Ecological Economics

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1. Standard economics and biophysical constraints

Topics:

- GDP
- homo oeconomicus
- economic growth theory
- Material and energy flows
- Dematerialisation, Jevons' paradox
- The Environmental Kuznets Curve (EKC)

Reading:

Christensen, P.P., 1989. Historical roots for ecological economics - Biophysical versus allocative approaches. Ecological Economics, 1: 17-36.

Recommended:

Proops, J.L.R., 1989. Ecological Economics: Rationale and problem areas. Ecological Economics, 1: 59-76.

Questions:

- How was economics dealing with material and energy flows in its analysis?
- Which have been the complications?
- Can the economy grow forever? Why?

2. Sustainable Development

Topics:

- Roots of Ecological Economics
- Brundtland and Sustainable Development
- Weak vs. Strong Sustainability

Reading:

Constanza, Robert, Bernard C. Patten, 1995. Defining and predicting sustainability. Ecological Economics, 15: 193-196

Harris, Jonathan M., 2003. Sustainability and Sustainable Development. Internet Encyclopaedia of Ecological Economics http://www.ecoeco.org/publica/encyc.htm

Recommended:

Dietz, Simon, Eric Neumayer, 2007. Weak and strong sustainability in the SEEA: Concepts and measurement. Ecological Economics, 61: 617-626

El Serafy, Salah, 1997. Green accounting and economic policy. Ecological Economics, 21: 217-229.

Ayres, Robert U., 2007. On the practical limits to substitution. Ecological Economics, 61: 115-128

Bartelmus, Peter, 2003. Dematerialization and capital maintenance: two sides of the sustainability coin. Ecological Economics, 46: 61-81

World Commission on Environment and Development (1987): Our Common Future, The Brundtland-Report. Oxford: Oxford University Press.

Questions:

- What kind of definition for "sustainable development" would you formulate?
- What is economic sustainability about and where do you see conflicts with other concepts or goals?
- What are the underlying arguments of weak and strong sustainability?

3. Population and natural resources

Topics:

- Malthusian arguments
- Carrying capacity applied to humans, IPAT
- Poverty and the environment, Lawrence Summers' principle

Reading:

Daly, H. E., 2002. Reconciling the Economics of Social Equity and Environmental sustainability. Population and Environment, 24 (1): 47-53.

Recommended:

Haberl, H., Erb, K-H., Krausmann, F., 2001. How to calculate and interpret ecological footprints for long periods of time: the case of Austria 1926-1995. Ecological Economics, 38: 25-45.

UN Population Fund (1 page) http://www.unfpa.org/swp/2004/english/ch3/index.htm

Questions:

- Is there a carrying capacity for human beings?
- Are poorer populations responsible for damaging the environment (i.e. deforestation)? Are they 'under polluted'?
- Is economic growth and wealth the solution?

4. Distributional conflicts

Topics:

- Political Ecology
- Externalities as cost-shifting success

- Different environmental movements: deep ecology, eco-efficiency, and environmental justice
- Property rights and resource management
- Unequal ecological exchange
- Ecological Debt

Reading:

Martinez-Alier, Joan, 1995. Distributional Issues in Ecological Economics. Review of Social Economy, 54

Recommended:

Martinez-Alier, Joan, 2002. The Environmentalism of the Poor. A Study of Ecological Conflicts and Valuation. Cheltenham UK, Northampton MA USA: Edward Elgar.

Questions:

- Is the ecological debt concept tenable?
- Do you see ecological movements throughout the world as tools to internalise externalities?

5. Tools of environmental policy

Topics:

- Coasian negotiation: Tradable permits and the Kyoto Protocol
- Environmental taxes
- Demand-driven policies: the case of energy conservation
- Distributional issues: a carbon tax

Reading:

Pearce, David, 1991. The Role of Carbon Taxes in Adjusting to Global Warming. The Economic Journal, 101: 938-948

Recommended:

Jaeger, William K., 2003. Environmental taxation and the double dividend. Internet Encyclopaedia of Ecological Economics http://www.ecoeco.org/publica/encyc.htm

Barker, Terry, 1997. Taxing Pollution instead of Jobs. In: Timothy O'Riordan (Ed.), Ecotaxation. London, EarthScan Public.

Questions:

- What are economic externalities and what is a Pigouvian tax aiming at?
- Discuss the equity of the CO_2 emissions trading
- What weaknesses do you see in environmental taxation?

6. Commensurability, comparability and pluralism of values in environmental assessment

Topics:

- The discount rate
- Methodological pluralism
- Interests and value conflicts
- Social Multi-Criteria Evaluation

Reading:

Munda, G., 2004. Social multicriteria evaluation: Methodological foundations and operational consequences. European Journal of Operational Research, 158: 662-677.

Recommended:

Martinez-Alier, J., Munda, G., O'Neill, J., 1998. Weak comparability of values as a foundation for ecological economics. Ecological Economics, 26: 277-286.

Questions:

- Do you discount the future?
- Are all interest values legitimate?
- Does a neutral science exists?
- Is participation a Panacea?
- How to make decisions with several variables?
- Which is the value of Hohe Tauern?

7. International trade and the environment

Topics:

- Standard theory of trade: absolute and comparative advantage
- Hecksher-Ohlin model
- Dependency theory and World Systems Theory
- Internationalisation of externalities

Reading:

Muradian, R., and Martinez-Alier, J., 2001. Trade and the environment: from a 'Southern' perspective. Ecological Economics, 36: 281-297.

Ekins, Paul, 2003. Trade and Environment. Internet Encyclopaedia of Ecological Economics http://www.ecoeco.org/publica/encyc.htm

Recommended:

Jayadevappa, Ravishankar, Sumedha Chhatre, 2000. International trade and environmental quality: a survey. Ecological Economics, 32: 175-194

Giljum, Stefan, Nina Eisenmenger, 2004. North-South Trade and the Distribution of Environmental Goods and Burdens: A Biophysical Perspective. Journal of Environment and Development, 13:73-100

Questions:

- What are the common arguments pro trade – both from an economic and an environmental point of view?
- What is contradicting the arguments in favour of trade?
- What is the impact of 'Free trade agreements' upon the environment?

8. Complexity and self-organisation

Topics:

- Far-from-equilibrium thermodynamics
- Entropy generation and structuring
- Complex systems' characteristics
- Human systems as complex systems
- Epistemology of complex systems: post-normal science

Reading:

Buenstorf, G., 2000. Self-organization and sustainability: energetics of evolution and implications for ecological economics. Ecological Economics, 33: 119-134.

Recommended:

Ramos-Martin, J., 2003. Empiricism in Ecological Economics: A Perspective from Complex Systems Theory. Ecological Economics, 46 (3): 387-398.

Questions:

- Can we consider cities as brains or parasites of the rest of the territory?
- Does evolution always imply more energy consumption?