:** Public sector investments in infrastructure create a foundation for private-sector businesses to thrive. Roads, bridges, and ports, for example, enable the movement of goods and services, fostering economic growth.

Overall, the public sector is an essential component of modern societies and plays a crucial role in the functioning of a democratic government. The public sector comprises organizations and institutions that are owned and operated by the government to provide goods and services to the public.

Here are some of the significant roles and importance of the public sector

9.4 CAUSES OF LOW PROFITABILITY IN THE PUBLIC SECTOR

There can be several causes of low profitability in the public sector, including:

1. **Lack of efficiency**: Public sector organizations are often criticized for being organizational and inefficient, which can lead to higher costs and lower profitability.
2. **Political interference**: In some cases, political interference can prevent public sector organizations from making decisions that would improve profitability. This may be due to political considerations or pressure from special interest groups.
3. **Long Growth Period:** Most of the public sector enterprises require capital on a large scale. Also, it has taken a long period to grow. There is a long time lag between the establishment of these enterprises and the start of production. This long-period requirement has higher costs and lower profits.
4. **Industrial Disputes:** Industrial disputes in the public sector can indeed contribute to lower efficiency and productivity. Strikes, work stoppages, or slowdowns by public sector employees can disrupt essential services such as transportation, healthcare, education, and public safety. This can inconvenience the public and hinder the smooth functioning of critical services.
5. **Lack of competition**: Public sector organizations may not face the same level of competition as private sector firms, which can lead to complacency and a lack of focus on profitability.
6. **Lack of efficient management**: Poor management can lead to a range of problems, including low profitability. This may include inadequate financial planning, ineffective cost control, and a failure to adapt to changing circumstances.

7. **Lack of investment**: Public sector organizations may not receive sufficient funding to invest in new technologies or equipment, which can make it difficult to remain competitive and profitable.
8. **Legal and regulatory constraints**: Public sector organizations are often subject to a range of legal and regulatory constraints that can limit their ability to operate efficiently and profitably.
9. **Limited revenue streams**: Many public sector organizations rely on a limited range of revenue streams, such as taxes or government grants, which can make it difficult to generate profits.
10. **Lack of innovation**: Public sector organizations may be slow to adopt new technologies or innovate due to bureaucratic structures, risk aversion, or other factors. This can lead to higher costs and lower profitability over time.
11. **High Overhead costs**: Public sector organizations may have higher overhead costs than private sector firms due to regulatory requirements, reporting obligations, and other factors. This can reduce profitability and make competing with private sector firms difficult.
12. **Demands of the public**: Public sector organizations may be required to meet a wide range of demands from the public, which can be difficult to balance with profitability concerns. For example, a public hospital may need to provide emergency care to all patients, regardless of their ability to pay, which can put a strain on profitability.
13. **Limited flexibility**: Public sector organizations may be subject to rigid rules and regulations that limit their ability to make changes quickly in response to changing market conditions or other factors.
14. **Lack of incentives:** Public sector employees may not have the same incentives to improve profitability as employees in the private sector. This can lead to a lack of focus on cost control and other measures to improve profitability.

Overall, low profitability in the public sector can stem from a range of factors, including bureaucratic inefficiencies, political interference, limited revenue streams, and regulatory constraints. Addressing these issues may require significant reforms and changes to the structure and culture of the public sector

It is important to note that the public sector is not always focused on profitability as its primary objective. In many cases, public sector organizations are more concerned with providing services to citizens and achieving social objectives, rather than maximizing profits.

9.5 SUGGESTIONS FOR IMPROVEMENT OF PUBLIC SECTOR ENTERPRISES IN INDIA

There are several ways in which public sector enterprises in India can be improved:

1. **Technology Upgradation**: Technology is key to improving efficiency and productivity in any industry. Public sector enterprises in India should invest in technology upgradation to remain competitive.
2. **Diversification**: Many public sector enterprises in India are too focused on a single product or service. Diversification can help them spread risk and become more resilient to market fluctuations.
3. **Efficient Management**: The management of public sector enterprises in India should be professionalized. This can be done by hiring professional managers, empowering them with decision-making authority, and providing them with incentives for good performance.
4. **Self-sufficiency**: Many public sector enterprises in India suffer from bureaucratic red tape and political interference. Granting autonomy to these enterprises can help them make quicker and better decisions.
5. **Employee Empowerment**: Employees of public sector enterprises should be empowered to make decisions and participate in the decision-making process. This will help improve motivation, productivity, and innovation.
6. **Checks on Public Enterprises**: in order to check the performance of public sector industry, it should be inspected by the public accounts committee and estimates committee. High authorities control public enterprises. They will prepare annual public reports, in order to check the functioning of the enterprises.
7. **Corporate Social Responsibility:** Public sector enterprises should take a more active role in fulfilling their social responsibilities. They should contribute to the development of the community and the environment in which they operate.
8. **Strategic Planning**: Public sector enterprises should have a well-defined strategic plan that outlines their long-term objectives and how they plan to achieve them. This will help them make informed decisions and stay focused on their goals.
9. **Research and Innovation**: Public sector enterprises should encourage research innovation and creativity among their employees. This can be done through incentives, training, and providing a supportive work environment.

10. **Transparency**: Public sector enterprises should be transparent in their operations, financial reporting, and decision-making. This will help build trust among stakeholders and improve accountability.
11. **Organization Collaboration**: Public sector enterprises should collaborate with other organizations, both within and outside their industry, to share knowledge and resources. This will help improve efficiency and innovation.
12. **Risk Management**: Public sector enterprises should have a well-defined risk management strategy that identifies potential risks and outlines strategies to mitigate them. This will help minimize losses and improve overall performance.

CHECK YOUR PROGRESS (A)

Q1: Explain the term public sector in the economy.

Ans:_____

_____

Q2: Give any two objectives of the public sector.

Ans:_____

_____

Q3: What are the reasons for low productivity in the public sector economy?

Ans:_____

_____

Q4: Give two suggestions to improve the public sector in the economy.

Ans:_____

_____

9.7 MEANING OF PRIVATE SECTOR

The private sector refers to the part of the economy that is owned, controlled, and operated by private individuals or entities, such as individuals, corporations, partnerships, and non-profit organizations. It includes businesses and industries that are not under the direct control of the government and are primarily motivated by profit. Private sector businesses include retail stores, manufacturing companies, financial institutions, and technology companies.

The main objective of the private sector is to generate profit and increase shareholder value by offering goods and services that meet consumer demand. The private sector is responsible for creating jobs, driving economic growth, and generating tax revenue.

Here are some of the largest private-sector enterprises in India:

- Bharti Airtel Ltd.
- HDFC Bank Ltd.
- ICICI Bank Ltd.
- Infosys Ltd.
- Hindustan Unilever Ltd.
- ITC Ltd.
- Larsen & Toubro Ltd.
- Reliance Industries Ltd.
- Tata Consultancy Services Ltd.
- Tata Motors Ltd.

These companies operate in a variety of sectors, including telecommunications, banking, financial services, information technology, manufacturing, and consumer goods. They are all major contributors to the Indian economy and employ millions of people.

9.8 OBJECTIVES OF PRIVATE ENTERPRISES

The primary objectives of private enterprises or the private sector are to generate profit, increase shareholder value, and create wealth for the owners or shareholders of the business. These objectives are achieved by providing goods and services that meet consumer demand, and by maximizing revenue and minimizing costs.

In addition to the above objectives, private enterprises also aim to:

1. **Profit maximization**: Profit is the difference between the revenue and the costs. Profits are used to pay back investors, reinvest in the business, and reward employees.
2. **Employment**: Private enterprises create jobs and employment opportunities, which helps to reduce unemployment and improve the standard of living for individuals and communities.

3. **Productivity Enhancement**: Private enterprises constantly strive to improve their products, services, and processes through research and development, innovation, and technology, which leads to increased productivity and competitiveness.
4. **Expand in the Market**: Private enterprises aim to expand their operations and grow their business by entering new markets, launching new products, and acquiring other businesses.
5. **Creating value for stakeholders**: Stakeholders include employees, customers, suppliers, investors, and the community. By creating value for stakeholders, private enterprises can build a strong reputation and sustainable business.
6. **Maximize efficiency**: Private enterprises aim to maximize efficiency to increase profitability and remain competitive in the market. This is achieved through effective management practices, streamlined processes, and investments in technology and infrastructure.
7. **Manage risks**: Private enterprises manage risks effectively by implementing risk management strategies and contingency plans to protect against unforeseen events or changes in the market.
8. **Build customer loyalty**: Private enterprises aim to build strong relationships with their customers by providing excellent customer service, maintaining high standards of quality, and offering personalized solutions.

9.9 SIGNIFICANCE OF THE PRIVATE SECTOR

The private sector plays a significant role in driving economic growth and development, and its contributions to society are manifold. Here are some key reasons why the private sector is significant:

1. **Job creation**: Private enterprises are major job creators, providing employment opportunities for millions of people worldwide. This helps to reduce unemployment and poverty and contributes to the overall well-being of individuals and communities.
2. **Innovation:** The private sector is a major driver of innovation, investing in research and development, and constantly striving to improve products, services, and processes. This has led to advancements in technology, healthcare, education, and other fields, improving the quality of life for people worldwide.
3. **Economic growth**: The private sector plays a crucial role in driving economic growth, contributing to GDP and tax revenue, and creating wealth for individuals and businesses. This

growth leads to improved living standards and increased opportunities for investment and entrepreneurship.

4. **Efficiency and productivity**: The private sector operates on market principles, which encourage efficiency and productivity, leading to improved profitability and competitiveness. This translates into better products, services, and lower prices for consumers.
5. **Social responsibility:** The private sector is increasingly recognizing its social responsibility, engaging in philanthropic activities, promoting sustainable practices, and contributing to community development. This helps to build trust and support for private enterprise and strengthens its role as a key player in society.
6. **Investment:** The private sector is a major source of investment, providing funding for new businesses, infrastructure, and research and development. This investment helps to drive economic growth, create new jobs, and expand the reach of innovative products and services.
7. **Competition:** The private sector fosters competition, which helps to drive down prices and improve the quality of goods and services. This competition helps to ensure that businesses remain responsive to consumer demand, leading to increased efficiency and innovation.
8. **Flexibility**: The private sector is more flexible and adaptable to changes in the market than the public sector. This flexibility allows private enterprises to respond quickly to changes in consumer demand, new technological advancements, and other market conditions.
9. **Entrepreneurship:** The private sector provides opportunities for entrepreneurship, encouraging individuals to start their businesses and pursue their ideas. This fosters innovation and creativity and helps to create a dynamic and vibrant economy.
10. **International trade:** Private enterprises are major players in international trade, facilitating the exchange of goods and services across borders. This trade helps to drive economic growth, create jobs, and promote cultural exchange and understanding.

So, the private sector is significant because it drives economic growth, creates jobs, fosters innovation, and promotes competition and entrepreneurship. Its contributions to society are diverse and far-reaching, and its role in shaping the future of the global economy cannot be overstated. the private sector is a vital part of the economy, driving growth and development, creating jobs, and fostering innovation and efficiency. Its contributions to society are significant, and its role in shaping the future of the global economy is crucial.

9.10 CAUSES OF LOW PROFITABILITY IN THE PRIVATE SECTOR

There can be several causes of low profitability in the private sector, including:

1. **Excess Competition:** One of the main reasons for low profitability is intense competition in the market. When many players are offering similar products or services, it can lead to price wars and reduced profit margins.
2. **Economic factors**: Some of the economic factors such as inflation, depression, recessions, and changes in consumer behavior can affect the demand for products or services which will lead to reduced profitability.
3. **Poor management**: Inefficient management practices, lack of strategic planning, inadequate financial controls, and poor decision-making contribute to low profitability.
4. **Industry changes**: Technological advancements, changes in regulations, and shifts in market trends can create challenges for businesses and reduce profitability.
5. **High costs**: High production costs, labor costs, and overheads can all eat into profits, especially if prices cannot be increased to compensate.
6. **Debt and interest payments**: High levels of debt and interest payments can reduce profitability, as interest payments must be made regardless of the company's profitability.
7. **Inadequate pricing strategy:** If a company's products or services are priced too low, it may not generate enough revenue to cover its costs and make a profit. On the other hand, if the company's prices are too high, it may not attract enough customers to sustain its business.
8. **Lack of innovation**: If a company fails to innovate and keep up with changing customer needs and preferences, it may lose market share to competitors and suffer from lower profitability.
9. **Poor marketing:** If a company does not effectively promote its products or services, it may not attract enough customers to generate sufficient revenue.
10. **Legal issues:** Companies can face lawsuits, fines, or other legal or regulatory challenges that can affect their profitability, especially if they do not have adequate insurance or legal support.
11. **Natural disasters:** Natural disasters, pandemics, or other unforeseen events can disrupt supply chains, increase costs, and reduce demand, all of which can affect a company's profitability.

Overall, low profitability in the private sector can result from a combination of factors, including internal management practices and external economic conditions.

9.11 SUGGESTIONS FOR IMPROVEMENT OF PUBLIC SECTOR ENTERPRISES IN INDIA

Here are some suggestions for improving private-sector enterprises in India:

1. **Innovation**: Private sector enterprises in India should focus on innovation to develop new and better products or services that can meet the changing needs and preferences of customers. This can help companies stay competitive, attract new customers, and increase profitability.
2. **Investment in technology**: Private sector enterprises should invest in technology to improve their operations, increase efficiency, and reduce costs. This can also help companies to scale up their operations and expand into new markets.
3. **Enhance customer service**: Private sector enterprises should focus on enhancing their customer service by providing better quality products or services, addressing customer complaints promptly, and leveraging technology to provide a better customer experience.
4. **Promote transparency and accountability**: Private sector enterprises should promote transparency and accountability by disclosing their financial and non-financial performance, adhering to ethical business practices, and complying with relevant laws and regulations.
5. **Sustainability**: Private sector enterprises should focus on sustainability by adopting environmentally friendly practices, reducing their carbon footprint, and promoting social responsibility. This can help companies to build a positive brand image and gain the trust and loyalty of customers.
6. **Finance assessment**: Private sector enterprises in India should have greater access to finance to support their growth and expansion. This can be achieved through the development of new financial products and services, the establishment of credit guarantee schemes, and the promotion of alternative financing options such as crowdfunding.
7. **Better Infrastructure**: The government and private sector should work together to improve infrastructure in India, including transportation, communication, and energy systems. This can help to reduce costs, increase efficiency, and create a more favourable business environment for private sector enterprises.
8. **Promote international trade**: Private sector enterprises in India should focus on promoting international trade by expanding into new markets and leveraging India's competitive advantages in sectors such as information technology, pharmaceuticals, and renewable energy.
9. **Workforce skills**: Private sector enterprises in India should invest in training and upskilling their workforce to enhance their productivity, creativity, and innovation. This can help to create

a more skilled workforce that can contribute to the growth and success of private sector enterprises.

10. **Strengthen supply chain management**: Private sector enterprises in India should strengthen their supply chain management by adopting best logistics, inventory management, and procurement practices. This can help to reduce costs, increase efficiency, and improve customer service.
11. **Strengthen research and development**: Private sector enterprises in India should promote research and development by investing in new technologies, collaborating with universities and research institutions, and filing patents. This can help to create new products or services, improve existing ones, and enhance competitiveness.

CHECK YOUR PROGRESS (B)

Q1: Explain the term private sector in the economy.

Ans:_____

_____

Q2: Give any two objectives of private sector.

Ans:_____

_____

Q3: Why does private sector have low productivity?

Ans:_____

_____

Q4: Give any three suggestions to improve the private sector in the economy.

Ans:_____

_____

9.12 SUM UP

The Indian economy consists of both the public sector and the private sector, each playing a significant role in shaping the country's economic landscape. However, public sector refers to the part of the economy that is owned and operated by the government. It includes various government departments, public enterprises, and institutions to provide essential services, promote equitable

distribution of resources, and stimulate economic development. In India, the public sector is divided into two main categories: first is Central Public Sector Enterprises (CPSEs), Which are government-owned companies that operate at the national level, engaged in various industries such as energy, telecommunications, transportation, manufacturing, and more. For example, CPSEs include Bharat Heavy Electricals Limited (BHEL), Oil and Natural Gas Corporation (ONGC), and Air India. Another one is State Public Sector Enterprises (SPSEs), which are government-owned companies that operate at the state level, covering a wide range of industries, including agriculture, infrastructure, and services.

The private sector comprises privately owned businesses and enterprises that are not under government ownership. It is helpful in economic growth, creating employment opportunities, and fostering innovation. Private sector in India is diverse which includes small, medium, and large businesses across various industries. These are related to manufacturing, services, information technology, retail, finance, and more.

9.13 QUESTIONS FOR PRACTICE

Long Answer Type Questions

Q1. What do you mean by the public sector in the economy? Give significance.
Q2. What has been the role of public enterprises in the development of the economy?
Q3. Explain the causes of poor performance of public enterprises in India.
Q4. What are your suggestions to improve the role of public sector in the economy?
Q5. Explain the concept of privatization. What are its causes?
Q6. Discuss the objectives of private enterprises of the economy.
Q7. Give the obstacles in the path of privatization.

9.14 SUGGESTED READINGS

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BACHELOR OF ARTS (LIBERAL ARTS)

SEMESTER - V

ECONOMICS OF GROWTH AND DEVELOPMENT AND INDIAN ECONOMY

UNIT X: SERVICE SECTOR IN INDIA

10.0 OBJECTIVES

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

State the meaning of service sector;

- Make distinction between service sector and other sectors;
- Discuss the growth of service sector in the context of Indian economy
- Explain the core points of the rapid growth of service sector;
- Comment on the future prospects of the sector.

10.1 INTRODUCTION

The economy basically comprises three sectors. First, the primary sector comprises agriculture, fishing and extraction such as mining. Second sector is the secondary sector comprising manufacturing. Third sector is the tertiary sector also referred to as the service sector.

Most of the low-income economies have agriculture as the predominant sector but, these economies progress, share of the industrial sector in the economic activities increases. This development of industries, in turn, promotes a wide range of activities in the services sector like banking and insurance, transportation, trade, communication, etc. The dominance of the service sector in the growth process is associated with the third stage of development.

After gaining independence in 1947, India embarked on a journey of economic development and modernization. One significant aspect of this transformation was the growth and expansion of the service sector. While agriculture and manufacturing were traditionally dominant sectors, the service sector gained prominence over the decades as India's economy evolved. Here's an introduction to the development of the service sector in India after independence:

Early Years (1950s-1960s): In the immediate post-independence period, India focused on industrialization, with manufacturing taking centre stage. The service sector was relatively small during this time, comprising primarily government services, financial institutions, and basic utilities. The emphasis was on building a self-sufficient economy through import substitution and state-led development.

1970s-1980s: The service sector started to show signs of growth during this period. Educational institutions, healthcare facilities, and government administrative services expanded. Additionally, the financial sector saw the establishment of banks, insurance companies, and the stock exchange. However, the overall contribution of the service sector to the economy remained limited compared to agriculture and industry.

1990s and Economic Liberalization: The turning point for the service sector came in the 1990s when India initiated economic liberalization and opened up its markets to global trade and investment. This period witnessed significant reforms that led to a surge in service-oriented industries. The Information Technology (IT) and IT-enabled services (ITeS) sectors gained prominence, making India a global hub for software development, business process outsourcing, and call centres.

10.2 CONCEPT AND DEFINITION

In modern economies, the service sector is performing many important roles. First, it represents a major share of the developed economies and is increasingly integrated into the overall production

system. Second, it is playing an active role in market integration and globalisation. Thirdly, the creation of employment, value-added, income and exports are increasingly related to the good performance of the services (Singh, 2018).

The basic characteristics of the service sector are the production of services rather than end-products. Services are intangible goods which include attention, advice, experience and discussion. These are used to enhance productivity, performance potential and sustainability. The production of information is also regarded as a service.

10.3 GROWTH OF SERVICE SECTOR IN INDIAN ECONOMY

For the past few decades, there has been a considerable shift from primary and secondary sectors to the tertiary sector in the Indian economy. The tertiary sector is now the largest sector of the economy and is also the fastest-growing sector. It has modified the structure of employment and the composition of value added. It constituted a large part of the Indian economy both in terms of employment potential and its contribution to national income. Examples of service sector employment include: Government, hospitals, public health, waste disposal, education, banking, insurance. Financial services, legal services, consulting, news media, hospitality industry (eg: restaurants, hotels, casinos), tourism, retail sales, franchising, real estate, and sales.

The growth of the Indian economy in the post-1991 period has been a services-led growth. The future of the Indian economy rests with the pattern of growth of the services sector pushing ahead of agriculture and industry. So, the dynamic service sector can compensate for poor agricultural and industrial growth in the future and would thus play a crucial role in maintaining the growth momentum of the economy (Singh, 2018).

According to Ejaz Ghani, service-led growth is sustainable because the globalisation of service is just the tip of the iceberg. Service is the largest sector in the world, as it accounts for more than 70 per cent of the global output. The service revolution has altered the characteristics of services. Services can now be produced and exported at low cost. Developing countries can sustain service-led growth as there is a huge room for catch-up and convergence. Thus, according to Ghani, industrialisation is not the only route to economic development. Service-led growth could be another route.

10.4 SUB-SECTORAL GROWTH OF SERVICE SECTOR

The two sub-sectors of the service sector that have contributed significantly to its growth in India in recent years have been telecommunication and IT. As the economy continues to grow, many new services are likely to be added to the growth of existing services while the network of many existing services is likely to expand considerably (Indiabudget.gov.in, 2023). For example, due to the availability of world-class but cheap medical facilities, India is well placed to attract a large number of patients from abroad particularly from developing countries. Demand for education is also expected to expand considerably in years to come and education services could well energy as a drive of GDP growth in future. Another important potential area is finance services which would help in stimulating growth (Singh, 2018).

IT and BPO Revolution: The late 1990s and early 2000s marked the rapid expansion of India's IT and BPO industries. The country's skilled workforce, English language proficiency, and cost-effective labour attracted multinational companies seeking to outsource various business functions. This period saw the rise of cities like Bangalore, Hyderabad, and Pune as technology and business hubs.

Telecommunications and Retail: The service sector also witnessed growth in telecommunications, with the liberalization of the telecom industry leading to increased connectivity and accessibility. The retail sector experienced a transformation with the emergence of organized retail chains and shopping malls, altering consumer habits and creating job opportunities.

Financial Services: The financial services sector underwent significant reforms, including the entry of private banks and the establishment of stock exchanges. The growth of financial markets, banking services, and insurance contributed to the diversification of the service sector.

Tourism and Hospitality: Tourism gained momentum as India's cultural heritage and diverse landscapes attracted international travellers. The hospitality sector expanded to cater to growing tourist inflow, leading to the establishment of luxury hotels, resorts, and travel services.

Overall, the service sector's growth in India after independence was marked by diversification across multiple domains, with IT, BPO, telecommunications, finance, healthcare, education, and tourism playing pivotal roles. The sector's expansion contributed to economic growth, job creation,

urbanization, and increased global integration. However, challenges such as infrastructure development, skill gaps, and regional disparities remained, impacting the sector's full potential.

10.5 CAUSES OF RAPID INCREASE IN TERTIARY SECTOR

The tertiary sector, also known as the non-commodity sector, has been growing much faster than the commodity sector. This implies that income generation in the process of circulation growing at a much faster pace than that in the directly productive process. This results in an increase in the share of the non-commodity sector. Some of the important factors attributing towards this cause are:

1. Information technology and the knowledge economy have not only enhanced the growth of the high-productivity segment of the service sector but also the service activities involving low-productivity activities which cater to a large number of people. ICT involves innovation in microelectronics, computing (hardware and software), telecommunication, and opto-electronics-microprocessors, semiconductors, fibre optics. ICTs are reducing traction costs, ending time and space barriers, enabling the mass production of customised goods and services and substituting for limited factors of production.
2. A Large part of the service sector consists of infrastructure such as banking, insurance, finance, transport and communication and social and community services such as educational and medical facilities (Indiabudget.gov.in, 2023).

Over the past decades, IT-BPO services have emerged as key contributors to India's export earnings, investment, employment and overall economic and social development. Competitive labour costs, English language skills, technical expertise, political stability, favourable tax rates and a reputation for high-quality services have driven the section's rapid growth. Some of the factors affecting the demand for India's IT-BPO services include economic and financial conditions in key export markets, the relative attractiveness of competing providers and changes in the domestic market for outsourced IT-BPO services. Besides these the workforce challenges and government incentives affect the industry’s supply of services. Among the former, attrition, wage inflation and skill levels pose particular challenges. High attraction tends to undermine the quality of services and boost costs for recruitment and training.

Sweeping liberation and deregulation undertaken by successive governments over the past decades have transformed the Indian telecommunication services industry from a market dominated by a few government-controlled entities into one characterised by a large number of private sector rivals and high levels of competition. Such competition has resulted in declining services prices, which have, in turn led to rapid market growth and thus were driven almost entirely by the private mobile telephone segment (Indiabudget.gov.in, 2023).

1. Operation of the demonstration effect as a consequence of the growing mobility due to expanding foreign trade, tourism and cultural and educational tours is another important factor. Services particularly finance (insurance) and transposition of goods are traditional compliments to good trade. With the spread of telecommunications and computer technology, virtually all commercial services have become tradable across countries. The trend of globalisation, reinforced by liberation policies and removal of regularity obstacles, has fuelled steady growth of international investment and trade in services. Business services are the most important category of service imports followed by transportation.
2. Service exports have been a dynamic element in India's trade and globalisation in recent years. Balance of trade in services has been positive and considerable during the period of last two decades and this helped the country reduce the deficit in balance of trade of goods.
3. Increasing urbanisation may be regarded as another cause of expansion of the service sector in the economy. Urbanisation is closely associated with a rise in demands for infrastructure services such as communications, public utilities and distribution services. A substantial change in the private consumption pattern of the economy is observed with increasing urbanisation. Many new goods and services enter into the consumption basket (Indiabudget.gov.in, 2023).
4. Tourism is becoming more and more international as knowledge is being spread through television and the Internet and modern technology has made air transport and hotel accommodations quite comfortable. Tourism, in return, has promoted all types of services.
5. With the increasing complexities of modern industrial organisation, manufacturing industries have become service-oriented. This has been reflected in the increasing functions of accounting, finance, legal services, advertisement; marketing, public regulations etc because

of the prevalent labour laws, these services are being increasingly outsourced, so that growth in industry is being counted as growth in sources.

6. The expansion in the services sector had wonderful implications for population, employment and trade prospects of the economy. The growing share of the surface sector points to the need for policy initiatives towards introducing greater competition and efficiency in this sector to ensure its sustained contribution to exports (especially software) and higher long-term growth (Singh, 2018).

Secondly, the gains in productivity in the agricultural and industrial sectors resulting from technological progress and innovation will have the effect of shifting employment away from the non-service sector to the service sector. This may also indicate a shift in real expenditures from commodities to value added services.

Lastly, the service sector constitutes a tax base with vast but unexploited potential and therefore its growth has long-term implications for the fiscal policy.

Despite all the above-mentioned contributions the service sector suffers from low productivity and quality despite fairly large investment in technology. This sector is facing multiple challenges for sustained growth over the years (Indiabudget.gov.in, 2023). Several services where India enjoys comparative advantages still experience lack of clear policy threat. Several services in India are either predominant by being associated with the government or are not liberalised enough to ensure growth through organised private initiatives. Services like professionals, legal, postal, accountancy and insurance need further liberalisation to harness their potential.

Unless sustained efforts are put in to improve these, with the increasing importance of the services in wake of structural adjustment and liberalisation in the economy may get into two alternate scenarios.

a. The economic and social position of workers in the service sector will steadily go down - since real incomes cannot be higher than productivity for any extended length of time. This means economic stagnation and consignment social tension, or

b. The workers in this sector will use these numerical strengths to get wages higher than these economic contributions justified. This will impoverish others - reducing everyone’s income and increasing unemployment (Singh, 2018).

10.6 LIMITATIONS

In recent years, the service sector in India has experienced significant growth over the years and has become a major contributor to the country's economy. However, like any other sector, the service sector also has its limitations and challenges. Here are some of the limitations in the present context:

1. **Skilled Workforce**: While India has a large and relatively inexpensive labour force, there can be a shortage of skilled workers with specific expertise needed for certain service industries. This skill gap can hinder the growth and quality of services.
2. **Quality of Services**: Maintaining consistent and high-quality services across various domains can be challenging. The lack of standardization and quality control measures can impact customer satisfaction and inhibit the sector's growth potential.
3. **Infrastructure**: Inadequate infrastructure, such as reliable power supply, transportation networks, and digital connectivity, can hamper the efficiency of service delivery. This is particularly relevant for technology-dependent services like IT and BPO.
4. **Regulations and Bureaucracy**: Excessive regulations and bureaucratic hurdles can slow down the growth of the service sector. Inconsistent policies, complicated licensing procedures, and frequent changes in regulations can create uncertainty for businesses.
5. **Dependency on Global Markets**: Certain segments of the Indian service sector, such as IT and IT-enabled services (ITeS), are heavily reliant on global markets. Economic downturns or shifts in global demand can impact these industries significantly.
6. **Lack of Innovation**: While India has a reputation for providing cost-effective services, there can be a lack of emphasis on innovation and creating unique value propositions. This can limit the sector's ability to move up the value chain.
7. **Inclusive Growth**: The service sector growth has been concentrated in urban areas, leading to regional disparities in economic development. Rural areas might not have the same access to service industry opportunities and benefits.
8. **Vulnerability to Global Events**: Events like geopolitical tensions, pandemics, or global economic crises can have a swift and substantial impact on the service sector due to its interconnectedness with the global economy.

9. **Data Privacy and Security Concerns**: In industries like IT and BPO, handling sensitive customer data from foreign clients can raise concerns about data privacy and security compliance, which could affect business relationships.
10. **Environmental Impact**: Some segments of the service sector, such as tourism, can have negative environmental consequences, including strain on resources, pollution, and ecological degradation.

10.7 SUM UP

The Indian economy is becoming more service-driven in terms of output than employment. The pre-reform period was a period of high employment growth and rapid economic progress. The tartarisation process was dynamic and growth-driven. However, in recent years, much of the rise in this service sector is because of a lack of employment opportunities in other sectors of the economy. As a result, a large proportion of the service sector jobs created during this period are of distress in nature - petty jobs taken up by the workers in the sectors like trade, hotels, and restaurants - pushed out by agriculture and not absorbed by manufacturing, there has also been creation of a handful of high-income jobs in the sectors like financing, insurance, real estate and business services that have been growth driven leading to accentuation of inequalities. A clear hierarchy exists within the service sector not only in terms of employment growth or output growth but also in terms of the dynamism of the growth process. Moreover, highly productive and high-income segments like financing, insurance, real estate and business services within the services are experiencing faster growth in terms of output. On the other hand, low-productive and low-income segments like trade, hotels and restaurants are experiencing a rise in terms of employment. These factors should be kept in mind while drawing policy for the development of the service sector.

10.8 QUESTIONS FOR PRACTICE

A. Short Questions:

Q1.What are the factors responsible for rapid growth of the service sector of India?

Q2.What are the major bottlenecks of Indian service sector?

Q3.How has the service sector in India evolved over the past decade?

B. Long Questions:

Q1. How has the service sector in India evolved over the past few decades, and what key factors have contributed to its significant growth and transformation into a major driver of the country's economy?

Q2. What are the various sub-sectors that make up the service sector in India, and how do they contribute to the overall economic landscape? How has the relative importance of these sub-sectors changed over time?

Q3. What role has the information technology and business process management (IT-BPM) industry played in shaping the Indian service sector's growth trajectory? How has it contributed to job creation, technological advancement, and India's positioning in the global services market?

10.9 SUGGESTED READINGS

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