

Economics of Sustainable Management

1. Introduction



Tento projekt je spolufinancován Evropským sociálním fondem a Státním rozpočtem ČR InoBio – CZ.1.07/2.2.00/28.0018

Study literature

- Bennet, Blamey; *The Choice Modeling Approach to Environmental Valuation*, Edward Elgar, 2001
- Bringezu et al; *Sustainable Resource Management*, Greeleaf, 2009
- Champ et al; *A Primer on Nonmarket Valuation*, Kluwer Academic, 2003
- Grafton et al: *The Economics of The Environment And Natural Resources*, Blackwell Publishing, 2004
- Haab, McConnell; *Valuing Environmental and Natural Resources*, Ed. Elgar, 2002
- Klemperer; *Forest Resource Economics and Finance*, McGraw-Hill, 2003
- Krott; *Forest Policy Analysis*, Springer, 2005
- Todaro, Smith; *Economic Development*, Pearson, 2009
- Poore; *Changing Landscape*, Earthscan, 2003

Alternative approach (de-growth (décroissance))

- Schumacher E.F. (2000): *Small Is Beautiful: Economics As If People Mattered*, 288 p., ISBN 80-7239-035-X
- Latouche S. (2006): *Farewell to growth*, Polity Press, 2009
- Milison B. (1979) *Permaculture Two: Practical Design for Town and Country in Permanent Agriculture*, Tagari Publications
- Hopkins R. (2011) *The Transition Companion*
- More on <http://www.schumachercollege.org.uk/learning-resources/books>

Basic terms - NATURE vs ENVIRONMENT

Introduction

Nature - it is all matter and energy, especially in basic, unaffected by human form (what surrounds us)

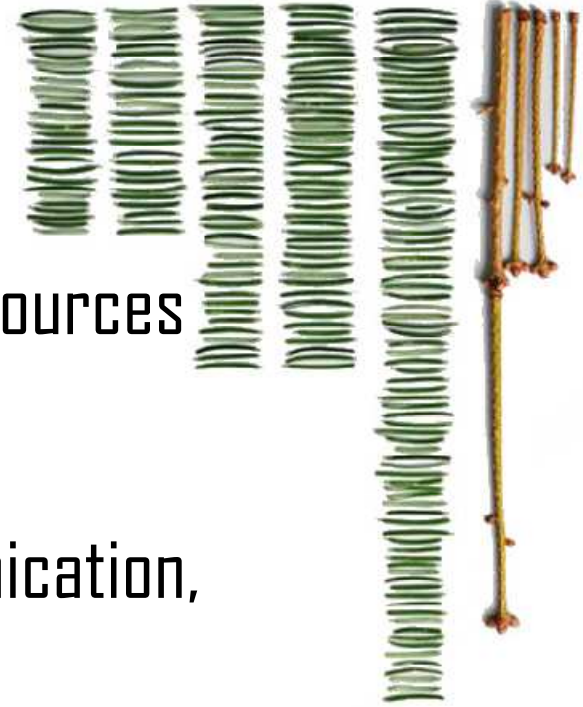
primary - unaffected by human // *secondary* - reshaped human

Environment - "*The environment is everything that creates natural conditions for the existence of organisms including humans and is a prerequisite for their further development. Its components are mainly air, water, rocks, soil, organisms, ecosystems and energy.*"

The environment provides

Introduction

- **inputs** for economic activity - natural resources
- **habitat** for industry, agriculture, communication, residential office, etc.
- **place for residues** from production and consumption,
- consumables and non-material **goods**



Ecology - is a natural discipline investigating the relationships *between living organisms and the environment* in which it is located (habitat).

Environmental studies - is the science of utilizing knowledge of *various scientific disciplines*. Includes *conservation, environmental monitoring, natural resource use, energy use health care, human population, pollution prevention and remediation of environmental damages* and *prevent* unwanted interference.



- Renewable resource: parts of our natural environment and form our eco-system (forest, biomass); **can be replaced** by human efforts, for other people to enjoy
- Non-renewable (exhaustible) resource: limited supply, can not be replaced or reproduced (mineral resources) once it has been extracted and used

- Tide ?, Geothermal energy ?

Differences between these two kinds of natural resources have a lot to do with where they're from!

- IRENA (International Renewable Energy Agency, 2008)

- **Sustainable resources: are replenished** at a rate equal to, or greater than, the rate of consumption. This may be done either by natural processes, or by human-engineered methods, often mandated or at least promoted by a governmental body. May also be considered as a resource whose use **does not deplete its supply.**
- **Unsustainable resources:**
- **ARTICLE: There's nothing new under the sun** <http://sustainablehistory.wordpress.com/2011/03/29/the-surprising-history-of-sustainable-energy/#more-7>

Resources

Renewable

Non-renewable
(exhaustible)

Flow of renewable
energetic resources

Stores of renewable
exhaustible resources

Stores of
renewable
biological
resources
(forest, animal
population,
biomass, etc.)

Stores of
renewable
physical
resources
(ozone layer,
soil structures,
etc.)

Mineral resources

(coal, offshore oil, gas, sand oil,
soil, water, metals)

Q1: Can you think of how old, used short pencils might get recycled?

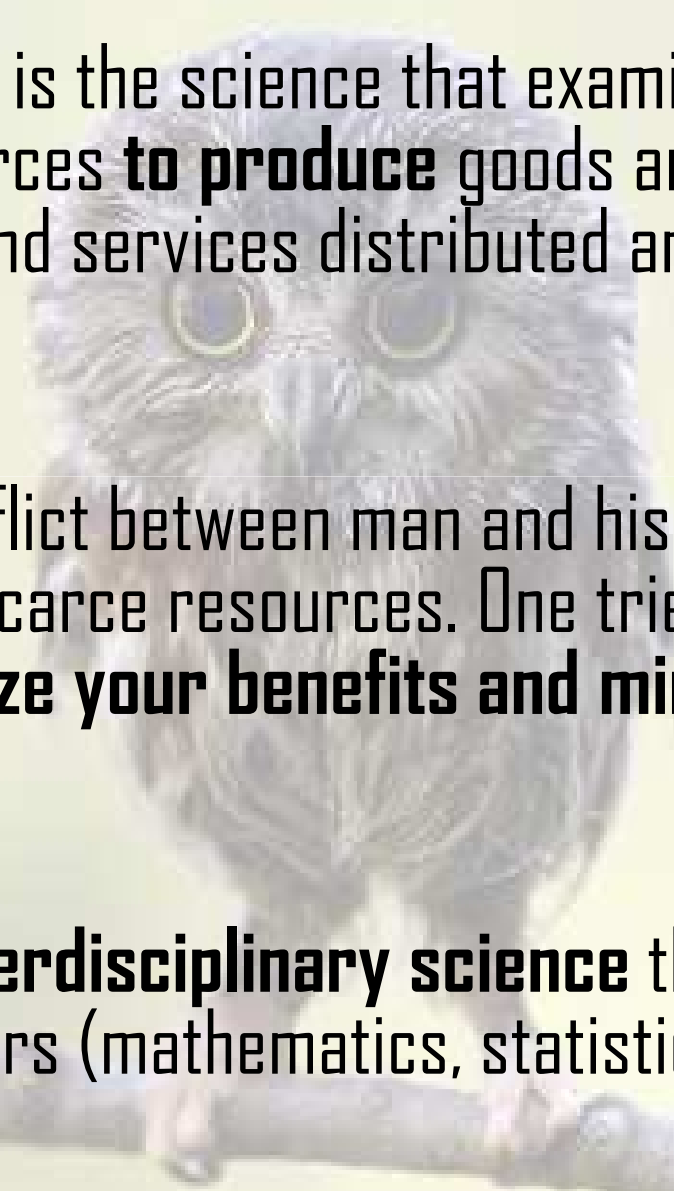
Q2: What about Al-cans and plastic (made from petroleum oil) ?

Sustainable resource management (SRM)

- is management that meets the resource needs of today without compromising the ability of future generations to meet their needs

*„Sustainability is more than an ideal,
it is a way of living“.*



- **Economic theory (economics)** is the science that examines how people **distribute** scarce resources **to produce** goods and services and how these goods and services distributed and exchanged.
 - The subject of economics is conflict between man and his ever-growing needs and limited and scarce resources. One tries to behave rationally, i.e. to **maximize your benefits and minimize your effort**.
 - Economics has the nature of **interdisciplinary science** that uses the findings of many other sectors (mathematics, statistics, philosophy, sociology, etc.).
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What best describes the basic problem of standard economics:

- A) Employment
- B) Prices
- C) Market
- D) Money
- E) Rarity and the ensuing need of choice

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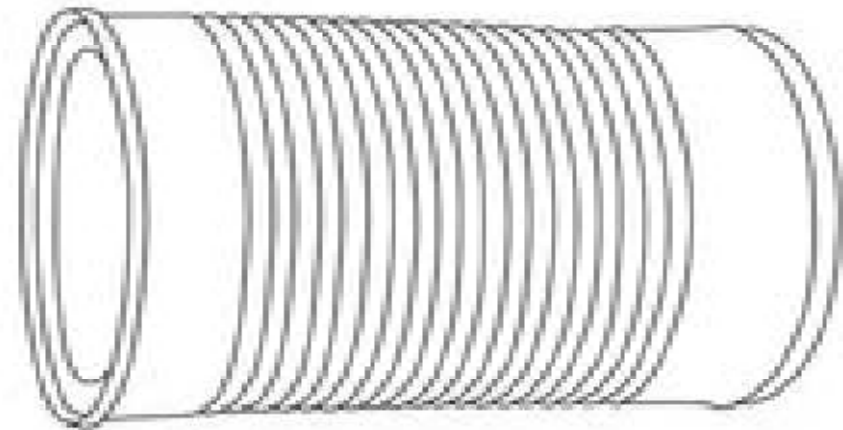
D) Money

E) Rarity and the ensuing need of choice

Microeconomics examines the economic phenomena from the perspective of businesses market

Macroeconomics examines the economic phenomena in terms of the economy as a whole, uses aggregated variables

Economy as a whole can be fully understood only by a synthesis of the two views.



Which of the following situations is concerned with the microeconomics and macroeconomics?

- A) At the beginning of 80-ies France faced a large-scale unemployment
- B) The company will invest in the case of high return on investment
- C) Introduction of higher excise duties on alcohol will cause it to lower consumption
- D) Disadvantage in business individuals is their own insurance

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- D) Disadvantage in business individuals is their own insurance assets.

Two basic approaches

Introduction

- in economic thinking (from the economic (problems) point of view), there are two basic approaches: *positive* and *normative*
- **Positive economics** take economic **reality as it is** and try to analyze as closely as possible the economic facts of life. It deals with such phenomena, scientific methods that **are identifiable and verifiable**.
- **Normative economics** is based **on value judgments** and are interested in it except for the problem of the efficient functioning of the economy also issues of **social, ethical and universally human**.



Decide what is positive and what normative approach:

1. Poor people should not pay any taxes at all.
2. Lower price of the beer "GAMBRINUS" leads to higher consumption.
3. The unemployment rate in 2009 in Bhutan was 5%.
4. The unemployment rate should never exceed 5%, then it constitutes a fundamental social problem.
5. The rate of income tax in France is estimated as slightly progressive.

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- **Economics**: the study of how best to **allocate or distribute resources to maximize human well-being**
- is concrete, examines the area of social practice, addressing the practical functioning of the economic life of society
- *„A social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources to satisfy their unlimited wants“.*

- **Economic goods and services are results (outputs) of economic (production) processes.**

Depending on the nature of these processes we distinguish sectors :

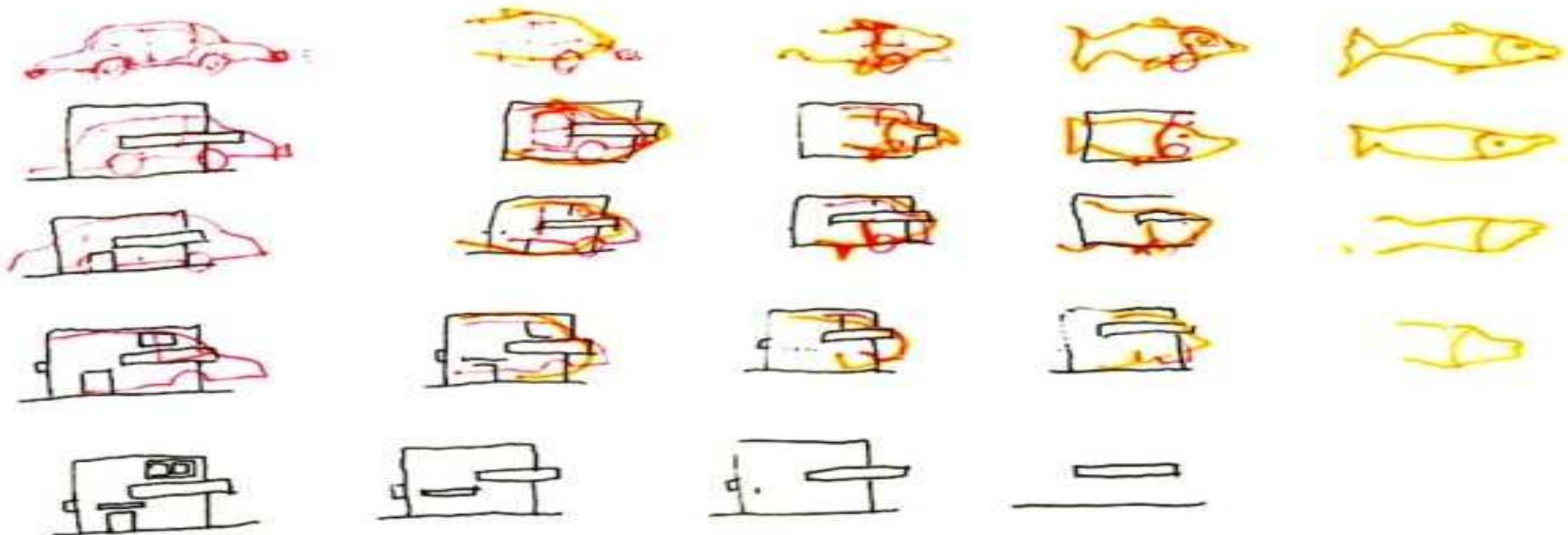
1. **primary** - directly related to natural resources,
2. **secondary** - *manufacturing*, processing output includes the primary sector,
3. **tertiary** - the provision of *services* of any kind
4. ?

Basic terms ECONOMIC CATEGORIES

Introduction

Economic categories are basic **economic concepts**, expressing the **essential characteristics** of economic phenomena and processes or expressing their external form.

estate, service, goods, money, capital, rent, wages, need etc.



- The **need** is indication that the economic entity feels shortage and making efforts to overcome it.
- Economic entity acquires by goods **consumption** benefit.
-
- Useful activities performed by people for other people, **services**, things used to satisfy the needs refer to as **goods**.
- **Utility** is a subjective term, and therefore from the same farm goes to different bodies different benefits.

- *„The reason for the existence of economics is the fact that **what people need, want or desire** is not freely available in unlimited quantity“.*
- **Economical (rare) goods** - items that **are limited** or that **must be produced** to be available at all
- Goods - rare x free x public x etc.

Which of the following goods is always free :

- 1. drinking water**
- 2. clean air in the city**
- 3. air in the desert**
- 4. roads and highways**

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Economic process

Introduction

- Economic process create goods and services that meet the individual and society needs.
- It has four successive phases:



- Production
- Distribution
- Exchange
- Consumption

Factors of production

Introduction

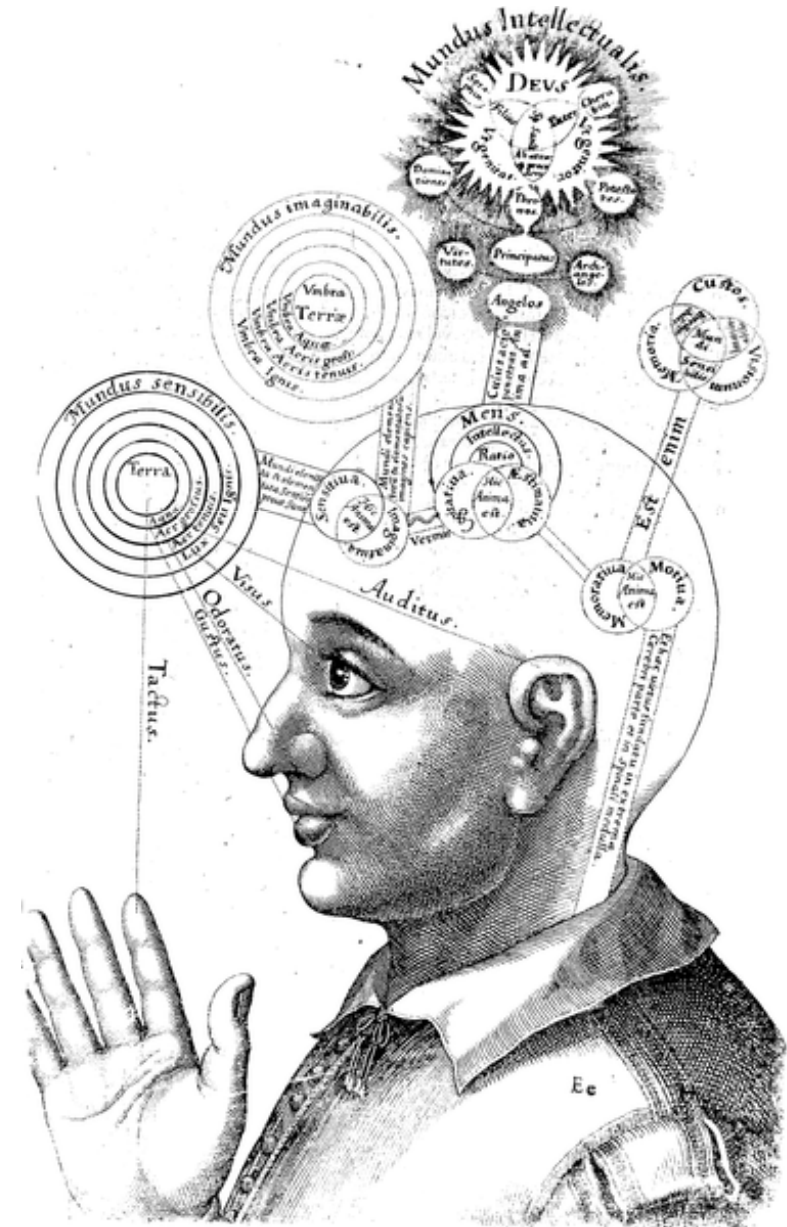
- Factors of production (3 base):

1. **soil** - natural products, incl. soil
2. **work** - human activity
3. **capital** - goods and services that assist in the production of other goods
4. (4 factor - knowledge, information, energy, entrepreneurship, etc.)

- Factors of production have their price - rent, wages (salary), interest or profit

Economics subjects:

1. Household
2. Enterprise (firms)
3. State (government)
4. Bank
5. Foreign entities



Basic QUESTIONS

Introduction

- economic entities are commonly facing with basic issues :
- **WHAT AND HOW MUCH TO PRODUCE?** - definition of the structure and quantity of production,
- **HOW TO PRODUCE?** - determination producing entity, method of manufacture, the identification of sources and instruments of production,
- **FOR WHOM?** - rules, according to which products are divided to consumers





Thank you.