Econ 515
Spring 2001
Williams College

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Hrs: MR 2:30-4

ENVIRONMENTAL POLICY AND NATURAL RESOURCE MANAGEMENT

I. Course Description

This course addresses the problems of environmental protection and natural resource management as an element of development policy and planning. To a large extent the course applies environmental and natural resource economics to the developing country context, incorporating some previously ignored aspects of real world economies into issues of growth and development. The theory will include market failure, externalities, common property resources, and inter-temporal equity and discounting. Topics include the use of market-based versus command-and-control policy instruments, property rights regimes, renewable and non-renewable resource management, measurements of environmental benefits and costs, benefit-cost analysis, institutional and policy constraints to sustainable development, and global externalities.

II. Course materials

The readings for the course will come from two sources, a) a reading packet of photocopied materials, and b) Greening industry: new roles for communities, markets, and governments, published by the World Bank, and available at Water Street Books.

III. Requirements

Assigned readings should be completed before the class in which they will be discussed. An indication of what will be covered each class will be given during the previous class meeting. Assignments will include several problem sets and, for those students taking this course as their 'primary' seminar (including undergraduates) there will be a series of three paper assignments that will be combined at the end as their overall paper. There will be a midterm and final exam.

For those students taking this seminar as their primary seminar, grades will be determined by the weights: mid-term exam (15%), problem sets (10%), final exam (25%), and paper assignments (50%). For those taking the seminar as their secondary seminar, grades will be determined by weights: mid-term exam (30%), problem sets (30%), final exam (40%). Class participation will also be factored in when making the overall assessment.

TOPICS AND ASSIGNED READINGS

1. Introduction to the course
    - *Greening Industry*, Chapter 1
    - *Green Markets* by T. Panayotou, Chapter 1

2. Pollution, externalities and policy
    - "The economic common sense of pollution" L. Ruff
    - "Notes on efficiency and deadweight loss" W. Jaeger
    - "Notes on policy instruments for pollution control", W. Jaeger
    - *Greening Industry*, Chapter 2, 4
    - Watson, Peter L.; Holland, Edward P. "Congestion Pricing: The Example of Singapore" Finance and Development; vol. 13 no. 1 March 1976, pp. 20-23.
    - "Policy instruments for pollution control in developing countries" G. Eskeland and E. Jimenez, *World Bank Research Observer*.
    - "Attacking air pollution in Mexico City," Gunnar Eskeland, *Finance and Development*.

3. Benefit-cost analysis
    - J. Dixon and L. Fallon, "The Concept of Sustainability: Origins, Extensions, and Usefulness of Policy," *Society and Natural Resources*, Vol. 2: 73-84, 1989.
    - Notes on capital accumulation and optimal growth, Jaeger
    - Notes on present value and discounting, Jaeger
    - Hufschmidt, et al., "Principles and environmental quality extensions of Benefit-Cost Analysis" In *Environment, Natural Systems, and Devel.*, J. Hopkins U. Press.

4. Valuation
    - The economic value of biodiversity, pp. 829-890.
    - "Valuation of the Amazon rainforest" C. Peters, A. Gentry, and R. Mendelsohn
    - Case study: "Economic valuation of a development project: the Hadejia-Jara'are floodplain and the Kano River irrigation project in Nigeria"

5. Common property resources and their management
    - "The tragedy of the commons" Garrett Hardin
    - "Notes on fishery dynamics", W. Jaeger
    - "Managing the supply and demand for fuel wood in Africa," J. Armitage and G. Schramm in *Environmental Management and Economic Development*.
    - Notes on commons, property rights and transaction costs
    - The Economic value of biodiversity, pp. 890-904.

6. Market failure, policy failure and policy reform

- Charles Wolf, "The theory of non-market failure"
- *Green Markets*, Chapters 2, 3, 4.
- *Greening Industry*, Chapters 3, 5, 6, 7.

7. Growth and environmental allocation

- Jaeger and Kolpin, "Economic Growth and Environmental Resource Allocation"

8. Population

- Nancy Birdsall, Economic analysis of rapid population growth, 1989.
- Partha Dasgupta, "The population problem: theory and evidence" J. of Economic Literature, Dec. 1995, pp. 1879-1902.
- N. Birdsall, "Government, population, and poverty: a win-win tale." In K. Lindahl-Kiessling and H. Landberg, *Population, Economic Development, and the Environment*, 1994, Oxford U. Press.

9. Trade and Environment

- *Environment and Trade: a handbook,* UNEP & IISD.
- Notes on the Economics of Trade and the Environment, W. K. Jaeger
- Notes on Trade, Environment and the WTO, W. K. Jaeger

10. TBA (time permitting)