ESM 200. Orientation Case Study.

Friday, 28 September 2007
Bren Hall 1414
8:30 am

Hunter Lenihan, and other Bren Faculty and Staff

What are the advantages and disadvantages of privatizing water systems?

Summary
Water is the source of life and has been a feature of human behavior throughout history. Many wars have been fought over the control of water, several of them described in the Bible and Koran. How water is obtained and distributed, and how these activities influence natural systems, are critical to human society and the ecosystems upon which we depend. The management of water systems for human use is also considered by many to be an environmental crisis, especially in the developing world. The scale of the crisis is huge. In 2000, at least 1.1 billion people in the developing world (one person in five) lacked access to safe water. Twice as many (2.4 billion) lacked access to improved sanitation. In the 1990s, the number of children killed by diarrhea, the result of unsafe water and sanitation, exceeded the number of people killed in armed conflicts since the Second World War.

Providing water for humans entails dramatic changes to ecosystems through the re-routing of rivers, dams, and ground water extraction. Consequently, water systems can greatly influence geomorphologic, hydrologic, microbiological, geochemical, and ecological processes, which in turn, impact biodiversity, productivity, and the resilience of natural communities. At a global spatial scale, climate change can impact water cycles, including world ocean circulation patterns driven by the melting of polar ice. How should we manage water in an ecosystem context? How do we provide everyone with water? How can we sustain water use for a growing human population?

Answering this question concerns all societies but is of special interest to the developing world where so many are without enough water. International development institutions, such as the United Nations Environmental Program (UNEP), The Food and Agriculture Organization, World Bank, and International Monetary Fund invest substantial resources for developing water systems in the developing world, and for helping governments meet the water needs of their growing populations and industries. In many countries water systems have been controlled through government programs.
in which tax dollars pay for the extraction and distribution of water. Recently, there had been a growing trend toward “privatization” of water systems, as well as for other resources, including fisheries, timber, minerals, and oil. Some institutions mentioned above function as banks that invest capital in companies that develop water for profit. Privatization of water involves transferring some or all of the assets or operations of public water systems into private hands. There are numerous ways to privatize water, such as the transfer of the responsibility to operate a water delivery or treatment system, a more complete transfer of system ownership and operation responsibilities, or even the sale of publicly owned water rights to private companies. Alternatively, various combinations are possible, some of them referred to as public-private partnerships.

Privatization of water has sparked huge debate based on moral grounds, but also concerns more quantifiable, or evaluative, criteria including mainly efficiency - the net cost be per unit volume of water; equity – how water will be distributed, for example, to the rich and poor; and environmental sustainability – the long-term impact on natural systems caused by water extraction, use, and disposal. Resource economists often support water privatization based on the theory (and evidence) that companies can outperform public government in terms of efficiency because they have clear incentives, mainly net gains in profit. Some social scientists, activists, and philosophers oppose it on moral grounds, but also because they contend equity is compromised. In contrast, environmental scientists have advanced little opinion or overall consensus on the issue of privatization. Instead, they have generated a great deal of information on the environmental effects of various types of water systems. Of course, such information should be useful for considering issues associated with the evaluative criteria mentioned above.

Although opinions vary widely, the topic of water management is high on the agenda of many governments, and privatization has been attempted in many areas. One case, that of Cochabamba, is famous for almost igniting a revolution in Bolivia. Case studies clearly indicate that the performance of privatization programs have varied greatly, that many lessons have been learned, and that synthesis of the advantages and disadvantages of water privatization would help advance resource planning, management, and science in developing countries. Certainly. Millions of people and degraded ecosystems would benefit from such a synthesis.

The Case Study
In this case study, you will consider the general question, what are the advantages and disadvantages of privatizing water in the developing world? Addressing this question provides a forum for applying science-based solutions to an environmental management problem. You will need to consider the underlying theories of privatization (e.g., see introductory chapter by von Weizsäcker et al. 2005, on the ESM 200 course website) as well as scientific, economic, ethical, and perhaps engineering-based
information (e.g., see web links). Many key issues will be presented in the film “Thirst” (see http://www.thirstthemovie.org), that we will view during the first hour of the course. This film and others will also be available for viewing on campus during the week before the course.

Your job is to consider, propose, negotiate, and present (both orally and in writing) a circumscribed set of recommendations for the US Congress’ Blue Ribbon Panel on Water Development. This Panel will (hopefully) use the guidelines in overseeing the funding of projects undertaken by international aid and development programs, such as US AID, the World Bank, and the International Monetary Fund IMF. To be successful, you will consider all angles but focus your attention on the three critical evaluative criteria described above - efficiency, equity, and environmental sustainability - and determine from the stand-point of various stakeholder groups, what you think should be included in a set of guidelines for designing and operating water systems in under-developed nations. Your guidelines will assess the advantages and disadvantages of privatization.

As scientists, your guidelines should also include mention of a process that might be used to test which scenario (e.g., public vs. private, or public-private) would work best under a given set of social or environmental conditions. That is, could an assessment process (i.e., an experimental approach) be identified to assess the performance of various systems; to test the advantages and disadvantages of privatization? Are such experiments possible? Short of this, what other scientific and/or social process could be constructed for evaluating whether a public, private, or hybrid program would work best?

To address the general question, each student will be assigned to one of seven interest groups listed below, and each group will develop positions to be presented, defended, and perhaps modified in mock negotiations that will be held throughout the day of the course. Negotiations allow stakeholders, including scientists, to work collectively to resolve issues and address questions in environmental management. For this case study, negotiations have been organized to solicit the advice and opinion of national and international experts and interest groups. These groups will include representatives from:

**Stakeholder Groups:**

1. **Center for the Study of Economic Efficiency**, a (fictitious) organization of resource economist dedicated to advancing theories on efficient resource use. (Only group here without a website).
2. **The Sierra Club**, a group advocating environmental conservation and the equitable use of natural resources.
3. **The National Research Council**, which recently completed a study examining the scientific issues associated with the provision of safe water.
4. **The World Bank**, a bank focused on the reduction of global poverty, focusing on the achievement of the Millennium Development Goals (MDGs), goals calling for the elimination of poverty and the implementation of sustainable development.

5. **The Hoover Institution**, a libertarian public policy think tank and library founded by Herbert Hoover at Stanford University. Conducts top-notch research, and is especially influential in the American neoconservative and libertarian movements.

6. **Center for Respect of Life and Environment** (CRLE), a group dedicated to preserving the environmental rights of indigenous people.

7. **The Pacific Institute**, an independent, nonpartisan think-tank studying issues at the intersection of development, environment, and security.

A list containing information about which group you are in, and contact info for all group members is on the ESM 200 website.

**Questions to be addressed in negotiations and addressed in your written report:**

1. What are the general advantages and disadvantages of privatizing water in terms of efficiency, equity, and environmental sustainability?

2. What general process should be considered to assess the advantages and disadvantages of privatizing water in given developing country?

3. Who should be involved in the decision and assessment process?

**Goals of the Case Study:**

- Increase knowledge about the specific issue of water systems, and the natural and social sciences involved in water management.
- Consider the scientific-based management of resources within an ecosystem context (ecosystems include humans, natural communities, and natural process)
- Develop skills necessary for negotiating and collective problem solving.
- Illustrate the interdisciplinary nature of environmental problems and solutions.
- Introduce students to group consideration of complex problems.
- Set the tone for ESM professional training, encompassing not only knowledge and analysis but also listening, communication, and presentation skills.
- Get acquainted with peers, faculty, and staff.

**Writing assignment:**

- By 21 September, write a concise (500 word) summary that address the three questions stated above (in Questions to be addressed in negotiations...).
- Rely on the material provided on the course syllabus and course material, located on ESM 200 website.
- Discuss issues and written assignment with other students (emails provided on Stakeholder Group Information on ESM 200 website).
• Write your own report, which will be used in part to evaluate your writing skills by Monica Bulger and the Bren Writing Center. Read about the Writing Center and writing assessment at: http://www.moodle.cs.ucsb.edu/course/category.php?id=14
• Upload your paper to Writing Center at: http://www.moodle.cs.ucsb.edu/course/category.php?id=12

Course Format:
• One-day session, Friday, 28 September, Bren Hall, Room 1414, 8:30 AM – 4:30 PM.
• Before 9/28, students will prepare for the course through websites, readings, films, other resources that you discover, and email interactions. On the day of the course, students will view the film “Thirst”, and have access to meeting rooms, online resources, etc.
• Please remember that someone on your team will need a Flash drive for the PowerPoint presentation you will present.

Lead Faculty Member: Hunter Lenihan (lenihan@bren.ucsb.edu)

Faculty Group Advisors: To be determined.

General Approach
First-year students will fill the role of stakeholders, experts, and public agency representatives advising the US Congress’ Blue Ribbon Panel on Water Development. As group members, you will use information generated from your negotiations to address the questions of 1) what are the advantages and disadvantages of privatizing water systems, 2) how should a given system be assessed and 3) who should be involved in the decision and assessment process?

Students will be formed into 7 groups, each representing one of the stakeholder groups listed above. Each group will examine information pertaining to their stakeholder group as well as others. Each group will develop and articulate a clear understanding of its interests, and then develop a position for the interest group based on scientific, economic, social, legal, and moral reasoning. Each group member will develop compelling arguments for his or her position.

For the negotiations, each group will be divided into three teams (an A, B, and C team), which will negotiate with members of the other interests groups in separate rooms. The A negotiators from all the interest groups will convene in one place, the B negotiators in another, and the C negotiators in another.

A small group of Bren faculty, Ph.D. students, and stakeholders will serve as facilitators for the negotiations. These individuals are not necessarily experts on fishery science, but they will help lead discussions or coach students in researching the issues, preparing positions, and conducting negotiations. At the conclusion of the negotiations, each of the three sets of negotiation
bodies will report their conclusions, and we will discuss the various outcomes collectively.

**Course Requirements**
- Complete all reading (and viewing) assignments
- Each student will prepare a 500-word document exploring the three questions a stated throughout the above.
- Everyone will actively participate on 28 September.

**Agenda**

**Friday, 28 September**

**8:30–9:00 am**
Faculty and Student Introductions.
Overview by Hunter Lenihan. (BH 1414)

**9:00–10:15 am**
View the film “Thirst”.

**10:15-11:15 am**
Each of the 7 interest groups will meet for an hour to discuss the positions of their particular group. Room assignments will be listed in 1414 during the intro.

**11:15 – 12:30 pm**
The three negotiating teams (A, B, & C) from each Interest Group will meet with their counterparts in other Interest Groups for two hours of negotiating.

A members will meet in room 1510
B members will meet in room 3526
C members will meet in 1424

**12:30-1:30 pm**
Lunch Break on your own (time for caucusing and rethinking positions)

**Afternoon**

**1:30–2:30 pm**
Teams A, B & C will reconvene in their negotiation rooms for a final round of negotiations.
2:30-3:30 pm
Each of the three negotiating bodies will prepare a short (8-10 min PowerPoint) presentation describing settlements, solutions, and critical points.

3:30-4:30 pm
All groups will assemble in Bren Hall 1414, where each of the three negotiating bodies will present its findings. A general discussion among participants will then explore the similarities and differences among the three sets of findings.