

Sustainable Development



Learning Objectives

Specific Expectations

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| AO2 | Explain the meaning of sustainable development |
| AO2 | Explain the sustainable development goals |
| AO2 | Explain the relationship between sustainability and poverty |
| AO2 | Explain the multidimensional nature of economic development |
| AO2 | Explain the use of single indicators including: <ul style="list-style-type: none">- GDP/GNI per capita at US\$PPP- Health and education indicators- Economic/social inequality indicators- Energy indicators- Environmental indicators |
| AO3 | Discuss strengths and limitations of the various approaches to measurement of economic development |
| AO3 | Discuss the relationship between economic growth and economic development |

Specific Expectations

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| AO2 | <p>Explain the use of composite indicators including:</p> <ul style="list-style-type: none">- Human Development Index (HDI)- Inequality-adjusted Human Development Index (IHDI)- Gender Inequality Index (GII)- Happy Planet Index |
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Sustainable Development

- **Sustainable development** development involving the use of resource in the present to meet present needs and wants in ways that do not deplete or degrade them, so that future generations will have enough resources to meet their own needs.
 - ▶ Refers to growth and development that does not deplete or degrade resources.
- **Sustainable Development Goals (SDGs)** are a set of seventeen goals that were developed by the United Nations.
 - ▶ Utilized by international organizations and national governments in their fight against poverty and efforts to achieve sustainable economic development.
 - ▶ The targets have one to three indicators used to monitor and measure a countries' progress toward achieving the goals and targets.

Sustainable Development Goals (SDGs)

1. End poverty in all its forms everywhere
2. End hunger, achieve security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Achieve gender equality and empower all women and girls.
6. Ensure availability and sustainable management of water and sanitation for all.
7. Ensure access to affordable, reliable, sustainable and modern energy for all.
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Sustainable Development Goals (SDGs)

9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10. Reduce inequality within and among countries.
11. Make cities and human settlements inclusive, safe, resilient and sustainable.
12. Ensure sustainable consumption and production patterns.
13. Take urgent action to combat climate change and its impacts.
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Sustainable Development Goals (SDGs)

- 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
- 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.



Economic Development

- **Economic development** refers to the process where increase in real per capita output and incomes are accompanied by:
 1. Improvements in standards of living of the population
 2. Reduction in poverty
 3. Increased access to goods and services that satisfy basic needs
 4. Improved gender equality
 5. Increased employment opportunities and reduction in unemployment
 6. Reduction of serious inequalities in incomes and wealth
- ▶ Increasing levels of output and incomes resulting from economic growth mean that societies can better satisfy the needs and want of their population and secure improvements in their standards of living.
- ▶ However, economic growth does not by itself guarantee that this will occur.

- ▶ There are three core values of economic development:

1. Life sustenance

- Refers to access to basic services (merit goods) such as education and health care services, as well as satisfaction of basic needs like food, clothing, and shelter.

2. Self-esteem

- Involves the feeling of self-respect; development provides individuals with dignity honour and independence.
- Self-esteem is related to the absence of exploitation and dominance associated with poverty and dependence.

3. Freedom

- Involves freedom from want, ignorance and squalor.
- It is freedom to make choices that are not available to people who are subjected to conditions of poverty.

Measuring Economic Development

- **Indicator** a measurable variable that indicates the state or level of something.
 - ▶ Economic development, being complex and multidimensional, is not accurately reflected in any single measure.
 - ▶ Indicators are extremely useful for:
 1. Monitoring how a country changes (develops) over time with respect to the attribute measured by the indicator
 2. Making comparisons between countries with respect to the attribute
 3. Assessing how well a country is performing with respect to particular goals or targets of development.
 4. Devising appropriate policy measures to deal with specific problems.

Measuring Economic Development – Single Indicators

1. **GDP per capita & GNP per capita**

- GNP per capita is a better indicator of the standards of living of a country, because it represents income per person received by residents.
- GDP per capita is a better indicator of the level of output per person produced in a country.

2. **GDP per capita & GNP per capita in terms of PPPs**

- Comparisons of GDP per capita (or GNI per capita) across countries require measures of per capita output or income based on conversions of national currencies into US\$ by use of purchasing power parities (PPPs), to eliminate the influence of price differences on the value of output or income.

3. **Health indicators**

- **Life expectancy at birth** is the average number of years of life in a population.
- **Infant mortality** refers to the number of infant death from the time of birth until age of one, per 1000 live births.

Measuring Economic Development – Single Indicators

- **Maternal mortality** refers to the number of women who die per year as a result of pregnancy-related causes, per 100,000 live births.
- ▶ The discussion of health indicators illustrates that:
 - GNI per capita (or any other income or output measure) is an insufficient indicator of health outcomes.
 - Most developing countries can improve health outcomes by reallocating resources towards the provision of more social services and merit goods, improving institutions through which these services are delivered, as well as reducing poverty.

4. Education indicators

- Education indicators measure levels of educational attainment.
- **Adult literacy** measures the percentage of people aged 15 or more in the population who can read and write.
- **Primary school enrolment** measures the percentage of school-aged children who are enrolled in primary school (elementary school).

Measuring Economic Development – Single Indicators

- **Lower secondary school enrolment** measures the percentage of children enrolled in the lower years of secondary school (high school).
- Countries can achieve universal literacy and universal primary education even if they have relatively low per capita incomes, provided their governments allocate enough resources to education services, and ensure that all children have access to these.

5. Economic inequality indicators

- **Lorenz curve** a curve illustrating the degree of equality (or inequality) of income (or wealth) distribution in an economy.
- **Gini coefficient (Gini index)** is a summary measure of income inequality and the information contained in the Lorenz curve of an economy.
- **Minimum income standards (MIS)** a method to measure poverty based on what the population believes are the essentials for a minimum acceptable standard of living that allows people to participate in society.
- **Multidimensional poverty index (MPI)** a composite indicator that measures poverty in health, education, and living standards.

6. Social inequality indicators

- Adolescent fertility rates
- Prevalence of undernourishment
- Inequality in life expectancy
- Inequality in education
- Gender inequalities
- Populations vulnerable to poverty
- Child malnutrition
- Infants lacking immunisation
- Child labour
- Old-age pension recipients
- Homeless people due to natural disaster
- Birth registration

7. Energy indicators

- These indicators are classified according to three dimensions:
- **Social dimension** includes share of households (or population) without electricity or commercial energy, or heavily dependent on non-commercial energy; Share of household income spent on fuel and electricity.
- **Economic dimension** includes energy use per capita; Renewable energy share in energy and electricity.
- **Environmental dimension** includes air pollution emissions from energy systems; Rate of deforestation attributed to energy use.

8. Environmental indicators

- Environment indicators help provide a description of developments affecting the environment that can be used to monitor changes and process toward meeting environmental objectives.
- CO₂ emissions per unit of GDP or per capita

- **Composite indicators** are summary measures of more than one dimension of development.

1. Human Development Index (HDI)

- The best-known and widely use index of the United Nations Development Programme (UNDP).
 - The HDI measures average achievement across three equally-weighted dimensions, with 0 being the lowest value for the dimension and 1 being the highest.
 - **Long and healthy life** is measured by life expectancy at birth
 - **Access to knowledge** is measured by mean years of schooling and expected years of schooling.
 - **Decent standard of living** is measured by GNI per capita (US\$ PPP).
- Comparisons between HDIs and GNI per capita:
- GNI (or GDP) per capita used alone can be a poor measure of the different dimensions of development.

Composite Indicators

- Many countries, even with their given levels of GNI per capita are capable of making significant improvements in the well-being of their populations by making different choices regarding the resources allocated to health, education, and other services or merit goods.
- Economic and human development issues apply not only to developing countries, but to developed countries as well.

2. Inequality-adjusted Human Development Index (IHDI)

- A composite indicator that measures human development in the same three dimensions as the **Human Development Index (HDI)** (income per capita, levels of health and education attainment), but each dimension is adjusted for inequality in the corresponding dimension.
- Attempts to measure losses in human development that arise from inequality.

3. Gender Inequality Index

- Measures inequalities between the genders in three dimensions measured by the following indicators with higher values corresponding to greater gender inequality.

Composite Indicators

- **Reproductive health** measured by the maternal mortality ratio (deaths per 100,000 live births); Adolescent birth rate (births per 1000 women ages 15 – 19).
- **Empowerment** measured by the share of parliamentary seats held by women; Proportion of women in the total population with at least some secondary education.
- **Labour market participation** measured by the proportion of women in the labour force.

4. Happy Planet Index (HPI)

- An alternative method to standard national income accounting that takes into account environmental sustainability and inequalities.
- It is a measure of sustainable well-being based on four dimensions, life expectancy, well-being, inequality of outcomes, ecological footprint.
- **Life expectancy** is the average number of years a person expects to live, based on United Nations data.

Composite Indicators

- **Well-being** is taken to be a population's satisfaction measured by data collected by the Gallup World poll
- **Inequality of outcomes** refers to inequalities between people with regard to life expectancy and well-being.
- **Ecological footprint** is the impact on the environment of each individual in a society on average. The higher the ecological footprint, the lower the HPI.
- The HPI is calculated for 140 – 150 countries, depending on data availability. Each country receives a score from 0 to 100.

$$\text{HPI} = \frac{\text{Life expectancy} \times \text{Well-being} \times \text{Inequality of Outcomes}}{\text{Ecological Footprint}}$$