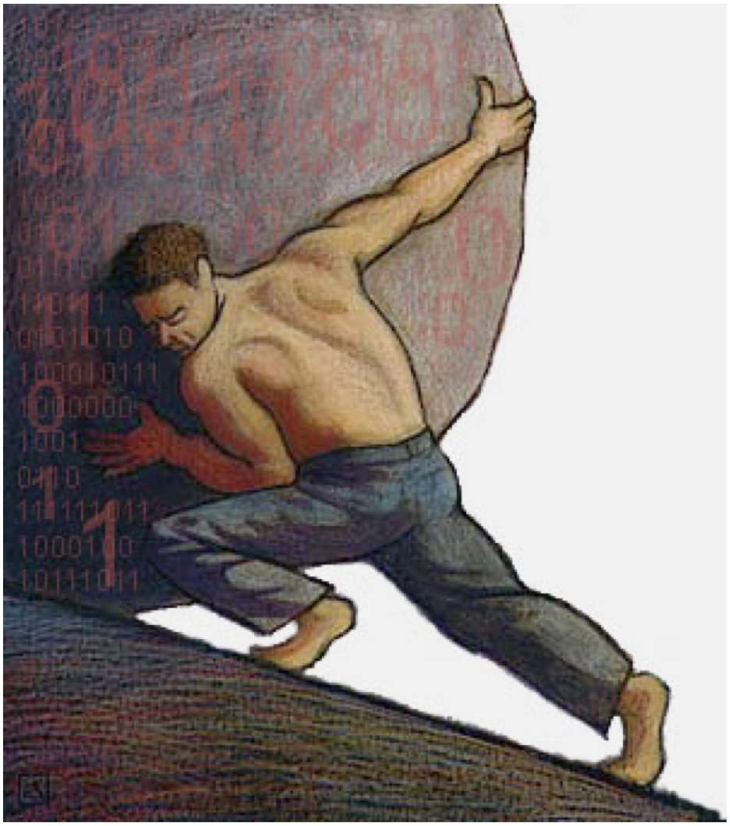
GENS/GENV 2101

Natural Resources Management in Global and Comparative Perspective

NOTE: THIS SYLLABUS IS SUBJECT TO REVISION



Instructor: Larry A. Swatuk

Date and Time: M/W/F 10:30-11:20 online on Teams

Office hours: Wednesdays 3:30-5:30pm and by appointment/ Rm 308 Avard Dixon

Introduction

Natural resource management is at the heart of humanity's relationship with the environment, linking ecological systems with social, cultural, and economic well-being. This course introduces students to the principles, policies, and practices that guide the sustainable use and stewardship of land, water, forests, minerals, and biodiversity. By exploring ecological processes, governance

frameworks, and competing values, students will critically engage with the challenges of balancing conservation and development in a world shaped by climate change, population growth, and shifting resource demands. The aim is to equip future practitioners and researchers with the knowledge and tools to analyze complex resource issues, design inclusive management strategies, and contribute to resilient socio-ecological systems.

Objectives:

At the end of this course, students will have (a) a solid understanding of natural resources management; (b) a good general knowledge of the main issues in NRM; (c) a good general knowledge of the key actors, forces and factors in NRM; (d) a capacity to differentiate the resource management challenges facing people, groups, communities and states in different parts of the world; (e) knowledge of the various options available for dealing with particular resource management challenges; and (f) an improved skill set for informing better policy making be it for a state, a civil society organization or a private sector company.

Expectations:

The instructor and students will attend all classes. Everyone will come to our virtual classroom prepared by having read the required readings and all supplementary materials (if any) provided by the instructor. Students will participate meaningfully through group work (if any), question and answer periods, and so on. Students will hand in assignments on time and will abide by the rules of the university regarding plagiarism and academic integrity. The instructor will assess all student work as objectively as possible and deliver feedback and grades to students as expeditiously as possible. Students will not multi-task during class. Students will complete the readings ahead of class time. Students are expected to be active participants in the course.

Pedagogy:

The basic pedagogy of the course involves (i) delivery of a lecture devised around a set of required and recommended readings; (ii) multi-media where/when appropriate; (iii) open structured discussion.

Readings:

There is no textbook for this course. The readings consist of peer-reviewed journal articles selected specifically for each topic. The readings are not meant to be just a colorful background to the lectures. The lectures are shaped around the readings. For students to get the most out of this course, therefore, they must do their readings. All readings will be uploaded for the student onto the Moodle platform no less than one week before it is discussed in class.

Assessment of learning

Assignment	Weight %	Due date
Participation	10%	On-going
Monthly quiz	3 x 20% = 60%	• Feb 6 • Mar 13 • Apr 6
Personal project	20%	To be determined following submission of the "Understanding Your Interests" ungraded assignment
Initial 'visioning' exercise	10%	See details in Moodle

Late policy: Assignments may be either physically handed in in class or submitted via the course e-platform. You are expected to take account of the possibility of computer or printer failure in planning your time. Emailed or faxed assignments will not be accepted. The penalty for late assignments is 5 % of the total possible mark per day, including weekends and holidays. I will not accept assignments more than 5 days after the due date unless we have a prior arrangement.

When You Cannot Meet a Course Requirement Due to Illness or Other Reasons: There will be no unpenalized extensions on assignments except for illness, severe personal extenuating circumstances, or weather emergencies. When you find yourself unable to meet a course requirement because of medical, compassionate or other reasons, please advise me in writing by ACE email; make sure to include your full name in your message. Where possible, you must contact me in advance of the assignment due date, but otherwise as soon as possible after the due date. As a rule, you must provide appropriate documentation, for example, a note from your doctor indicating the dates during which you were ill, and describing the severity of your illness. Manage your time carefully. Pressure of work alone is not an acceptable reason for seeking an extension without penalty

TOPICS

PART 1: OVERVIEW

Week 1: Introduction and getting organizaed

The management of natural resources cannot be understood without recognizing the profound challenges and rapid changes facing Earth's ecosystems. Habitat loss, climate change, pollution,

and overexploitation are transforming forests, rivers, oceans, and grasslands at unprecedented rates, disrupting ecological balances and undermining the services on which societies depend. At the same time, social and political dynamics — such as shifting land tenure, globalized markets, and the demand for water, energy and food — intensify pressures on ecosystems and expose deep inequalities in access and decision-making. These interlinked forces of challenge and change highlight the urgency of developing adaptive and innovative approaches to resource management that safeguard biodiversity, sustain livelihoods, and foster resilience in the face of uncertainty

Week 2: Theories, concepts, frameworks

Management requires a particular framework and language for thinking and action. Theories of the relationship among particular variables emerge from direct experience (induction) or from moments of intuition (deductive). To explain the relationship among the parts of a system, a conceptual language must be developed. In the world of natural resources management, a wide variety of theoretical frameworks inform action and compete for dominance. These may be organized in a variety of ways. This week we discuss them in terms of (i) ecosystems (local to regional scale); (ii) transitional/cross-scale; and (iii) biosphere/global scale. Some of the dominant ideas include the following: carrying capacity; maximum sustainable yield; integrated watershed management; common-pool resources; socio-ecological systems; ecosystem services; sustainable livelihoods; tragedy of the commons; planetary boundaries; ecological footprint; degrowth/steady-state economics.

Week 3: Foundations of NRM

Here we present an overview of the relationship between humans and the Earth. Here we will discuss. The principal processes that maintain the planetary life support system. A simple model of the Earth would look like the layers of an onion. We are most concerned with the outer layer – the ecosphere – which consists of three main layers: the lithosphere; the hydrosphere (also including the cryosphere); and the atmosphere (which may be divided into four main sub-layers: the troposphere, stratosphere, mesosphere, and thermosphere). How do these processes function and interact and how do human activities affect and/or interrupt these processes?

Week 4: Basic building blocks for decision making: Planning and Management

As Dearden and Mitchell put it, 'It is inappropriate to think that humans "manage" the environment or natural resources. Instead, we usually attempt to manage the *interaction* between humans and the environment. This is why resource and environmental management involves more than application of "science" or "technical expertise". It also requires sensitivity to various – and often different – values, interests, needs, and wants.

PART 2: FOCUS ON RESOURCES

In the second part of the course we will select particular resources for deeper investigation. Each topic is an entire course unto itself, if not an entire degree program! Some of the more common topics include the following: Freshwater; Wildlife and biodiversity; Wetlands; Atmosphere and climate; Oceans and fisheries; Forests; Agriculture; Mountain environments; Parks and Protected Areas; Tourism; Minerals and Energy; Urbanization; Conflict and Cooperation. For this course, I have chosen the following:

Weeks 6 and 7: Water (freshwater; wetlands)

Week 8: Forests

Week 9: Agriculture

Week 10: Parks and protected areas

Week 11: Minerals and Energy

Week 12: Cities

The last week will include a short summary.