The Problem Orientation

ENVS 5720
University of Colorado
Spring Semester 2009

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Course Homepage:
http://sciencepolicy.colorado.edu/students/envs_5720

True genius resides in the capacity for evaluation of uncertain, hazardous, and conflicting
information.
Winston Churchill

Problems do not exist 'out there'; they are not objective entities in their own right......The appropriate framework for defining a problem is not given; it has to be developed and justified as such.
David Dery

Lecture and discussion sections meet in the conference room at 1333 Grandview:
http://sciencepolicy.colorado.edu/center_info/find_us.html

Class time: Mondays 12:00-2:30
Office Hours: Mondays, 9:15-11:00 and by appointment
Location: CIRES Center for Science and Technology Policy, 1333 Grandview Ave.
.**Purpose of the Course and Expectations**

This is a course about how to do policy analysis. In **Policy Analysis for Public Decisions**, MacRae and Wilde defined policy analysis as "the use of reason and evidence to choose the best policy among a number of alternatives" for addressing a particular policy problem. Many other definitions have been offered, but the common thread is systematic reasoning about alternative courses of action to deal with a policy problem.

Graduate and undergraduate programs to teach people to do policy analysis are now commonplace. Nevertheless, it is not easy to demonstrate that conventional approaches to policy analysis based on neo-classical economics and/or positivist social science have resulted in identifiable improvements in public policy outcomes. Hence, we focus here on the policy sciences alternative. The policy sciences are characterized by problem-oriented, contextual, and multi-method inquiry. The explicit goal of the policy sciences is the greater realization of human dignity, including the individual and collective ability to

solve policy problems facing our communities. Our objective is to empower people to make better choices about the problems facing them, in part through new ways of seeing the problem or discovery of new alternatives, not by making the choices for them.

This course illustrates the policy sciences approach thorough its most accessible conceptual framework, the problem orientation. The limitations of human understanding relative to the complexities of most policy problems force policymakers and analysts to operate on the basis of simplified representations or "maps" of the relevant context. These simplifications often lead to blind spots and major policy failures. The principal antidotes to the inherent limitations of human cognition are conceptual frameworks that direct the attention to the major features of the context that need to be taken into account.

In his writings on the policy sciences, Harold Lasswell argues that there are five distinct, but interrelated tasks involved in the analysis of any policy problem:

Clarification of **GOALS**. What are our values and objectives? What do we want to achieve? Why should these values be given priority over other values in dealing with this issue? What do those general values or principles mean in this particular context?

DESCRIPTION of past and present **TRENDS** with respect to those goals. Where are we in relation to where we want to be? What is the magnitude of the problem? Is the problem getting worse or getting better? Is it a problem or a crisis?

ANALYSIS of **CONDITIONING FACTORS** affecting those trends. What are the causes of the problem? Why is the problem getting better or worse? What human/other actions make those trends move in desirable or undesirable directions?

PROJECTION of probable FUTURE trends. What are the probable future outcomes under current policies? Is the problem likely to get better/worse? What are the best case/worst case scenarios?

DESIGN and EVALUATION of **ALTERNATIVES**. What should be done? What action(s) will lead most effectively to the desired outcomes? What policies will be best for whom over the long run? Why is a given policy option better/worse than alternative policies?

Other authors have developed similar analytical frameworks. All embody the same basic problem-solving logic. At first glance, the framework seems fairly simple. However, we will see various examples of policies that failed because someone failed to establish what the policy was really supposed to achieve, or failed to deal with the problem until it was already a crisis, or misidentified the causes of the problem, or failed to consider how the problem was likely to change in the future, or failed to consider all the relevant alternatives before making the policy decision

This is only partly a matter of oversight. In practice, analysts and policymakers have only limited amounts of time, attention, and other resources to devote to any one of these

tasks. Even under the most favorable conditions, these are complex questions which seldom yield simple answers. Still, the most difficult challenge for policymakers and policy analysts is to recognize the blind spots in one's own analysis.

In each of these five areas, we will discuss the nature of the analytical task and contrast alternative approaches to that. This overview of policy analysis methods will not make you an expert in any of these techniques, but it will give you some idea of the strengths and weaknesses of the methods you are most likely to come in contact with and/or be called upon to use as a policy analyst. For each of the tasks, we will read and critique examples of policy analysis in a variety of substantive fields. By the end of the course, you should be able to take a professional policy analysis and to critique that analysis from the perspective of what it includes and its omissions, as well as the biases of that analysis.

The emphasis in this course is on learning by doing and by example. Each student will select a policy problem of concern to him/her and apply the problem orientation to the task of developing a policy recommendation for that problem. Although real ease and sophistication in using the framework comes with repeated practice, by the end of the course you should be able to apply the basic concepts to any subsequent policy problem you confront.

What you will get out of this class is proportional to what you put into the class.   Much of the substantive material on particular environmental policy issues will be brought to the class through the term project and our class discussions of the significance of the readings in the context of your project. Thus, it is critical to treat the term project as a semester-long effort, and not a final-week rush.

In order to get the most out of this course, you will need to come to class prepared, participate, and complete all of the assignments. I encourage you to use the office hours as an opportunity to discuss in more detail certain aspects of the course, share ideas on your case study, and to provide feedback on the course and the readings. The remainder of this syllabus details some of the important aspects of this course.

Course Texts

The readings for this course will consist of scholarly articles, book chapters, as well as material from the media and found online. Required course readings will be made available via the website.

Requirements of the Course

Weekly Email One Pagers

Every week you are expected to turn in a one-page essay. We have established a list-serv for the course: envs5720@sciencepolicy.colorado.edu. Details will be provided in class. These should be submitted by the Sunday immediately preceding the relevant class. For some weeks I will suggest a question or theme to be addressed; for other weeks the topic

will be open ended. The purpose of this exercise is to allow you an opportunity to discuss aspects of the readings, integrate other material with the week's focus, or to raise questions about what was unclear or unanswered by the readings. A secondary purpose is to ensure that you have an opportunity to provide me with feedback on the class and your progress/satisfaction in the course.

Individual and group assignments

Periodically throughout the semester you will be responsible for individual and group assignments related to the week's readings and topic. These will be discussed as the semester progresses. Some of the assignments will be associated with the semester-long term project.

Individual Term Project

You will be responsible for a semester-long research project. The project will result in a final paper and an oral presentation. The project will involve various assignments during the semester that will comprise part of your project grade. The term project will be described separately.

Grading

Your grade will be determined as follows:

	Weekly one pagers	15% (no late submissions)
	Individual and group assignments	35%
	(periodically)	
Term project	50%	(oral, online, and written)

University Syllabus Statements

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, {{insert your procedures here}} See full details at http://www.colorado.edu/policies/fac_relig.html

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See polices at

http://www.colorado.edu/policies/classbehavior.html and at
http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

The University of Colorado at Boulder policy on Discrimination and Harassment
 (http://www.colorado.edu/policies/discrimination.html), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at
http://www.colorado.edu/academics/honorcode/.

Policy, Science, and the Environment
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Tentative Schedule and Readings

Week 1: 1-12-09   Introductions
 Overview of the Course
 Schedule Matters
 Introductory Lecture on Problems and Decisions
 First Group Assignment

Week 2: 1-19-09 NO CLASS – MLK Holiday

Week 3: 1-26-09   Initial Group Project Reports

Week 4: 2-2-09   Policy Sciences and Social Sciences

Lynn, Jr., L. 2001. The making and analysis of public policy: a perspective on the role of social science, Chapter 8, pp. 187-218 in D. L. Featherman and M. A, Vonovskis (eds.) **Social Science and Policy-Making: A Search for Relevance in the Twentieth Century** (University of Michigan Press).

Brunner, R. D. 1991. The policy movement as a policy problem, *Policy Sciences* **24**:65-98.

DeLeon, P. 1998. Models of policy discourse: insights versus prediction, *Policy Studies Journal* **25**:147-161.

James, W. 1907. What pragmatism means, pp. 93-111 in **Pragmatism: A Reader** (L. Menand, ed.), (Random House, New York).

Week 5: 2-9-09   Truth, Opinions, Values

Fish, S. 2003. Truth but no consequences: why philosophy doesn't matter, *Critical Inquiry*, **29**:389-417.

Kurtz, H. 1998. pp. ix-xii and 1-32 in **Spin Cycle: How the Whit House and the Media Manipulate the News**, (Simon & Schuster, New York).

Lakoff, G. 2004. How to take back public discourse (pp. 3-34, Chapter 1 in **Don't Think of an Elephant:Know Your Values and Frame the Debate** (Chelsea Green Publishing,

White River Junction, VT).

Rochefort, D. A. and R. W. Cobb 1994. Problem definition: an emerging perspective, pp. 1-31 in *The Politics of Problem Definition: Shaping the Policy Agenda* (University Press of Kansas: Lawrence, KS).

Week 6: 2-16-09   Public Problems and Democracy

Hilgartner, S. and C. Bosk, 1988. The rise and fall of social problems: a public arenas model, *American Journal of Sociology*, **94:**(1):53-78.

Downs, A. 1972. Up and Down with Ecology the "IssueAttention Cycle," The Public Interest **28**:3250.

Schkade, D., Cass, R. and R. Hastie, 2006. What Happened on Deliberation Day? June, University of Chicago Law & Economics, Olin Working Paper No. 298.

Nisbet, M. and M Huge, 2006. Attention Cycles and Frames in the Plant Biotechnology Debate: Managing Power and Participation through the Press/Policy Connection, *The Harvard International Journal of Press/Politics,* 11:3-39.

Listerman, T. 2008. Framing of science issues in opinion-leading news: international comparison of biotechnology issue coverage, *Public Understanding of Science*, doi:10.1177/0963662508089539.

Week 7: 2-23-09   Trend Analysis

Scott, 1998. Thin Simplifications and Practical Knowledge: Metis, Chapter 9 (pp. 309-341) in **Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed** (Yale University Press).

Gupta, D. K. 2001. Chapter 8 (pp. 176-199) in **Analyzing Public Policy: Concepts, Tools, and Techniques**, (CQ Press, Washington, DC).

Kysar, D. A. and J. Salzman, 2003. Environmental Tribalism, *Minnesota Law Review*, **87**:1092-1125.

Sahr, R. 2004. Using Inflation-Adjusted Dollars in Analyzing Political Developments, *PS: Political Science and Politics*, April:273-284.

Week 8: 3-2-09   Trend Analyses Presentations

Example: Has the Kyoto Protocol been a success?

Prins, G. and S. Rayner, 2008. The Wrong Trousers: radically Rethinking Climate Policy, Oxford University and London School of Economics.

Week 9: 3-9-09   Conditioning Factors Analysis

Simon, H. 1993. pp. 3-35 and 75-107 in **Reason in Human Affairs**, (Stanford University Press).

Forester, J. 1984. Bounded rationality and the politics of muddling through, *Public Administration Review* **44** (1):23-31.

Weiss, J. 1989. The power of problem definition: the case of government paperwork, *Policy Sciences*, **22:**97-121.

Cohen, J. E. 1995. Chapter 1 (pp. 5-21) and Chapter 13 (pp. 261-296) in **How Many People Can the Earth Support?** (W. W. Norton, New York).

Week 10: 3-16-09   Conditioning Factors Presentations

Example: Why have disasters become more costly?

Pielke, Jr., R.A., 2006. Seventh Annual Roger Revelle Commemorative Lecture: Disasters, Death, and Destruction: Making Sense of Recent Calamities, *Oceanography, Special Issue: The Oceans and Human Health,* **19**:138-147.

Week 11: 3-23-09   NO CLASS – SPRING BREAK

Week 12: 3-30-09   Projection Analysis

Pielke Jr., R. A., D. Sarewitz and R. Byerly Jr., 2000: Decision Making and the Future of Nature: Understanding and Using Predictions. Chapter 18 in Sarewitz, D., R. A. Pielke Jr., and R. Byerly Jr., (eds.), **Prediction: Science Decision Making and the Future of Nature**. Island press: Washington, DC.

Pilkey, O. and L. Jarvis-Pilkey, 2007. Chapter 1, Mathematical Fishing (pp. 1-44) and Chapter 9, A Promise Unfulfilled (pp. 182-204) in **Useless Arithmetic: Why Environmental Scientists Can't predict the Future** (Columbia University Press).

Nocera, J. 2009. Risk mismanagement, *The New York Times Magazine*, 4 January.

Ravetz, J. 2008. Faith and Reason in the Mathematics of the Credit Crunch, *Oxford*

Magazine.

Pielke, Jr. R. A. 2009. Can U.S. Hurricane Landfalls be Predicted Accurately 1 to 5 Years into the Future?, *Environmental Hazards* (under review)

Week 13: 4-6-09   Projection Analysis Presentations

Example: How Large is the Carbon Mitigation Challenge?

Pielke, Jr., R. A., Wigley, T., and Green, C., 2008. Dangerous assumptions. *Nature*, **452**: 531-532.

Week 14: 4-13-09   Invention, Selection, and Evaluation of Alternatives

Verwiji, M. et al. 2006.The Case for Clumsiness (pp. 1-27, Chapter 1) and Clumsy Conclusions: How to do Policy and Research in a Complex World (pp. 241-249, Chapter 13) in **Clumsy Solutions for a Complex World: Governance, Politics, and Plural Perceptions** (Palgrave, New York).

M. Douglas and A. Wildavsky, 1982. How Can We Know the Risks We Face? Why Risk Selection is a Social Process, *Risk Analysis*, Vol. 2, No. 2, pp. 49-51.

Hammond, J. S., R. L. Keeney, and H. Raiffa, 1998. The hidden traps in decision making, *Harvard Business Review*, September-October:47-58.

GAO. 1991. Designing Evaluations, GAO-PMED-10.1.4.

Week 15: 4-20-09   Invention, Selection, and Evaluation of Alternatives Presentations

Example: Large Mammal Conservation Policy in Greater Yellowstone

Cherney, D.N. and Clark, S.G., 2008. The American West's Longest Large Mammal Migration: Clarifying and Securing the Common Interest. *Policy Sciences*.

Week 16: 4-27-09   Course Conference