YOUR LOGO

SUSTAINABLE DEVELOPMENT

FACULTY OF ECONOMICS, THAMMASAT UNIVERSITY

MODULE 13

Semester 2 2022

EE463 Globalization and International Development

SUSTAINABLE DEVELOPMENT

What is sustainable development?

"Development that meets the needs of the present without compromising the ability of future generations to meet their needs"

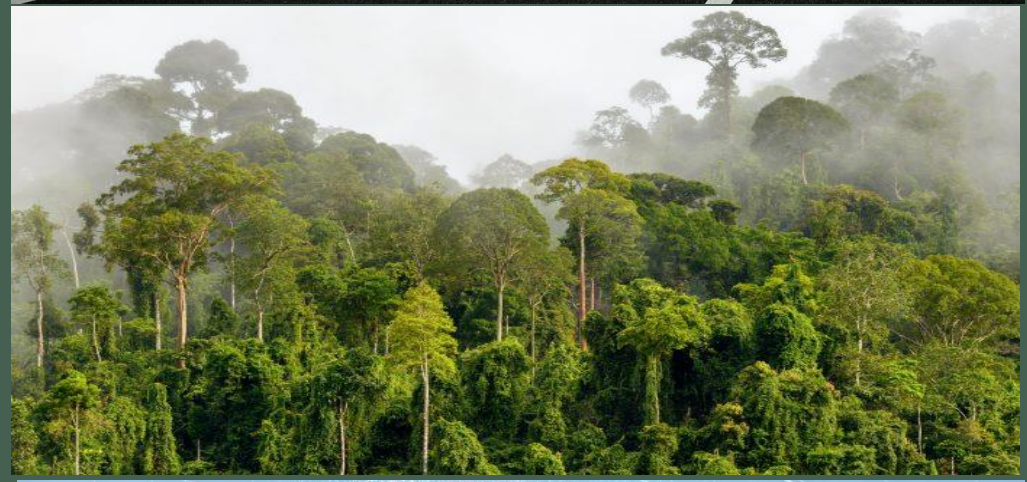
Brundtland Commission, 1987

What sustainable development addresses

- Sustainable development addresses issues of intergenerational equity, whereby the well-being of future generations should not be compromised
- Ensuring maintained comprehensive wealth for future generations

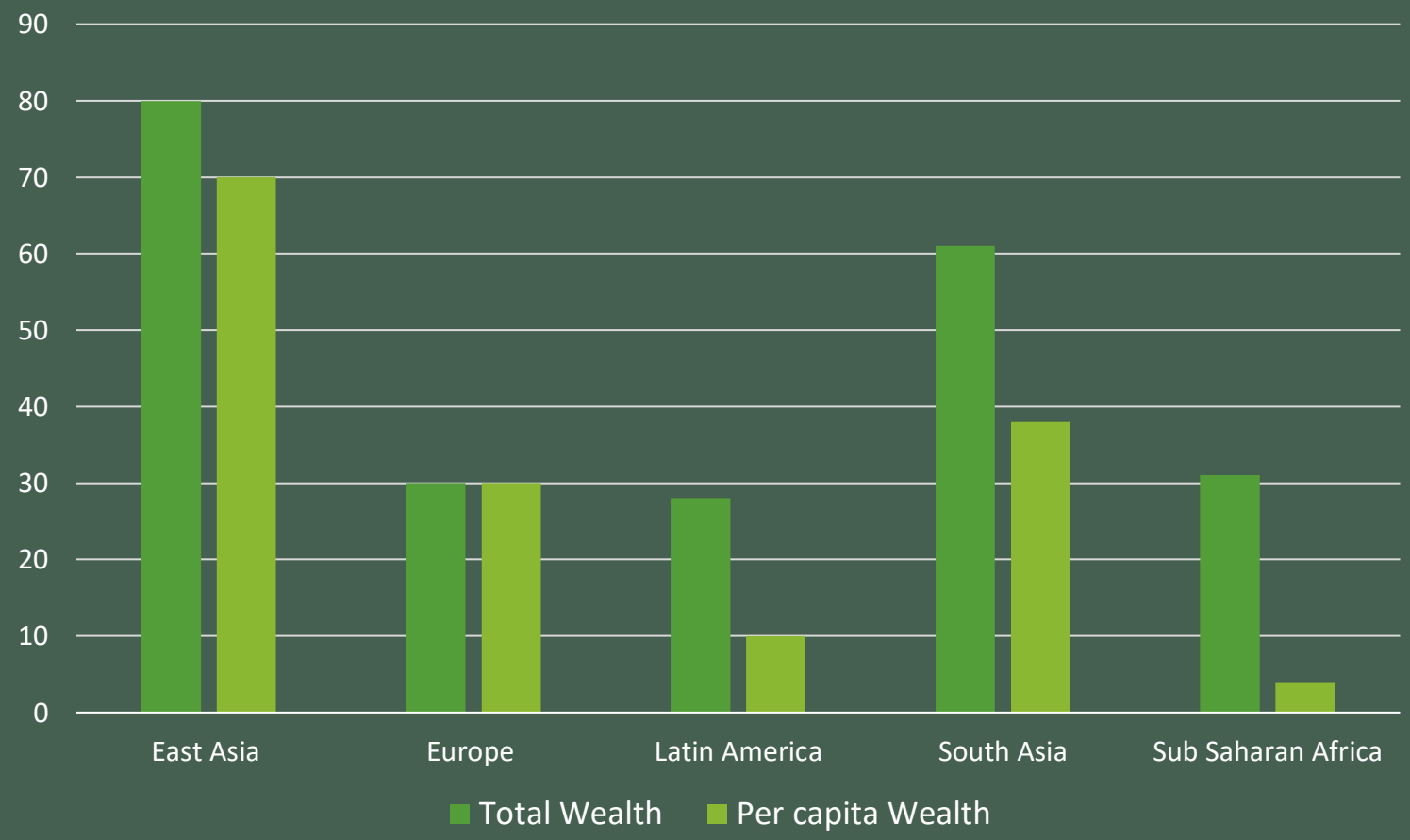
Comprehensive wealth

- Produced capital: buildings, roads, machinery, equipment
- Natural capital: minerals, fossil fuels, forests, land
- Intangible capital: human, social and institutional capital



Growth in total and per capita wealth

From 1995-2015, globally total wealth grew by 34% and per capita wealth by 17%



Evolution of “unsustainable development”

- Industrial revolution: beginning of mass production
- Growth fueled by energy and natural resources
- Result: widespread pollution and depletion of natural resources

Impacts of development

- Deforestation
- Habitat destruction
- Soil loss and erosion
- Water pollution
- Overfishing
- Overhunting

ECONOMICS AND THE ENVIRONMENT

Development needs natural resources

Economic and man made activities affect the environment in many ways:

- Environmental resource extraction
- Population pressure on land
- Emission of greenhouse gases

Natural resource extraction

- Increased economic activity
- Growing consumption
- Damage to soil, water supplies and forests

Population pressure in rural areas

- Population increase
- Increased demand for land and natural resources
- Diminishing returns
- Falling farm productivity and per capita food production

Greenhouse gas (GHG) emissions

- Increased demand for fossil fuels
- Increased GHG emissions
- Global warming and climate change

Role of technology

- Technological change affects efficiency of resource use
- Technology improves processes, products and outcomes
- Technology could slow down environmental destruction

Examples of effects of technology

- Green revolution: new hybrid seeds and farming methods
- Recycling of solid waste
- Use of “clean” energy to replace fossil fuels
- Use of bio-fuels

ENVIRONMENTAL POLICIES

Incorporating environment considerations in policymaking

- Environmental considerations should integrated into policymaking processes
- At the global level: United Nations Sustainable Development Goals (SDG) 2030
- At the national level: environmental policies, plans and strategies

UN Sustainable Development Goals 2030

- Emphasizes the environment and sustainability of natural resources
- Objectives: to alleviate poverty; maintain health, acquire food and agriculture products, ensure water and sanitation, human settlements, energy, and climate change

UN Sustainable Development Goals 2030

The 17 Sustainable Development Goals (SDGs) aim to end poverty, protect the planet, and ensure peace and prosperity for all

National level environmental policies

National-level environmental policies mainly deal with market failure; some examples:

Examples of market failures:

- Pollution generated by a factory
- Extraction of natural resources (forestry, fisheries, mining)
- Smoking
- Overfishing

What is market failure?

Market failure: costs borne by society but not by individual producers

It happens because individuals and firms make decisions that maximize their profits disregarding its social costs

Market failure cannot be addressed by the private sector; this requires government intervention

Addressing market failure

- Market failure = negative externality
- Corrective measures require government intervention: policies and regulations
- Interventions: assigning property rights;
  regulations, taxes and fees;
  and marketable permits

Property rights

- Common properties generate external costs because no one owns or controls the right to exploit them
- Issuing property rights to an individual will provide incentives to manage the common resource
- As long as the firm sells output in a competitive market, no government intervention is needed

Government regulation

- Government can be owner or regulator of common goods
- Examples: limiting quantity, regulating emission levels, imposing fines
- Imposing regulations will lead to increased cost lower production and increased benefits to society

Taxes and environment fees

- Government could achieve optimal rates of resource use by imposing taxes/fees that reduce the incentive to produce or use common properties
- Taxes could be imposed on output that represents external cost of production
- Example: cigarette tax, gasoline tax

Marketable permits

- Grants the holder the right to harvest a common resource up to a given limit or giving producers the license or right to pollute the environment up to specified amounts

Examples of marketable permits

- US sulfur dioxide reduction scheme; tradeable permits are bought and sold by polluting firms
- Iceland and New Zealand revived fishing stocks by assigning fishing rights at sustainable level by allowing fishers to trade their quotas freely

Subsidies

- Subsidies could be applied to encourage positive externalities
- For example, higher education does not only benefit the individual, but knowledge gained spills over to society

Conclusion

- Humans depend on the environment; however human activities often end up destructing the very resources they need to survive
- Sustainable development has been defined as “development that meets the needs of the present generation without compromising the ability of future generations to meet their needs”
- There is a strong link between economics and the environment; they are not necessarily mutually exclusive

Conclusion

- Much of negative environmental effects of economic activity result from externalities, whereby social costs are not included in firms' profit maximizing decisions
- Policy solutions to address the problem of negative externalities include the creation of property rights, government regulation, taxation, and creation of marketable permits

THANK YOU!