

DP IB Environmental Systems & Societies (ESS): HL

10.1 Introduction to Environmental Economics

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- * Definition & Purpose of Environmental Economics

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Definition & Purpose of Environmental Economics

Basics of Economics

- Economics is the study of how people make choices about **what to produce**, how to **distribute goods and services** and how to **use** them
 - It examines how individuals and societies allocate **scarce natural resources** to satisfy their wants and needs
 - This is sometimes referred to as the economic problem
 - Economics explores both individual decision-making and collective behaviour in markets and economies

Supply and demand

- Supply refers to the quantity of a good or service that **producers** are willing and able to **offer for sale** at different prices
- Demand refers to the quantity of a good or service that **consumers** are willing and able to **buy** at different prices.
- The **interaction** of supply and demand determines the equilibrium price and **quantity** in a market
 - For example, if the price of smartphones decreases, the demand for smartphones may increase because more people can afford to buy them

Market interaction

- Markets are any location or platform (both physical and virtual, i.e. online) where buyers and sellers come together to **exchange goods and services**
- Market interaction involves the exchange of goods and services based on the forces of **supply** and **demand**
 - For example, in a farmer's market, farmers supply fresh produce, and consumers demand fruits and vegetables
 - The prices are determined by the balance between what farmers are willing to sell and what consumers are willing to pay

Examples of Markets

Market Type	Description
Housing Market	Prices determined by supply of houses for sale and demand from buyers
Labour Market	Wages determined by supply of workers and demand from employers
Stock Market	Stock prices influenced by supply of shares and demand from investors
Agricultural Market	Prices determined by supply of agricultural products and demand from consumers
Foreign Exchange Market	Prices of currencies determined by supply of and demand for different currencies

Introduction to Environmental Economics

- Environmental economics is a branch of economics that applies **economic principles** to **environmental issues** and the management of natural resources
 - It aims to understand how human activities impact the environment and how **economic policies** can be designed to achieve sustainable outcomes
- For example, consider the market for renewable energy:
 - As the demand for clean energy sources increases due to concerns about climate change, environmental economics helps to analyse which **incentives** and **policies** are needed to promote the development and adoption of renewable technologies

Technocentrics vs. ecocentrics

- Technocentrics believe that advancements in science and technology can solve environmental problems **within the existing economic framework**
 - They emphasise the role of innovation in developing modern technologies to address environmental challenges (and therefore reduce their economic impacts)
 - For example, technocentrics may argue that investments in carbon capture and storage technologies can help mitigate greenhouse gas emissions from industries like power generation and manufacturing
- On the other hand, ecocentrics support a more holistic approach that prioritises fundamental changes in human behaviour towards sustainable living
 - They do not believe that environmental problems can be solved within the existing economic framework
 - They emphasise the importance of living in harmony with nature rather than relying solely on technological solutions
 - This may require **challenging or transforming existing economic systems and practices**
 - An example of this perspective is the promotion of **sustainable lifestyles**, such as minimalism and zero-waste living, which aim to reduce consumption and minimise environmental impact

Perspectives on solutions

- The existing economic system often relies on the belief that scientific and technological advancements will be sufficient to address environmental challenges
 - This perspective is demonstrated by policies and initiatives that focus on **developing modern technologies to mitigate environmental impacts**
 - For example, government subsidies for electric vehicles and renewable energy projects aim to incentivise technological innovation and reduce dependence on fossil fuels
- In contrast, supporters of environmental economics argue for a shift towards sustainable and responsible human behaviour as a solution to environmental issues
 - This approach is demonstrated by policies and initiatives that **prioritise environmental protection and social well-being over economic growth**
 - An example of this approach is the use of environmental regulations that restrict harmful activities and promote sustainable resource management, e.g. regulations on emissions standards for vehicles, which aim to reduce air pollution and improve public health