

Resources for Teachers

LC Economics

1.3 Sustainability

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Sustainability

Definition

Sustainability focuses on meeting the needs of the present without compromising the needs of future generations. If natural resources are preserved, managed and ecological balance is maintained, then this will help **avoid the depletion** of these resources and make them **available for the future**.

Preserve
Manage
Maintain
Balance



Avoid
Depletion
Ensure future
resources



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The United Nations 2030 Agenda for Sustainable Development

The **United Nations 2030** agenda for sustainable development, adopted by all United Nations Member States in 2015, provides a **shared blueprint for peace and prosperity** for people and the planet, both now and in the future.

They call for **urgent action by all countries**, both developed and developing, in a global partnership, to work towards:

- ❑ ending poverty
- ❑ improving health and education
- ❑ reducing inequality
- ❑ improving economic growth
- ❑ tackling climate change
- ❑ preserving natural habitats.



It sets out **17 Sustainable Development Goals (SDGs)** for countries to achieve by 2030.



The 17 Sustainability Development Goals (SDGs)



1. **No poverty** - end poverty in all its forms everywhere
2. **Zero hunger** - end hunger, achieve food security, improved nutrition and promote sustainable agriculture
3. **Good health and well-being** - ensure healthy lives and promote well-being for all at all ages
4. **Quality education** - ensure inclusive, equitable quality education and promote lifelong learning opportunities for all
5. **Gender equality** - achieve gender equality and empower all women and girls
6. **Clean water and sanitation** - ensure availability and sustainable management of water and sanitation for all
7. **Affordable and clean energy** - ensure access to affordable, reliable, sustainable and modern energy for all
8. **Decent work and economic growth** - promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. **Industry, innovation and infrastructure** - build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation
10. **Reduced inequalities** - reduce inequality within and among countries
11. **Sustainable cities and communities** - make cities and human settlements inclusive, safe, resilient and sustainable
12. **Responsible consumption and production** - ensure sustainable consumption and production patterns
13. **Climate action** - take urgent action to combat climate change and its impacts
14. **Life below water** - conserve and sustainably use the oceans, seas and marine resources
15. **Life on land** - protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. **Peace, justice and strong institutions** - promote peaceful, inclusive societies for sustainable development, provide access to justice and build effective, accountable and inclusive institutions at all levels
17. **Partnerships for the goals** - strengthen the means of implementation and revitalise global partnerships.



The 17 Sustainability Development Goals (SDGs)

Tasks

1. Research into the United Nations sustainability goals and consider the impact the pandemic has had on the individual goals e.g., no poverty and zero hunger.

[THE 17 GOALS | Sustainable Development \(un.org\)](https://un.org/sustainabledevelopment)

2. Ireland has published a '**Sustainable Development Goals National Implementation Plan 2018-2020**' to provide a whole-of-government approach to implementing the goals. Read the plan and make notes on the main aims and strategies for delivery of the Sustainable Development Goals by the Irish Government.



Challenges for countries

There are a number of **challenges countries face in implementing** the 17 sustainability goals:

- ❑ **Time scale and action** - progress is being made in many places, but it is not advancing at the speed or scale needed, therefore a **decade of ambitious action** will be required to deliver the goals by the target date.
- ❑ **Finance** - countries need to **pledge finance** and secure more resources.
- ❑ **Local action** - countries need to **embed the goals into their policies, budgets, institutions** and regulatory frameworks of governments, cities and local authorities.
- ❑ **People action** - countries **need to get buy-in** from young people, the media, the private sector, unions, academia and other stakeholders, to generate the movement.
- ❑ **Difficult trade-offs** - choices will need to be made that involve winners and losers e.g., biodiversity could be threatened if forests are cut down to expand agricultural production for food security.
- ❑ **Instability** - **conflict** between nations and **political turmoil**. Countries that experience violent conflict are amongst the most vulnerable and face bigger challenges reaching the SDGs.
- ❑ **Governance/ political will** - to transform programmes into **sustainable long term policies**. This needs the stakeholders, e.g., government, MNCs, local and international NGOs to work together.



Sustainable development pillars

The goals can be categorised into 3 pillars - **economic, environmental and social sustainability.**

Economic sustainability

- Economic growth - GDP
- Employment
- Efficiency and competitiveness
- International trade
- Stability.

Social sustainability

- Social welfare
- Equal opportunities
- Strong education system
- Human rights.

Environmental sustainability



- Consumption of renewable/ non-renewable resources
- Waste
- Food
- Landscape
- Habitats.



Connections between economic, social and environmental sustainability

Economic sustainability includes economic growth but must ensure **fair taxation, employment and anti-discrimination laws** to meet **social** sustainability goals.

Economic sustainability must also include **climate action, energy efficiency and reduction in the use of carbon emissions** to satisfy **environmental** sustainability goals and include:

- ❑ More **sustainable packaging** materials 
- ❑ Encouraging and educating the population to **reduce, reuse, recycle** 
- ❑ Increase proportion of **alternative energy** and reduce reliance on fossil fuels.



Indicators for sustainability

Economic indicators

Economic indicators centre around the **indicators of economic growth** of a country:

- ❑ **Gross Domestic Product (GDP)** - the total value of national output in a country
- ❑ **Gross National Income (GNI)** - the income from all goods and services produced by nationals, whether in the country or not
- ❑ **Human Development Index (HDI)** - a measure of average achievement in key areas of human development e.g., **life expectancy, education and per capita income** (purchasing power parity with other countries). In the 2020 published HDI list, Ireland ranks as second in the world, behind Norway.

Economic growth

Life expectancy

Education

Income



Indicators for sustainability

Social indicators

Social indicators are used to assess how well a country is developing in key areas such as **life expectancy, health, education, crime rates and employment**:

- ❑ **Unemployment rates** - all those seeking work but are unable to find work
- ❑ **Crime rates** - are calculated by dividing the number of reported crimes by the total population
- ❑ **Estimates of life expectancy** - life expectancy at birth
- ❑ **School enrolment rate** - number of school age children enrolling in school, alongside average and expected years of schooling provided by a country
- ❑ **S80/S20 share ratio** - the ratio of total income received by the 20 % of the population with the highest income to that received by the 20% of the population with the lowest income
- ❑ **Gini index or Gini coefficient** - is a measure of **income inequality** that calculates the entire income distribution for a country into a single number between 0 (0%) and 1 (100%) the higher the number, the greater the degree of income inequality. A value of zero would indicate perfect equality of income.



Indicators for sustainability

Environmental indicators

Environmental indicators in Ireland, are a set of indicators, based around **environmental data** that allows for international comparison. There are **ten domains** that cover:

- ❑ **Global context** - comparing Ireland with other countries and world regions in terms of **population growth, life expectancy and greenhouse gas omissions**
- ❑ **Environmental economy** - revenue from **environmental taxation** in Ireland
- ❑ **Air** - air quality **tested for concentrations of emissions**. According to the CSO, air quality in Ireland has improved since 1990 for all indicators except ammonia
- ❑ **Greenhouse gases and climate change** - **data on emissions of greenhouse gases**. Although reducing over time, Ireland had the third highest emissions of greenhouse gases per capita in the EU in 2017 at 13.3 tonnes of CO2 equivalent, with agriculture being the sector with the highest emissions
- ❑ **Water** - **quality of water** in rivers, urban wastewater supplies and bathing water sites. Currently classified as good
- ❑ **Land use** - **percentage of land area** covered by forestry, cattle, and land farmed organically in Ireland
- ❑ **Energy** - proportion of **energy produced from renewable sources** compared to fossil fuels, particularly natural gas
- ❑ **Transport** - **comparing rail passenger figures** and km per capita travelled in Ireland, with the EU. Calculating the number of international passengers who travel through Irish airports
- ❑ **Waste** - data on municipal **waste generated** and the **recovery rate** for packaging waste in Ireland
- ❑ **Biodiversity** - the **index of common bird species** in Ireland and percentage of **land designated as terrestrial Special Areas of Conservation** or Protection under the 'EU Habitats Directive and Birds Directive'. Currently Ireland has one of the smallest designated areas in the EU.



Implications of sustainable development

Sustainable development that **meets the needs of the present, without compromising the needs of future generations**, requires **action** now by:

- ❑ **Individuals** and communities
- ❑ **Businesses**
- ❑ **Government** through government policy.



Implications of sustainable development



For individuals

Individuals can contribute positively to sustainable development by their actions, however small and can help to achieve Ireland's EU targets, in terms of reducing carbon emissions:

- ❑ **Reduce** - reduce the use of single use plastics and use reusable cups and containers
- ❑ **Recycle** - recycle as much household waste as possible to help reduce landfill
- ❑ **Reuse** - swap, buy goods second-hand and donate any unwanted items
- ❑ **Consume less** - keep goods for longer, repair if possible, rather than replace
- ❑ **Look at alternative methods of transport** - walk, cycle, sign up to bike-to-work schemes, use public transport or invest in an electric car
- ❑ **Reduce energy consumption** - by using more efficient energy sources e.g., smart home technology, LED bulbs, buy gas or electricity from renewable sources, insulate homes to reduce heat loss
- ❑ **Use less water** - buy energy efficient appliances e.g., showers, dish washers or washing machines that use less water
- ❑ **Eat local produce** - local produce has a lot less food miles than goods imported from abroad
- ❑ **Reduce carbon footprint** - carbon footprint is the amount of greenhouse gases, such as CO₂, produced by a person's activities which includes, work, travel, fuel, diet and energy usage.



Implications of sustainable development



For business

Businesses need to manage their impact on society and the **environment**. Some actions are:

- ❑ **Efficient waste disposal** - **waste separation** containers to sort recycling, organic compostable waste and other materials
- ❑ **Efficient energy usage** - **invest in green energy** such as renewables and green buildings, which are designed with the environment in mind and are cleaner and more efficient. Move away from the reliance on fossil fuels
- ❑ **Recyclable packaging** - pack products in **recyclable packaging** and reduce the use of plastics. Phase out use of any plastics that cannot be recycled
- ❑ **Use cleaner, alternative methods of transport** - encourage employees to use bike-to-work schemes or public transport and invest in more energy efficient vehicles or transport methods, for distribution of goods
- ❑ **Equal opportunities** - businesses have a duty to promote inclusive sustainable development and **provide employees with equal voices, choices, and opportunities.**



Implications of sustainable development



For government policy

The Government of Ireland is committed to achieving sustainable development, by incorporating the sustainable development goals (SDGs) into every aspect of social, economic and environmental policy.

Some actions for the **sustainability of public finances and economic resilience** are:

- ❑ **Investment in the 'Green economy'** - a focus towards a green economy and the **phasing out of environmentally or economically harmful subsidies**. There is an allocation of €21.8bn will go towards measures to help Ireland move to a low carbon and climate resilient society as part of the 'National Development Plan 2018 – 2027'
- ❑ **Measures of economic progress** - integrate **environmental and social indicators** into measures of economic progress
- ❑ **Environmental policy and regulation** - set **targets for pollution emissions**, tax heavy polluters and penalise producers of large amounts of carbon dioxide
- ❑ **Environmental tax reform** - develop a framework for **environmental tax reform**. Introduce taxes for practices that negatively impact on the environment i.e., plastic bag tax; landfill tax; congestion tax on cars into Dublin City
- ❑ **User charges for resources** - for example with the introduction of **domestic water charges**
- ❑ **Investment in alternative transport** - **incentivise transport that is more environmentally friendly** e.g., subsidise electric cars and develop infrastructure for electric vehicles. Phase out the use of fossil energy in transport systems e.g., provide a scrappage scheme for older taxis to be replaced by electric vehicles, or invest in green buses.



Sustainable consumption and production



- ❑ **Waste management** - moving Ireland away from an overdependence on landfill to alternative treatments
- ❑ **Resource efficiency** - work to ensure the effective implementation in Ireland, in line with the development of the 'EU Roadmap to a Resource Efficient Europe' by 2050
- ❑ **Green tenders** - an action plan on **green public procurement**, where public authorities try to obtain goods or services, that have a reduced environmental impact throughout their life-cycle e.g., recycled paper, energy efficient computers, low energy buildings, low emissions cars, energy from renewable sources etc.
- ❑ **Conservation and management of natural resources** - with a **focus on caring for the environment** and saving and protecting nature, wildlife and resources
- ❑ **Encourage more efficient use and production of clean energy** - offer **tax incentives to households to switch to alternative sources of energy**, such as solar panels and offer home improvement grants e.g., to encourage home insulation or more efficient heating systems
- ❑ **Sustainable agriculture** - to support farmers and encourage them to use **sustainable and environmentally friendly practices**, processing and production and to maintain the soils and biodiversity of the land
- ❑ **Sustainable transport** - to help **reduce carbon emissions** and encourage the use of public transport
- ❑ **Social inclusion** - **planning for more sustainable communities** and spatial planning in towns and cities
- ❑ **Education, communication and behaviour change** - to make **consumers and businesses more aware** of the possible impact of their actions on the environment using information campaigns.



Exam question – 2020 Q13 sample paper

Question 13

Lego is to invest \$400 million to accelerate sustainability.

Adapted from www.lego.com

- (a) (i) **Sustainability** is a key concept in our study of Economics.
Explain the term 'sustainability'.



Answer – 2020 Q13 sample paper

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Explain the term 'sustainability'.

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Exam question – 2020 Q13 sample paper

- (ii) Discuss the challenges countries may face in trying to implement the 17 Sustainable Development Goals of the United Nations.



Answer – 2020 Q13 sample paper

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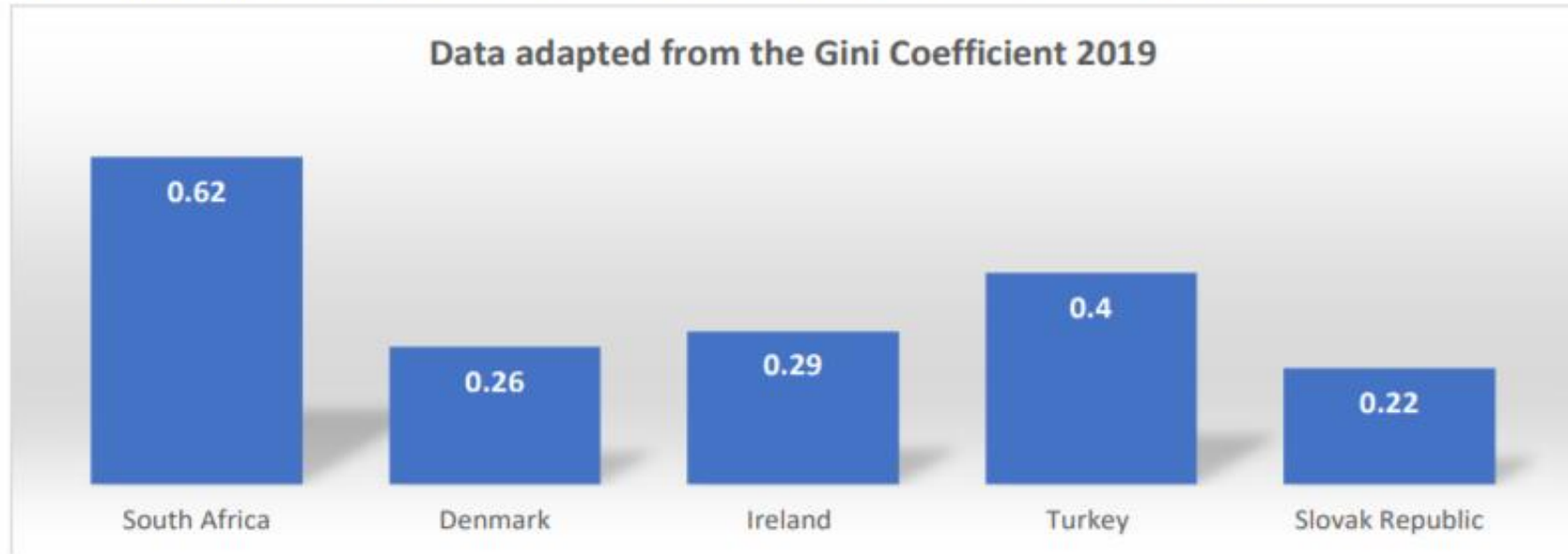
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Exam question – 2020 sample paper

(b) The graph below shows data adapted from the Gini Coefficient for 2019



(i) Using the data in the diagram above, name the country which is the **closest** to perfect inequality of income and which country is **closest** to perfect equality of income.

Country closest to perfect inequality of income:

Country closest to perfect equality of income:



Answer – 2020 Q13 sample paper

Gini coefficient is a measure of the distribution of income across a population and is often used as a gauge of **economic inequality**. The lower the number, the more equal the society. The Gini coefficient ranges from **0** to **1** (or 0% - 100%), with 0 representing **perfect equality** and 1 representing **perfect inequality**.

Data adapted from the Gini Coefficient 2019



- (i) Using the data in the diagram above, name the country which is the **closest** to perfect inequality of income and which country is **closest** to perfect equality of income.

Country closest to perfect **inequality of income** is **South Africa**
Country closest to perfect **equality of income** is **Slovak Republic**



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