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## 1. Learning Outcomes

After studying this module, you shall be able to -

- Know about the development and underdevelopment
- Evaluate the measures of economic development
- Learn about poverty and its measures
- Find out the various causes and measures of inequality

## 2. Introduction

### **Development and Underdevelopment**

Economic growth and economic development seems to be synonymous but connotes different meaning in economic literature. Economic Growth refers to a sustainable increase in the real per capita income of a nation over a period of time. On the other hand economic development implies economic growth plus a rise in standard of living of people. Economic development is a broader concept than economic growth. There are some important major study questions of economic development viz. What is the exact relationship between phases of economic growth and income inequality? Does the process of economic growth really provide trickledown effect and hence eliminating the poverty and unemployment of a nation? Does the process of economic growth also imply a balanced regional growth? Both economic and non-economic factors affect the process of economic development. In the era of globalization both internal and external factors influence the economic growth. It is the capital accumulation through higher saving and investment, technological advancement and research and development, a large army of skilled human resource along with good governance responsible for the growth of nation. This has also been propounded by the various macroeconomic models like Harrod-Domar, Solow-Swan and endogenous theory of growth. Given the dual economy in the under developed nations and due to various market failures and government failures these economies lag behind in the race of development. Prices of scarce resources do not reflect true opportunity cost and thereby not utilized in an efficient way. There operates a vicious circle of poverty both on demand side and supply side which discourages savings and investment and hence process of capital accumulation. There is also mass poverty,

unemployment and illiteracy among the under developed nations. According to the recent socio economic statistics, situation is worst for Sub Saharan and some parts of Asia.

The underdeveloped economies have the following characteristics –

### **1. Colonial Exploitation by imperialist powers of Europe and West-**

Nearly all the underdeveloped nations have same colonial heritage. These nations have been the colonies of the powerful imperialist nations which exploited them through various methods viz. free trade and drain of wealth etc. Due to the imperialists policies, the economies of these nation have been destroyed i.e. there was hardly any real growth in agriculture, industry and other economic activities of these nation. This is also true in case of India where Dutch, Portuguese, British and French etc. invaded India in order to serve their own economic interests. The dependency school of thought propounded by Amin and Franklin, is based on this notion only. It is the exploitation of underdeveloped economies by the developed economies responsible for underdevelopment of the nations.

- 2. High Population-** the underdeveloped economies are generally categorized as highly populated economies. It is the high population of these nations which is impeding their real growth rate. Given the limited resources, it is not possible to satisfy the needs of ever growing population unless the rate of growth of resources is faster than the growth rate of population.
- 3. Low level of Saving and Investment –** Underdeveloped economies are characterized by a low level of saving and income. There prevails a vicious circle of poverty which acts both on demand and supply side. A low level of income implies low demand which in turn implies low investment by the entrepreneurs and low income at the end.
- 4. High level of Fiscal Deficits and Inflation-** Underdeveloped economies are supply constrained economies where there is always a scarcity of resources due to supply side bottlenecks. These economies are inflationary economies due to excess demand of the essential agricultural and industrial goods. The government also plays a critical role in influencing the market outcomes. High fiscal and revenue deficits of government financed through excessive borrowing from the market causes rise in the interest rate and cause crowding out effect. Hence the private investment gets discouraged.

- 5. Lack of Infrastructure-** Having the world class infrastructure is an essential condition for an economy to move on the trajectory of growth. Infrastructure can be bifurcated into economic infrastructure and social infrastructure. Economic infrastructure consists of means of transportation, communication, water, gas, and energy resources etc. whereas the social infrastructure is measured in terms of health, education, sanitation, and housing etc. There is general lack of under provisioning of both type of infrastructure in underdeveloped economies.
- 6. High Dependences on Agriculture –** According to noble laureate Simon Kuznet, a structural transformation takes place when the importance of agriculture in the economy reduces and that of industry and service sector rises. The pace of transition is very slow. Still more than fifty percent of total population is earning their bread and butter through primary sector in the underdeveloped nations while only three to four percent workforce is engaged in agriculture in the countries like US and UK.
- 7. Underdevelopment of Industrial and Service Sector-** These economies have under developed state of industrial sector and service sector. Most of the industries are consumer goods industries and there is lack of capital goods, basic and heavy industries. These industries are run based on the old traditional techniques which are quite slow and inefficient. Not only this but the people who are operating and managing industrial sector not skilled and properly trained. Public sector enterprises are highly suffered from inefficiency as they are handled by the class of bureaucracy officers instead of market experts.
- 8. High Dependence on Trade-** These economies are primarily agricultural dependent. Manufacturing and service trade remains abysmally low. Export of primary articles has both inelastic price and income demand and therefore contribution of trade to foreign exchange is also very low. On the other hand import of these nations include manufactured goods and services which have high demand elasticities
- 9. High imbalance of payment account:** Theses economies have high trade deficits and overall balance of payment deficits. These economies are primarily agricultural based economies and export mainly agricultural products while mostly imported goods are manufactured products. The unit value of agricultural produce is very low while price of unit value of manufacturing products is high so this fact goes against the welfare of these economies and the result is overall deficits. Likewise there is not much export of service trade in economies.

- 10. Underdeveloped Financial and Capital Markets-** There is a dualism fund in the financial and capital market of the under developed economies. Dualism implies the existence of two separate markets independent of each other in a country. This is a lack of integration of financial markets. Participants have information asymmetries in the market.
- 11. High level of corruption** – The government administration of the underdeveloped economies is not efficient as there are various loopholes in the implementation of laws. Rules and regulations are not clearly defined and live upon the discretion of the authorities. There is lack of transparency and accountability. There is a lot of red-tapism and nepotism in the public sector. There is nexus between politicians, bureaucrats and business class to exploit and misappropriate the public funds and impoverish the actual benefactors.
- 12. Highly Polluted Economies** – All underdeveloped economies are highly polluted in nature due their mismanagement of the natural resources and poor technologies. Ecology of these nations is highly disturbed. Outdated and inferior technology contaminate not only environment, biosphere but is also very costly and less efficient. So it is imperative to switch to new and sophisticated technologies which are not only environment friendly that is low carbon intensive but also reduces the overall cost significantly.

### 3. Sustainable Development and its Measurement

A new concept of development is the Sustainable Development. It refers to environmentally friendly economic development. It aims at satisfying the need of present consumption without reducing the resources for the need of future generation. It aims at achieving inter- generational equity. The idea of sustainable development came United Nations World Commission on Environment and Development (WCED) in its 1987 report “Our Common Future” defines sustainable development: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Environment is a good which provides utility to people in many ways. Unlike the other private goods environmental assets are public goods and hence have no markets. So it becomes difficult to evaluate an economic asset. Green GDP or Environmentally Adjusted GDP is the measure of sustainable development. It is the amount of national

income adjusted for the cost of pollution and depletion of natural resources. There are two concepts related to sustainable development viz. weak sustainability and strong sustainability. Weak sustainability implies that total value of physical, human and natural capital should not deplete while strong sustainability implies that only natural stock of capital should not deplete. Weak sustainability is a wider concept than strong sustainability.

#### 4. Measures of Economic Development

There are various popular measures of development which are discussed as follow –

- ❑ **Per Capita Income** as a raw measure of development does not take into account the following things
  1. Does not look at the income inequality among the different people
  2. Does not include the human development indicators like literacy, health, knowledge
  3. Does not adjust the cost of polluting the environment
  4. Does not include the various aspects of political, cultural, social freedom as emphasized by Amartya Sen
  5. Only official not the unofficial income is reported. It implies gross underestimation of national income due to underground economic activity.
- ❑ **Physical Quantity of Life Index**
  1. Developed by Morris in 1979
  2. It includes the life expectancy at age one, literacy rate at the age 15 and infant mortality rate.
  3. A dimensional index is created for each variable by dividing the (Maximum value – Actual value) / (Max. Value – Minimum Value)
  4. It takes average of dimensional index of all three variables.
- ❑ **Human Development Index**
  1. Developed by Indian economist Amartya Sen and Pakistani economist Mahbub-ul-Haq and every year presented by the UNDP.
  2. Variables taken life expectancy, knowledge and real per capita income by PPP.
  3. All variables are equally weighted.
  4. No reason to give equal weights.
  5. 2/3 weight is given to adult enrollment ratio while 1/3 weight to primary, secondary and tertiary sector.

6. It includes enrollment but does not look at the dropout rates of children.
7. A dimensional index is created for each variable by dividing the (Maximum value – Actual value) / (Max. Value – Minimum Value)
8. The value of all dimension indices can vary from 0 to 1.
9. And then countries are ranked according their level of development.

## 5. Gross Happiness Index

The term "gross national happiness" was coined in 1972 by Bhutan's fourth Dragon King, Jigme Singye Wangchuck. It includes sustainable development, cultural values, natural environment, and good governance as the elements of development. And these four elements are further divided into nine sub-divided elements. The nine subdivided are: psychological wellbeing, health, knowledge and education, time use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living standards. The Gross National Happiness Index is a single number index developed from 33 indicators categorized under nine domains. The GNH Index is constructed based upon a robust multidimensional methodology known as the Alkire-Foster method. (Quoted from a short guide to Gross Happiness Index)

## 6. Poverty

**Poverty:** A person is said to be poor if he is not able to afford his basic essential necessities. Necessities implies without which he can't survive. However there is no consensus what is essential or not for a person. In general poverty is measured as the reasonable amount of money income to keep the people out of the clutches of poverty, however the emphasis in India is on the minimum standard. Poverty line is measured in terms of minimum calorie intake taken by a person per day. It is 2400 calorie per person per day in rural areas and 2100 calorie per person per day in urban areas as per decided by the medical council of India. This approach was used in India to define the poverty lines by planning commission in the past. However critics argue that poverty is a multidimensional issue and should not be confined to the deprivation of food requirements of only. The measurement based on the calorie needs should be called starvation lines instead of poverty lines. Poverty on the other hand includes the deprivation in many other essential facilities like health, education, clothing, sanitation, access to clean drinking water, housing etc. A London based institute has recently measured poverty with a new index

called Multidimensional Poverty Index (MDI) by taking data for various parameters like health, education etc. and India was ranked abysmally low for MDI.

Here is important to distinguish between the absolute poverty and relative poverty. Absolute poverty means a person falls below the poverty lines. But relative poverty means relative position on the income distribution of the society. For example per capital income of USA in a year is 25000 Rs and that of UK is 24000Rs and poverty line cutoff is 5000 Rs then both USA and UK are prosperous economies but UK is relatively poor than USA. The concept of relative poverty is more concerned with measurement of income inequalities.

## 7. Causes of Poverty

1. **Lack of any productive asset-** There is a skewed distribution of assets e.g. land in the society. A section of people in the society has high concentration of the total wealth while they constitute a small percentage of population. On the other hand majority of the population small and marginal farmers has very less percentage of the total wealth.
2. **Lack of quality education or any skill:** Another reason for the poverty in the developing country is the lack of formal schooling and lack of any special knowledge for the employment purpose.
3. **Larger size of household:** It reduces the size of per capita cake. Larger size of household actually both the cause and effect of the poverty. Larger children are viewed as helping hands to the family.
4. **Lack of opportunities of Employment generation:** It is the primary cause of the poverty in India. It is again related with creation of the job opportunities in both public and private sector. It is true that it is the responsibility of a welfare state to provide the employment opportunities but it cannot provide the employment to all within the public sector. Given the already huge size of government administration and privatization, it is not likely to create greater number of jobs.
5. **Inflation:** It implies a constant increase in the price level of the economy. It is very detrimental to the growth process. However a mild inflation is accepted and viewed as lubricant for the economy. Inflation snatches hard earned real value of the money income. It increases the intensity of poverty by taking away the purchasing power of the people.

## 8. Consequences of Poverty

1. **Larger size of population:** As is described earlier that in order to tackle the curse of poverty poor tend to have more and more children in order to have more money income. Larger children are viewed as additional source of earning.
2. **Hunger and Malnutrition:** The state of abject poverty leads to the people to starve and suffer from malnutrition. They do not have even the food for maintaining their subsistence level. They can be easily caught by and are vulnerable to serious diseases.
3. **Adverse effect on the productivity of the person:** Malnutrition and starvation can lead to loss of productive capacity and loss of productive working hours. It is the wastage of human resource which could be utilized.
4. **Increase in inequality:** The affluent society on the one hand and miserable state of poverty on the other hand widens the gap between rich and poor. It makes rich more rich and poor more poor.

## 9. Measures of Poverty

- Headcount Ratio-** The ratio of people living below the poverty line to total population is called headcount ratio. It is a very crude measure of poverty and does not take into account the sensitivity of poverty among the poor people.

$$\text{Head count Ratio} = \frac{HC}{\text{Total Population}}$$

For example if A and B are two person below poverty lines and A,s income rises but remains below the poverty line while B position remains same, so now A is relatively less poor than B. but HC does not take this into account.

- Poverty Gap Ratio:** The poverty gap index is a measure of the intensity of poverty. It is defined as the average poverty gap in the population as a proportion of the poverty line.

$$\text{PGR} = \frac{\sum_{j=1}^q \left( \frac{z - y_j}{z} \right)}{N}$$

Where  $z$  is the amount of income denoting poverty line,  $N$  is the total number of population,  $y_j$  is the income of  $j$ th person falling below the poverty line and  $q$  is the total number of the poor person.

Poverty gap index ignores the effect of inequality between the poor. It does not capture differences in the severity of poverty amongst the poor.

- **Squared Poverty Ratio**- The relative poverty among the poor was the limitation of poverty gap ratio is solved by this index. In order to calculate this we take the average of the square of the poverty gap ratio by placing higher weight on a relatively higher poor person. The squared poverty gap index is one form of a weighted sum of poverty gaps, with the weight proportionate to the poverty gap.

$$SPGR = \frac{\sum_{j=1}^q \left( \frac{z - y_j}{z} \right)^2}{n}$$

Where  $z$  is the amount of income denoting poverty line,  $N$  is the total number of population,  $y_j$  is the income of  $j$ th person falling below the poverty line and  $q$  is the total number of the poor person.

- **Foster-Greer-Thorbecke metric** – It is a general class of measures of poverty.

For  $\alpha=0$  it is equal to head count ratio. For  $\alpha=1$  it is equal to poverty gap ratio. For  $\alpha=2$  it is equal to squared poverty gap ratio.

$$FGT_{\alpha} = \frac{\sum_{j=1}^q \left( \frac{z - y_j}{z} \right)^{\alpha}}{n}$$

- **Sen P Index of Poverty:**

**Sen P index**, sometimes referred to  $P_{SEN}$  is related to poverty gap index (PGI). It is calculated as follows:

$P_{SEN} = H * G_Z + PGI * (1 - G_Z)$  where,  $H$  is the headcount ratio and  $G_Z$  is the income Gini coefficient of only the people below the poverty line.

## 10. Causes of Inequality

- ❑ **Unequal distribution of assets:** Highly unequal distribution of productive assets in the hands of few causes inequality in the society.
- ❑ **Improper Taxation:** Principally taxation is viewed as the correcting factor for reducing inequalities. But improper use of taxation policy has burdened the common man and made him poorer. There has not been active use of progressive taxation in total taxation. Poor people are more vulnerable to indirect taxation as they are not exempted from paying these taxes.
- ❑ **Black Money:** Huge amount of black money nearly 50% of the official reported income is earned in India and likewise might be figures for the underdeveloped countries.
- ❑ **Lack of Employment opportunities:** People do not have employment opportunities to get a fair chance to come out of the poverty so they remain poor. Lack of employment generation in the underdeveloped countries causes poverty and inequality.
- ❑ **Poor Implementation of Minimum wage laws:** Wage laws are not properly implemented in the underdeveloped nations. They appear good only on the paper work and there are really no efforts to get these laws implemented.
- ❑ **Prevalence of child labour and under payment of wages to women :** Both children and women are considered best for the employment as they can be paid less amount of wage as compared to the adult male worker. Underpayment to this section of working class deteriorates the economic condition and worsens the degree of inequality.
- ❑ **Rising Level of corruption:** The wide spread dragon of corruption eats out the public funds sanctioned for the developed and welfare schemes and therefore these funds can't reach the actual beneficiaries. Actually issue of inequality can't be removed unless there is a removal of poverty. Both are interconnected issues.

## 11. Measures of Inequality

- ❑ **Range** – It is the difference between the income of richest person and income of poorest person in a group. It is only a crude measure of inequality. It does not take into account the fact that transfer of income from a rich person but not the richest to poor person but not the poorest reduces the inequality. If there is equal distribution of income then range takes a zero value. It is not a unit free measure of inequality.

$$\text{Range} = \text{Max. Value} - \text{Min. Value}$$

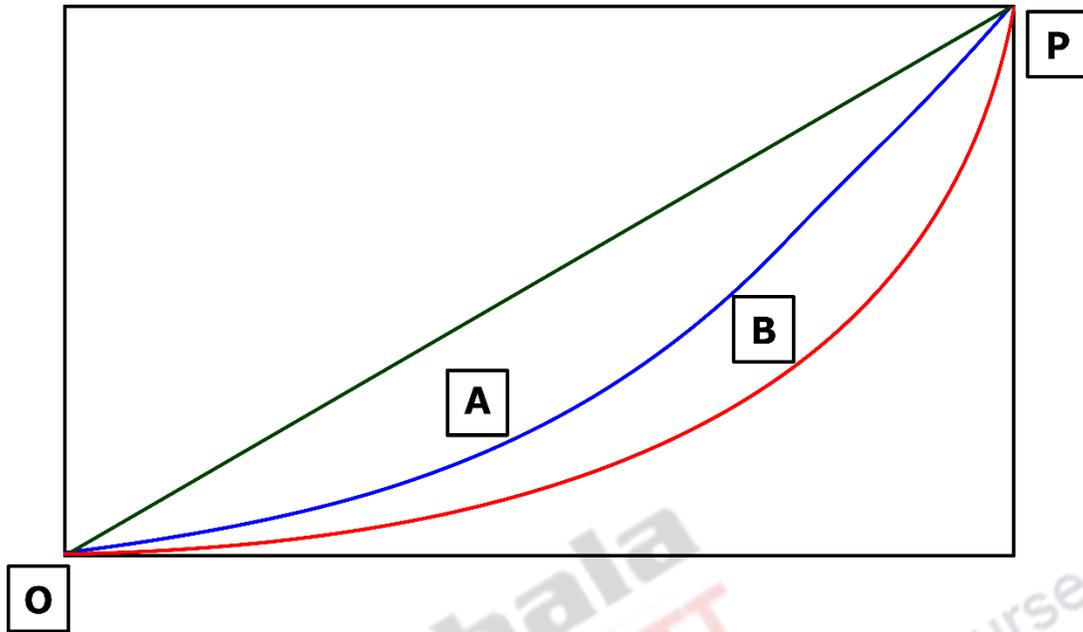
- **Standard Deviation-** It is the average of the sum of the square of its deviation of a series from its mean value.

$$\sigma = \frac{\sqrt{\sum (x_i - \mu)^2}}{n}$$

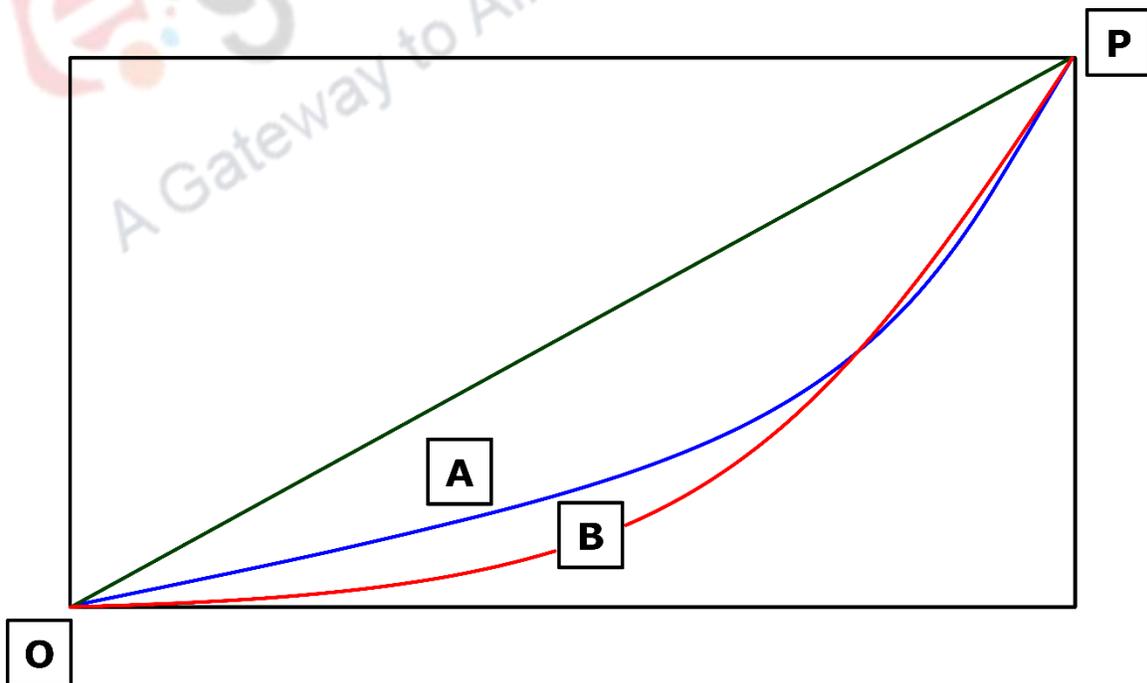
- **Absolute Mean Deviation** – It is a unit free measure of inequality and can be used to compare the inequality of two different groups. Its calculation takes the following steps. Calculate absolute difference between incomes of individuals and mean of income and multiply it with corresponding frequency of the data. Sum it up and divide the entire value by mean of the income. M.D. (about mean) =  $\frac{\sum f_i |x_i - \mu|}{\sum f_i x_i}$  where  $\mu$  is mean of the income distribution

- **Kuznet Ratios:** These are the pieces of the Lorenz curves and are measured in the ratio. For example it is expressed as the ratio of income of top 5% people to top 5% of people. If top 5% of rich people earns 30% of the total income in the society and bottom 5% people earn 2% of the total income the Kuznet ratio for this given information is 15. If a Kuznet ratio is greater than unity then it shows inequality. Higher the value of Kuznet ratio higher is the inequality.

- **Lorenz Curve:** It refers to the graphical representation of inequality. Individuals are arranged according to ascending order of income. The vertical axis measures the percentage of income in ascending order and horizontal axis measures the percentage of population in ascending order. The line inclined at 45 shows the equal level of distribution. Farther the Lorenz curve from the line of equality greater is the inequality. In the figure drawn below OP represents the line of equality and Lorenz curve B is much farther away from Lorenz curve A so it naturally shows higher income inequality as compared to Lorenz curve B.



However the Lorenz curve is subject two limitations. First it does not give a numerical value for measuring inequality and second in case two Lorenz curve cross each other it is not possible to compare two different income distributions as shown in the diagram below.



- **Gini Coefficient:** It is the popular measure of inequality which is widely used in empirical research. It takes all the observation into account and takes the interpersonal inequality. The value of Gini coefficient ranges from zero to unity. An equal distribution takes zero value while complete inequality takes unity value.

$$G = \frac{\sum \sum f_i f_j |x_i - x_j|}{2n\mu}$$

- **Kuznet Curve Hypothesis:** According to Kuznet curve hypothesis, there is an inverse relationship between economic growth and inequality. In the initial phase of economic development, income inequality rises with economic growth and then later it follows negative relationship with economic growth. In the initial stage of economic development, the concentration of income is in the hands of only few people as they possess the ownership of modes of production and others get only peanuts in the distribution of factor income. It is only when the government intervenes in the economic system through development programs for poor. Land distribution programs, employment generation, poverty elimination schemes, labour laws, instruments of progressive taxation, monopoly restriction, competition promotion act and efforts to check on black economy generation cause reduction in income distribution in the society.

## 12. Summary

In order to summarize there is mass poverty, unemployment and illiteracy among the under developed nations. There are various measures of economic development such as human development index, physical index and many more. Poverty is also a critical issue that we discussed and measured through the indicators of Head count ratio, Poverty Gap Ratio etc. This gives rises to inequality among the groups of people. Inequality itself can be measured through Gini coefficient and Lorenz Curve.