

17.181/17.182

**SUSTAINABLE DEVELOPMENT  
Theory & Policy**

**Spring 2008**

Professor Nazli Choucri  
Department of Political Science  
E53-493 617-253-6198 [nchoucri@mit.edu](mailto:nchoucri@mit.edu)

**PART I. CONTENT & CONTEXT**

Week 1	Introduction: Debates, Definitions & Dilemmas	Feb. 5
Week 2	Evolving Conceptions: Causes & Consequences	Feb. 12
Week 3	Sustainability as a 'Knowledge Domain'	Feb. 26
Week 4	New Thinking & the Knowledge Economy	March 4

**PART II. ACTORS, PROCESSES & INSTITUTIONS**

Week 5	Critical Drivers, Social Mechanisms & Cognitive Factors	March 11
Week 6	Economic Performance – Production & Consumption	March 18
Week 7	Firms & Markets – Corporate Perspectives	April 1
Week 8	From Sustainability 'Problems' to 'Solution' Strategies	April 8
Week 9	Regulatory & Policy Frameworks & Contexts	April 15

**PART III. STRATEGIC APPROACHES to SUSTAINABILITY**

Week 10	New International Institutional Contexts	April 29
Week 11	International Trade and Intellectual Property Rights	May 6
Week 12	Global Accord – Next Rounds	May 13

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**Spring 2008**

**List of Course Books**

- MIT Coop (available for purchase)
- On Reserve at Dewey Library E53.

Choucri, Nazli. Ed. 1993. *Global Accord: Environmental Challenges and International Responses*. Cambridge, Mass.: MIT Press.

Stavins, Robert N., ed. 2005. *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company.

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press.

**Web Site** Focusing on knowledge & representation of “sustainable development”.  
Site includes selective e-resources and materials, and recent research reports.

*Global System for Sustainable Development*  
<http://gssd.mit.edu>

**All other required Materials:**

- Available on the Course Stellar-site.

**Please Note**

- Chapters from the course books (listed above) are not reproduced on Course Stellar-site

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(1) Introduction – Debates, Definitions, & Dilemmas**

February 5, 2008

**Required Reading**

Solow, Robert M. "Sustainability: An Economist's Perspective," in Stavins, Robert N., ed. *Economics of the Environment*. 5<sup>th</sup> ed. 2005. New York: W. W. Norton & Company, Chapter 26.

Hardin, Garrett. "The Tragedy of the Commons," in Stavins, Robert N., ed. 2005. *Economics of the Environment*. 5<sup>th</sup> edition. New York: W. W. Norton & Company, Chapter 2.

Solow, Robert M. 1993. "The Economics of Resources or the Resources of Economics," in Richard T. Ely. Lecture. pp 1-14

**Related Reading**

Holdren, John P., Gretchen C. Daily, and Paul R. Ehrlich. 1995. "The Meaning of Sustainability: Biogeophysical Aspects," in Mohan Munasinghe and Walter Shearer, eds., *Defining and Measuring Sustainability: The Biogeophysical Foundations*, Washington, D.C.: The World Bank, pp. 3-17.

Goodland, Robert and George Ledec. 1987. "Neoclassical Economics and Principles of Sustainable Development." *Ecological Modeling* 38:19-46.

**Essential Reading**

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press, Chapter 1.

Easterly, William. 2001. *The Elusive Quest for Growth*, Cambridge: The MIT Press, Chapter 3.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(2) Evolving Conceptions - Causes & Consequences**

Tuesday February 12, 2008

**Required Reading**

Choucri, Nazli. 1993. "Introduction: Theoretical, Empirical, and Policy Perspectives," in Nazli Choucri, ed. *Global Accord: Environmental Challenges and International Responses*. Cambridge, Mass.: MIT Press, pp. 1-40.

Reboratti, Carlos E. "Territory, Scale and Sustainable Development," in Becker, Egon and Thomas Jahn, eds. 1999. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 11.

Pezzey, John C.V. and Michael A. Toman. 2002/2003 "Progress and problems in the economics of sustainability" in Tom Tietenberg and Henk Folmers, eds. *The International Yearbook of Environmental and Resource Economics*. Edward Elgar: Northampton, MA, USA . Chapter 4

**Related Reading**

Hardin, Garrett. 1991. "Paramount Positions in Ecological Economics," in Robert Costanza, ed., *Ecological Economics: The Science and Management of Sustainability*, New York: Columbia University Press, pp. 47-57.

Fullerton, Don and Robert N. Stavins. "How Economists See the Environment," in Stavins, Robert N., ed. *Economics of the Environment*. 5<sup>th</sup> edition. New York: W. W. Norton & Company, Chapter 1.

Andreae, Meinrat O. and Robert E. Dickinson. 1995. "Sustainability and the Changing Atmosphere: Assessing Changes in Chemical and Physical Climate," in Mohan Munasinghe and Walter Shearer, eds., *Defining and Measuring Sustainability: The Biogeophysical Foundations*, Washington, D.C.: The World Bank, pp. 117-136.

**Essential Reading**

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press, Chapter 2.

Easterly, William. 2001. *The Elusive Quest for Growth*, Cambridge: The MIT Press, Chapter 8.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(3) Sustainability as a 'Knowledge Domain'**

February 26, 2008

**Required Reading**

Choucri, Nazli and Robert C. North. 1993. "Growth, Development, and Environmental Sustainability: Profile and Paradox," in Nazli Choucri, ed. *Global Accord: Environmental Challenges and International Responses*, Cambridge, Mass.: MIT Press, pp. 67-132.

Allenby, Braden R. 1999 *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall, Chapters 3.

Christensen, Paul. 1991. "Driving Forces, Increasing Returns and Ecological Sustainability," in Robert Costanza, ed., *Ecological Economics: The Science and Management of Sustainability*, New York: Columbia University Press, pp. 75-87.

Holling, C.S. 1995. "Sustainability: The Cross-Scale Dimension," in Mohan Munasinghe and Walter Shearer, eds., *Defining and Measuring Sustainability: The Biogeophysical Foundations*, Washington, D.C.: The World Bank, pp. 65-75.

Simpson, R. David. "Economic Analysis and Ecosystems: Some Concepts and Issues," in Stavins, Robert N., ed. *Economics of the Environment*. New York: W. W. Norton & Company, Chapter 25.

**Related Reading**

Lofdahl, Corey L., 2002, *Environmental Impacts of Globalization and Trade*, Cambridge MA, MIT Press, Chapter 2.

Allenby, Braden R. 1999 *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall, Chapters 1 and 2.

**Essential Reading**

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press, Chapter 3.

Sachs, Ignacy. "Social Sustainability and Whole Development: Exploring the Dimensions of Sustainable Development," in Becker, Egon and Thomas Jahn, eds. 1999. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 2.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(4) 'New Thinking' & The Knowledge Economy**

March 4, 2008

**Required Reading**

Druker, Peter F. 1998 "From Capitalism to Knowledge Society" in Neef, Dale, ed. *The Knowledge Economy*. Butterworth-Heinemann, Chapter 2

Landes, David S. 1998. "Homo Faber, Homo Sapiens: Knowledge, Technology, Growth, and Development:" in Neef, Dale, ed. *The Knowledge Economy*. Butterworth-Heinemann, Chapter 5

Stevens, Candice. 1998 "The Knowledge-Driven Economy:" in Neef, Dale, ed. *The Knowledge Economy*. Butterworth-Heinemann, Chapter 7

Fagerberg, Jan. 2006 "Knowledge in Space: What Hope for the Poor Parts of the Globe?" in Brian Kahin and Dominique Foray eds. *Advancing Knowledge and the Knowledge Economy*. Cambridge, Ma.: The MIT Press, pp.217-234

**Related Reading**

Choucri, Nazli. 1999. "The Political Logic of Sustainability," in Becker, Egon and Thomas Jahn, eds. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 8.

Allenby, Braden R. 1999 *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall, Chapters 9.

**Essential Reading**

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press, Chapter 4.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(5) Critical Drivers, Social Mechanisms & Cognitive Factors**

March 11, 2008

**Required Reading**

Holdren, John P. and R. K. Pachauri. 1992. "Energy," in International Council of Scientific Unions, *An Agenda of Science for Environment and Development into the 21st Century*, Cambridge, UK: Cambridge University Press, pp. 103-118.

Engleman, Robert. et. al. "The Future is not What it used to be", in Dennis Pirages and Ken Cousins eds. *From Resource Scarcity to Ecological Security*. Cambridge: The MIT Press, pp. 21-38.

Easterly, William. 2001. *The Elusive Quest for Growth*, Cambridge: The MIT Press, Chapter 11 and 12.

**Related Reading**

Choucri, Nazli. 1991. "Population and the Global Environment." in Jefferson W. Tester, David O. Wood, and Nancy A. Ferrari, eds., *Energy and the Environment in the 21st Century*, Cambridge, Mass.: MIT Press, pp.91-101

Runci, Paul L. and Chester L. Cooper.(2005) "Reflections on an Aging Global Population", in Dennis Pirages and Ken Cousins eds. *From Resource Scarcity to Ecological Security*. Cambridge: The MIT Press, pp. 39-58.,

**Essential Reading**

*Tester, Jefferson W. et. al. eds.2005. Sustainable Energy*. Cambridge MA.: The MIT Press. Chapters 1,2, and 6.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY POLICY**

**(6) Economic Performance – Production & Consumption**

March 18, 2008

**Required Reading**

Gowdy, John. "Economic concepts of Sustainability: Relocating Economic Activity within Society and Environment," in Becker, Egon and Thomas Jahn, eds. 1999. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 9.

Coase, Ronald. "The Problem of Social Cost," in Stavins, Robert N., ed. 2005. *Economics of the Environment*. 5<sup>th</sup> edition. New York: W. W. Norton & Company, Chapter 3.

Paehlke, Robert. "Towards Defining, Measuring and Achieving Sustainability: Tools and Strategies for Environmental Valuation," in Becker, Egon and Thomas Jahn, eds. 1999. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 13.

**Related Reading**

Lofdahl, Corey L., 2002, *Environmental Impacts of Globalization and Trade*, Cambridge MA, MIT Press, Chapter 5

Allenby, Braden R. 1999. *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall,. Ch. 6.

**Essential Reading**

Rothenberg, Jerome R. 1993. "Economic Perspectives on Time Comparisons: An Evaluation of Time Discounting", in Nazli. Choucri *Global Accord: Environmental Challenges and International Responses*. Cambridge, Mass.: MIT Press. pp. 307-332

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY POLICY**

**(7) Firms & Markets – Corporate Perspectives**

April 1, 2008

**Required Reading**

Choucri, Nazli. 1993. "Multinational Corporations and the Global Environment," in Nazli Choucri, ed., *Global Accord: Environmental Challenges and International Responses*, Cambridge, Mass.: MIT Press, pp. 205-254.

Allenby, Braden R. 1999. *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall, Ch. 14 and 16.

Porter, Michael E. and Claas van der Linde. "Toward a New Conception of the Environment-Competitiveness Relationship," in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> edition. New York: W. W. Norton & Company, Chapter 5.

Bohn, Roger E. "Measuring and Managing Technological Knowledge" in Neef, Dale, ed. 1998 *The Knowledge Economy*. Butterworth-Heinemann. Chapter 10.

Levy, David and Peter J. Newell eds. *The Business of Environmental Governance*. Cambridge, Ma.: The MIT Press, Chapters 1 and 4.

**Related Reading**

Choucri, Nazli. 1994. "Corporate Strategies toward Sustainability," in Winfried Lang, ed., *Sustainable Development and International Law*, Boston: Graham & Trotman/ Martinus Nijhoff, pp. 189-201.

Arthur, W. Brian "Increasing Returns and the New World of Business:" in Neef, Dale, ed. 1998 *The Knowledge Economy*. Butterworth-Heinemann, Chapter 6

**Essential Reading**

Arrow, Kenneth J. et. al. "Is there a Role for Benefit-Cost Analysis in Environment, Health and Safety" in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> edition. New York: W. W. Norton & Company, Chapter 12.

Kelman, Steven. "Cost-Benefit Analysis: An Ethical Critique," in Stavins, Robert N., ed. *Economics of the Environment*. New York: W. W. Norton & Company, Chapter 14.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & PUBLIC POLICY**

**(8) From Sustainability 'Problems' to 'Solution' Strategies**

April 8, 2008

**Required Reading**

Pearce, David. 1993. "Sustainable Development and Developing Country Economies," in R. Kerry Turner, ed., *Sustainable Environmental Economics and Management: Principles and Practice*, New York: Belhaven Press, pp. 71-105.

Allenby, Braden R. 1999. *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall, Ch. 13.

Rothenberg, Jerome R. 1993. "Economic Perspectives on Time Comparisons: Alternative Approaches to Time Comparisons", in Nazli Choucri *Global Accord: Environmental Challenges and International Responses*. Cambridge, Mass.: MIT Press. pp. 355-398

Cohen, Marc C. 2005. "Food Policy: Underfed or Overfed?" in Dennis Pirages and Ken Cousins eds. *From Resource Scarcity to Ecological Security*. Cambridge: The MIT Press, pp. 83-104.

**Related Reading**

Conca, Ken. 2005. "Global water Prospects" in Dennis Pirages and Ken Cousins eds. *From Resource Scarcity to Ecological Security*. Cambridge: The MIT Press, pp. 59-87.

Cousins, Ken. 2005. "Twenty-Nine Days: Responding to a Finite World", in Dennis Pirages and Ken Cousins eds. *From Resource Scarcity to Ecological Security*. Cambridge: The MIT Press, pp. 217-226.

**Essential Reading.**

Tainter, Joseph A. 1988. *The Collapse of Complex Societies*. Cambridge: Cambridge University Press, Chapters 5 and 6.

See *Global System for Sustainable Development* <http://gssd.mit.edu> for specific 'matching' of 'problems' and 'solutions' by sector, issue, unit, level, context.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(9) Regulatory Contexts & Policy Challenges**

April 15, 2008

**Required Reading**

Carraro, Carlo, "Climate change policy: models, controversies and strategies" in Tom Tietenberg and Henk Folmers, eds. *The International Yearbook of Environmental and Resource Economics 2002/2003*, Edward Elgar: Northampton, MA, USA 2003

Keohane, Nathaniel O., Richard L. Revesz, and Robert N. Stavins. 2005. "The Choice of Regulatory Instruments in Environmental Policy," in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company, Chapter 29.

Tietenberg, Tom H. 2005. "Economic Instruments for Environmental Regulation," in Stavins, Robert N., ed. 2005. *Economics of the Environment*. New York: W. W. Norton & Company, 5<sup>th</sup> ed. Chapter 15.

Dasgupta, Susmita et. al. 2005. "The Choice of Regulatory Instruments in Environmental Policy," in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company, Chapter 20.

**Related Reading**

Palmer, Karen, Wallace E. Oates, and Paul R. Portney. 2005 "Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?" in Stavins, Robert N., ed. *Economics of the Environment*. New York: W. W. Norton & Company, Chapter 6.

**Essential Reading**

Barzel, Yoram. 1997 *Economic Analysis of Property Rights*. Second ed. Cambridge: Cambridge University Press, Ch. 1 and 5.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(10) New International Institutional Contexts**

April 29, 2008

**Required Reading**

Haas, Peter M. with Jan Sundgren. 1993. "Evolving International Environmental Law: Changing Practices of National Sovereignty," in Nazli Choucri, ed., *Global Accord: Environmental Challenges and International Responses*, Cambridge, Mass.: MIT Press, pp. 401-429.

Sands, Philippe. 1995. "International Law in the Field of Sustainable Development: Emerging Legal Principles," in Winfried Lang, ed., *Sustainable Development and International Law*, Boston: Graham & Trotman/Martinus Nijhoff, pp. 53-66.

Jacoby, Henry D. et. al. "Kyoto's Unfinished Business" in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company, Chapter 24

Metrick, Andrew and Martin L. Weitzman, "Conflicts and Choices in Biodiversity Preservation", " in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company, Chapter 28

**Related Reading**

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press. Chapter 6.

**Essential Reading**

Ostrom, Elinor, Larry Schroeder, and Susan Wynne. 1993. *Institutional Incentives and Sustainable Development*. Boulder: Westview Press. Chapters 1, 3, 5, and 6.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(11) Trade, Information, Intellectual Property Rights**

May 6, 2008

**Required Reading**

Choucri, Nazli. "Innovations in Uses of Cyberspace," in Becker, Egon and Thomas Jahn, eds. 1999. *Sustainability and the Social Sciences: A Cross-Disciplinary Approach to Integrating Environmental Considerations into Theoretical Reorientation*. London: Zed Books. Chapter 15.

Stevens, Candice. 1995. "Trade and Environment: The PPMs Debate," in Winfried Lang, ed., *Sustainable Development and International Law*, Boston: Graham & Trotman/Martinus Nijhoff, pp. 239-247.

**Related Reading**

Røpke, Inge. 1994. "Trade, Development and Sustainability -- a Critical Assessment of the "Free Trade Dogma." *Ecological Economics* 9:13-22.

Goldman, Patti A. 1994. "Resolving the Trade and Environment Debate: In Search of a Neutral Forum and Neutral Principles." *49 Washington & Lee Law Review* 1279.

Davis, Stan and Jim Botkin "The Coming of Knowledge-Based Business" in Neef, Dale, ed. 1998 *The Knowledge Economy*. Butterworth-Heinemann, Chapter 11

See *United Nations Commission on Sustainable Development*, for information on problems and international responses. <http://www.un.org/esa/sustdev/csd.htm>

**Essential Reading**

Frankel, Jeffrey A. "The Environment and Globalization" in Stavins, Robert N., ed. 2005 *Economics of the Environment*. 5<sup>th</sup> ed. New York: W. W. Norton & Company, Chapter 19.

17.181/182

**SUSTAINABLE DEVELOPMENT: THEORY & POLICY**

**(12) Global Accord – Next Rounds**

May 13, 2008

**Required Reading**

Allenby, Braden R. 1999. *Industrial Ecology: Policy Framework and Implementation*. New Jersey: Prentice-Hall,. Ch. 12.

Sand, Peter H. 1995. "Trusts for the Earth: New International Financial Mechanisms for Sustainable Development," in Winfried Lang, ed., *Sustainable Development and International Law*, Boston: Graham & Trotman/Martinus Nijhoff, pp. 167-184.

Dolsak, Nives and Elinor Ostrom. 2003. *The Commons in the New Millenium*. Cambridge, MA: The MIT Press. Chapter 1.

**Related Reading**

Harvard Law Review, the Editors of. 1992. *Trends in International Environmental Law*. Chicago: American Bar Association.

Brewer, Garry, 1993. "Environmental Challenges and Managerial Responses", in Nazli Choucri, ed., *Global Accord: Environmental Challenges and International Responses*, Cambridge, Mass.: MIT Press, pp. 281-303.

**Essential Reading**

Weiss, Edith Brown. 1993. "Intergenerational Equity: Toward an International Legal Framework," in Nazli Choucri, ed., *Global Accord: Environmental Challenges and International Responses*, Cambridge, Mass.: MIT Press, pp. 333-53.