

25E ENVIRONMENTAL ECONOMICS

Course Description

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

Course Outline

1. Introduction

What is environmental economics; review of microeconomics and welfare economics.

2. The Theory of Externalities

Pareto optimality and market failure in the presence of externalities; property rights and the Coase theorem.

3. The Design and Implementation of Environmental Policy

Overview; Pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

4. International Environmental Problems

Trans-boundary environmental problems; economics of climate change; trade and environment.

5. Measuring the Benefits of Environmental Improvements

Non-Market values and measurement methods; risk assessment and perception.

6. Sustainable Development

Concepts; measurement.

Readings:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, "Environmental Economics: A Survey", *Journal of Economic Literature*, Volume 30, pp. 675-740.

**UNIVERSITY OF DELHI
DELHI SCHOOL OF ECONOMICS
DEPARTMENT OF ECONOMICS**

Minutes of Meeting

Subject	:	B.A. (Hons) Economics – Sixth Semester (2014)
Course	:	29 – Environmental Economics
Date of Meeting	:	11 th December, 2013 & 20 th December, 2013
Venue	:	Department of Economics, Delhi School of Economics, University of Delhi
Chair	:	Dr. Shreekant Gupta

Attended by:

1. Shailza Gupta, Zakir Hussain College
2. Shivani Gupta, Delhi College of Arts and Commerce (DCAC)
3. Maninder Deep Cheema, SGTB Khalsa College
4. Aruna Rao, Sri Venkateswara College
5. Daisy Sales, Jesus and Mary College
6. Naveen Choudhary, Laxmi Bai College
7. HarikeshMaurya, Laxmi Bai College
8. Surajit Deb, Ram LalAnand College (Evening)
9. D.B. Reddy, Sri Venkateswara College
10. Pooja Sharma, Daulat Ram College
11. DeeptiTaneja, Delhi College of Arts and Commerce (DCAC)
12. Benston John, St. Stephen's College
13. Dr. Rashmi Chaudhary, Kalindi College
14. Neetu Chopra, Miranda House
15. Dr. Vijaya Raju, College of Vocational Studies (CVS)
16. DeeptiSethi, Janki Devi Memorial (JDM) College
17. Supriti Mishra, ShyamLal College

The following text was agreed upon:

Charles Kolstad. [*Intermediate Environmental Economics*](#), Oxford University Press, 2nd edition (Oct 2012). [[Indian reprint available.](#)]

Optional readings:

1. Roger Perman, Yue Ma, James McGilvray and Michael Common. *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition (2003) [available as pdf and at RTL]. 4th edition (2011) is in print but not available.
2. Robert N. Stavins (ed.). *Economics of the Environment: Selected Readings*, W.W. Norton, 6th edition (2012). [Available at RTL]

TOPIC WISE READINGS

All chapters below refer to Kolstad (2012). Entire chapter has to be covered except where sections to be skipped or to done are specifically mentioned.

The number of lectures suggested against each topic are indicative and are only meant as broad guidelines.

1. Introduction (approx. 8 lectures):What is environmental economics; review of micro economics and welfare economics.

Fullerton, Don and Robert N. Stavins (1998). "[How Economists See the Environment.](#)" *Nature*, Vol. 395, Oct 1, 1998, pp. 433-434.
[Re-printed as Chapter 1 in *Economics of the Environment: Selected Readings* (2012).]

Chapter 1: Skip Section III which is to be done later in Topic 4. (2 lectures)

Chapter 2: (1 lecture)

Chapter 3: Do Sections I, II, IIIA (pp. 45-47) and Section IV (p. 55). (2 lectures)

Chapter 4 (2 lectures)

Overview of environmental problems in India(1 lecture)

[State of Environment Report: India 2009](#) (Ministry of Environment and Forests, Government of India, 2009): [Chapter 2 \(State and Trends of the Environment\): Land, Air, Water, Biodiversity \(pp. 9 to 71\).](#)

(Supplementary/optional reading) [Report to the People on Environment and Forests: 2010-11](#) ((Ministry of Environment and Forests, Government of India, 2011): Chapter 2 (State of the Environment) (pp. 11-25).

2. The Theory of Externalities (approx. 5 lectures):Pareto optimality and market failure in the presence of externalities; property rights and the Coase theorem.

Chapter 5: Skip Section V (Pricing Public Goods and Bads) (2 lectures)

Chapter 13: Do Section I only (Coase and the Assignment of Property Rights) (3 lectures)

3. The Design and Implementation of Environmental Policy (approx. 14 lectures):Overview; Pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

Chapter 1: Do Section III (Environmental Regulation)

Chapter 11: Skip Section II and Section VI

Chapter 12: Skip Section V (Double Dividend)

Chapter 13: Do Sections IIA and IIB (pp. 265-269)

Chapter 15: Do Sections I and II (pp. 295-306)

(Supplementary/optional reading):[Perman, et al. \(2003\), Chapters 6 and 7.](#)

4. International Environmental Problems (approx. 6 lectures): Trans-boundary environmental problems; economics of climate change; trade and environment.

Aldy, Joseph et al. "[Designing Climate Mitigation Policy](#)," *Journal of Economic Literature*, Vol. 48, No. 4 (December 2010), pp. 903-934.

Nordhaus, William. "[Critical Assumptions in the Stern Review on Climate Change](#)," *Science*, Vol. 317, No. 5835 (13 July 2007), pp. 201-202.

Stern, Nicholas and Chris Taylor. "[Climate Change: Risk, Ethics, and the Stern Review](#)," *Science*, Vol. 317, No. 5835 (13 July 2007), pp. 203-204.

[These 3 articles are re-printed as Chapters 24, 25 and 26, respectively in *Economics of the Environment: Selected Readings* (2012)]

5. Measuring the Benefits of Environmental Improvements (approx. 14 lectures): Non-market values and measurement methods; risk assessment and perception.

Chapter 7: Skip Section VI (Discrete Choice) (6 lectures)

Chapter 8: p. 147 and Section IV.A through IV.D (pp. 159-164) (4 lectures)

Chapter 10 (4 lectures)

(Beside these one supplementary reading will be added later on hedonic price theory.)

6. Sustainable Development (approx. 5 lectures): Concepts; measurement.

Robert Solow (1992). "[Sustainability: An Economist's Perspective](#)"

[Re-printed as Chapter 28 in *Economics of the Environment: Selected Readings* (2012).]

R. Solow (1992). "[An Almost Practical Step towards Sustainability](#)," Resources for the Future (RFF) 40th anniversary lecture. Also see Perman et al. (2003) [Chapter 19.2.1 \(pp. 631-633\)](#).

Partha Dasgupta (2007). "[Measuring Sustainable Development: Theory and Application](#)," *Asian Development Review* **24(1)**:1-10.

(Supplementary/optional reading):

Perman et al. (2003): Chapters 4 and 19.

http://www.moef.nic.in/sites/default/files/Sust_Dev_Stocktaking.pdf

Assessment

Internal evaluation (25 marks): There will be one class test of 10 marks and 5 marks for attendance. Remaining 10 marks can be an additional class test or paper-cum-presentation.

End semester exam (75 marks): Students will be required to answer 5 out of 7 questions (15 marks each). Questions will comprise numerical problems, diagrams, short notes, etc.