Environment and Population: 
the ecology of risk, uncertainty, and demographic behavior

Spring 2006

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Concern over the relationship between population and environment abounds. But the most salient research and discussion has focused on one aspect of the relationship --human impact on the environment. In this seminar, we will be concerned primarily, though not exclusively, with the other side of the relationship – how environmental characteristics (especially the physical and biotic environments, but also the social/economic/political environment as it interacts with the above) affect population characteristics and dynamics. These two “directional arrows” are of course ultimately inseparable; the distinction here is one of emphasis. We will be concerned not only with how environmental characteristics affect human populations, but also with how responses to those environmental characteristics – mitigation or coping – in turn affect the environment. That is, we will whenever possible take a systems view. A special emphasis will be on the biological and behavioral consequences of environmental fluctuations and unpredictability.-

Outline of Course Content

I. Preliminaries

• Some definitions and directions: what we mean and where we’re going

• The need for an “ecological demography”

• Myths and models of nature and human-environment relations

2. Environment and Population

• Classic views, original and reconsidered


Netting, R. (1990) Reconsidering the Alpine village as ecosystem. Ch. 8 in Moran.


**The “new ecology”**


**Common pool resource management: tragedy(?) of the commons; individual vs. collective rationality**


• Resilience: population persistence in the face of environmental fluctuation
  » Holling C and L Gunderson, Resilience and adaptive cycles.
  » Walker B and N Abel, Resilient rangelands – adaptation in complex systems

3. Mechanisms: Individual behavior in environment-population relationships

• Responses to envir’l fluctuations: Reproductive function

• Migration

4. The need for an underlying theory – is evolutionary ecology the answer?

• Evolutionary ecology and demographic behavior
• Reproductive behavior: Life history theory, access to resources, parental investment

• Environment, health, child care and survival

5. Risk and uncertainty

• Unpredictable environments and outcomes: coping with risk and uncertainty


• Perception of risk
  
  
  

6. Participants’ projects

7. Full circle: population and environment, environment and population

  • Overview, rehash, postmortem, facile conclusions, and celebration