

GEOGRAPHY 288: FOOD SECURITY, FOOD SYSTEMS and GLOBAL CHANGE



Winter 2008

Class: W 4:00PM-7:00PM; ELLSN 5824

CONTACT INFORMATION

Instructors

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NATURE OF THE COURSE

This seminar will explore geographic traditions and new frontiers in research on the challenges of reconciling food production, food security and global economic and environmental change. Food production and food systems epitomize the often precarious nature of human-environment interactions. While agriculture has fundamentally altered the biophysical and economic landscapes of diverse regions, agriculture and rural populations are also highly sensitive to the anticipated negative outcomes of global environmental change.

Part 1 of the seminar (Geog 288 DC) will address questions such as “How has agriculture shaped landscapes in the developing world? What tools and approaches have geographers used to interpret the social and environmental outcomes of agriculture?”

Part 2 of the seminar (Geog 288 HE) will address: What is food security and how is it measured? How are food systems being transformed by globalization and climate change, and what are the potential outcomes for food security and rural livelihoods?

The seminar will present these questions in the context of the tradition of cultural and political ecology in geography, literature on household economics and rural development, and in the context of recent research on the impacts of climate change and climate change policy for food systems.

The course is being offered as two sequential 2-credit seminars (288 DC and 288 HE). Please enroll in both seminars for the complete course.

COURSE OBJECTIVES (IF WE ARE SUCCESSFUL IN THIS COURSE YOU WILL...)

1. Describe the significance and limitations of seminal approaches to food security, agriculture & environment interactions, globalization of food systems and global change
2. Select and discuss theoretical, thematic and methodological approaches within the context of a research paper

Some steps you will take to achieve the above objectives:

- Understand key arguments developed in the literature we discuss
- Recognize the significance, assumptions, and limitations of these arguments and their applicability over time and across space.
- Select conceptual frameworks that best support your research paper topic of choice.
- Understand how these conceptual models build on the canon of approaches to agriculture & environment.
- Argue persuasively for the comparative advantage of these arguments over others for developing your paper.

HOW WILL WE ACHIEVE THESE OBJECTIVES?

• **Class discussions (20%).** Students will take turns leading class discussions. Discussion leaders will direct our examination of the readings based on the course objectives. The discussions' purpose will thus be twofold: 1) the class explores the significance of the readings to the broader GEC literature and 2) students receive feedback towards the improved development of their own research paper.

To achieve these goals,

- Discussion leaders will begin the class by presenting a series of discussion questions referring specifically to the week's readings
 - Each class member will arrive in class with a 1-3 paragraph written response to the week's readings, responding to the key arguments, methods, and concepts proposed in the literature.
- **Papers/presentations.** We encourage you to seek help at Campus Learning Assistance Services. Writing tutors are available at the CLAS Bldg 300 M-Th 9-5 and Fri 10-3. Phone: 893-3269 Web: www.clas.ucsb.edu
- **10 page single-space max. paper (60%) and 15 minute presentation (20%).**

- Presentations will occur during **exam week** (March 19th) – location to be determined.
- Papers are due March 12.

Guidelines for class discussions

- Be prepared for class.
- Share and explain your opinions.
- Don't dominate; be fair about the amount of time you take to speak.
- Back up your arguments with evidence.
- Disagree politely.
- Listen carefully to other opinions.
- Change your mind when another argument is more cogent than yours.
- Do not hesitate to ask for clarification.
- Make your points succinctly, avoiding repetition, and providing a choice example of your main point.

Guidelines for the Final Paper

We will evaluate your final paper based on the following criteria:

Fulfill task requirements.

- Basic instructions are followed.

Use concepts appropriately and creatively.

- The themes discussed in class are central to your argument, and appropriate literature is cited to reach new insight on the subject.

Synthesize, interpret, and evaluate.

- You explore unusual interrelations or links that may not be obvious. Description is used only as a necessary base for synthesis, analysis, and evaluation.

Organize with logic and clarity.

- Your work follows a clear-cut and logical trajectory. The introduction and conclusion are well developed and correspond to the body of the assignment. Topic sentences form the backbone of the work and introduce the body of each corresponding paragraph. Superfluous points and *non-sequiturs* are avoided.

Display accuracy and conceptual discipline.

- No conceptual, logical, or organizational errors are apparent. All factual information or opinions not produced independently by you are cited using Author/Date style.

Present your work flawlessly (or nearly so).

- Your work is polished, an evident product of several drafts. Spelling, punctuation, and grammar are correct; word choice is judicious.

PART I: Geography of Agriculture-Environment Interactions, and Global Change

David Carr

Week 1 What is Global Environmental Change?

Turner, B. L., et al. (1990) Two types of global environmental change: definitional and spatial-scale issues in their human dimensions. *Global Environmental Change* 1, 14-22
MNRC Report *Human Dimensions of Global Environmental Change: Research Pathways for the Next Decade*. (65pp-skim)

What is Land Use/Cover Change?

NAS Report. *Land Use/Cover Change*

Lambdin et al (2001). "The Causes of Land-Use and Land-Cover Change: Moving Beyond the Myths." *Global Environmental Change* 4.

People, Farming, and Food

Hobhouse, H. (1986). *Seeds of Change: Five Plants that Transformed Mankind*. New York, Harper Row.

Charles Mann: cogweb.ucla.edu/Chumash/Population.html

Jared Diamond: muweb.millersville.edu/~columbus/data/art/DIAMOND1.ART

Crosby: muweb.millersville.edu/~columbus/data/art/CROSBY02.SPK

Schwartz: muweb.millersville.edu/~columbus/data/art/SCHWART1.ART

Brush, S. B. and B. Turner II (1987). *The nature of farming systems and views of their change*. Comparative Farming Systems. B. Turner II and S. B. Brush. New York, The Guilford Press.

Chayanov, A. V. (1986). *The Theory of Peasant Economy*. Madison, University of Wisconsin Press.

Week 2

Cultural/Political Ecology and Developing World Agriculture

Robbins, P. 2004. *Political Ecology: A Critical Introduction*. London: Blackwell. Introduction

Denevan, W. M. (1996). "A Bluff Model of Riverine Settlement in Prehistoric Amazonia." *Annals of the Association of American Geographers* 86(4): 654-681.

Netting, R. et al (1993). Agricultural expansion, intensification, and market participation among the Kofyar, Jos Plateau, Nigeria. *Population growth and Ag. Change in Africa*. Turner II, et al. U. Press of Florida: 206-49.

Blaikie, Piers and Harold Brookfield, 1987. *Land Degradation and Society*, pp. 1-26. London: Methuen.

Jokisch, B. (2002). "Migration and agricultural change: the case of smallholder agriculture in highland Ecuador." *Human Ecology* 30(4): 523-550.

Zimmerer, K. S. (2004). "Cultural ecology: placing households in human-environment studies - the cases of tropical forest transitions and agrobiodiversity change." *Progress in Human Geography* 28(6): 795-806.

J. Carney and R. Voeks. "Landscape Legacies of the African Diaspora in Brazil," *Progress in Human Geography*, 27(2)2003: 139-152.

Boserup, Ester, 1965. *The Conditions of Agricultural Growth*. Chicago: Aldine. Skim Chs. 1-3.

Week 3 Human Agriculture and Environmental Impacts

Landscape Change

Bilsborrow, R. E. (1987). "Population Pressures and Agricultural Development in Developing Countries: A Conceptual Framework and Recent Evidence." *World Development* 15(2): 183-203.

Chowdhury & Turner 2006 Reconciling agency and structure in empirical analysis: Smallholder

Mather, A. S., C. L. Needle and J. Fairbairn (1999). "Environmental Kuznets curves and forest trends." *Geography* 84(1): 55-65.

Stonich, Susan, 1989. "The Dynamics of Social Processes and Environmental Destruction: A Central American Case Study". *Population and Development Review*, vol. 15(2): 269-297.

Beach, T. and N. P. Dunning (1995). "Ancient Maya terracing and modern conservation in the Petén rain forest of Guatemala." *Journal of Soil and Water Conservation* 50(2): 138-145.

Angelsen, A. (1995). "Shifting cultivation and "deforestation": A study from Indonesia." *World Development* 23(10): 1713-1729.

Cohen, Joel, 1995. *How Many People Can the Earth Support?* W.W. Norton and Co. (selected sections)

Hecht, S. and A. Cockburn (1989). *The Fate of the Forest*. New York, Harper Collins.

Fearnside, P. M. (2007). "Brazil's Cuiaba-Santarem (BR-163) Highway: The environmental cost of paving a soybean corridor through the amazon." *Environmental Management* 39(5): 601-614.

Week 4 Institutions, Political Economy

UN-FAO, World Bank, MDGs, Others?

www.fao.org

www.worldbank.org/rural

www.ifpri.org/pubs/cp/agmdg.asp

PART II: Food Security, Food Systems, and Global Change

Food security: "Availability of food resources, access to those resources, sufficient consumption of food and appropriate utilization in a sanitary and nutritious manner"

Week 1 (Feb 13): Definitions and Approaches

What is food security, how is it theorized and how is it measured?

1. Mamadou Baro and Tara F Deubel (2006) Persistent Hunger: Perspectives on Vulnerability, Famine and Food Security in Sub-Saharan Africa. *Annual Review of Anthropology* 35: 521-38

Overview of the literature: theory, limitations, changing contexts and methods

2. Mark W. Rosegrant et al. (2003) *Science* 302: 1917

3. Lisa C. Smith, Amani E. El Obeid, and Helen H. Jensen (2000) The geography and causes of food insecurity in developing nations *Agriculture Economics* 22: 199-215.

4. Amartya Sen: (1981) Poverty and Famines Chap. 1, 4-6
5. Devereaux, S. 2007 Sen's entitlement approach: critiques and counter-critiques. In *The New Famines*. Routledge, NY.
5. Hewitt, 1983. Interpreting the role of hazards in Agriculture. *Interpretations of calamity*.
6. Webb et al. 2006. Measuring food insecurity: Why it's so important and why it is so difficult to do. *Journal of Nutrition*. 136: 1404S-1048S
7. Coates et al. 2006. Commonalities in the experience of household food insecurity across cultures: what are measures missing? *Journal of Nutrition*. 136: 1438 – 1488

Week 2 (Feb 20): Households, Food & Livelihoods: Drivers, responses and outcomes

What are common drivers and outcomes of food insecurity in rural and urban areas?

1. Humanitarian Practice Group. Tanya Beadreau 1998. *The Household Economy Approach*. Overseas Development Institute.
 2. Misselhorn, Alison A. (2005) What drives food insecurity in southern Africa? A meta-analysis of household economy studies. *Global Environmental Change* 15: 33-43.
- Household economy analysis: primary drivers**
3. Okwi, Ndeng'e, Kirsjanson et al. 2007. Spatial determinants of poverty in rural Kenya *PNAS* 104: 16775-16780

OR

Farrow et al. 2005 Exploring the spatial variation of food poverty in Ecuador. *Food Policy* 30: 510-531

OR

Bellon et al. 2005 Targeting agricultural research to benefit poor farmers: Relating poverty mapping to maize environments in Mexico. *Food Policy* 30: 476-492

4. Ruben and Van den Burg 2001 Nonfarm employment and poverty alleviation of rural farm households in Honduras *World Development* 29: 549-560
5. Marenya PP and Barrett CP 2007 Household-level determinants of adoption of improved natural resources management practices among smallholder farmers in western Kenya. *Food Policy* 32.: 515-536.
6. Ellis and Sumberg (1998) Food production, urban areas and policy responses *World Development* 26: 213-225

Week 3 (Feb 27): Globalization of food systems

1. Raynolds, Myhre, McMichael, Carro-Figueroa, Buttel (1993) The “new” internationalization of agriculture: A reformulation. *World Development* 21:1101-1121
2. Goodman and Watts 1994 Reconfiguring the rural or fording the divide – capitalist restructuring and the global agrofood system. *Journal of Peasant Studies* 22: 1-49.
3. McMichael, P. (2001) The impact of globalization, free trade and technology on food and nutrition in the new millennium. *Proceedings of the Nutrition Society* 60: 215-220.
4. Morgan, Marsden, Murdoch *Worlds of Food: Place, Power and Provenance in the Food Chain* selected chapters
5. Friedburg Cleaning up down south: Supermarkets, ethical trade and African horticulture. *Social and Cultural Geog* 4 1 2003
6. Maxwell & Slater 2004. Food Policy Old and New. *Development Policy Review*. 21: 531-553.

Explore: <http://www.foodcircles.missouri.edu/discoverCFS.htm> (Hefferman & Hendrickson Corporate consolidation food chain)

Week 4 (March 5): Challenges for food systems: Biofuels & GM crops

Biotech & Food Security

1. Uma Lele Biotechnology: Opportunities and Challenges for Developing Countries *American Journal of Agricultural Economics*. 85: 1119-1125.
 2. Ian Scoones: 2007 Can GM crops prevent famine in Africa? In *The New Famines* Routledge, NY: 312-336.
 3. Lipton, Micheal. 2007. Plant Breeding and the Poor. *Journal of Development Studies*. 43: 31-62
- Maybe: 4. Marsden, Terry. 2007. *Agri-food contestations in rural space: GM in its regulatory context*. *Geoforum*. In press...

Biofuels

5. Sagar, Ambuj and Kartha Sivan. 2007 Bioenergy and sustainable development? *Annual review of environment and resources*. 32: 131-67.
6. Mol, Arthur (2007) Boundless Biofuels? *Sociologia Ruralis* 47: 297-315.
7. Peskett, Slater et al. 2007 Biofuels, Agriculture and Poverty Reduction. *Natural Resource Perspectives*. 107.

<http://www.scidev.net/dossiers/index.cfm?fuseaction=keydocs&dossier=6&doctype=45>

Week 5 (March 12 – WILL NEED TO RESCHEDULE) : GEC and Food Systems

1. Aggarwal, PK, PK Joshi, JSI Ingram, RK Gupta. 2004. Adapting food systems of the Indo-Gangetic plains to global environmental change. *Environmental Science and Policy*. 7: 487-498.
2. Eriksen P *in press*. Global Environmental Change and Food Systems. *Global Environmental Change*.
3. Plummer, R. and D. Armitage (2007). "A resilience-based framework for evaluating adaptive co-management: Linking ecology, economics and society in a complex world." *Ecological Economics* 61: 62-74.
4. Reilly, J. and D. Schimmelpfenning (2000). "Irreversibility, uncertainty, and learning: Portraits of adaptation to long-term climate change." *Climatic Change* 45: 253-278.
5. Metzger, Leemans, Schroter (2005) A multidisciplinary multi-scale framework for assessing vulnerabilities to global change. *International Journal of Applied Earth Observation and Geoinformation*. 7: 253-267.
6. Morton et al., 2007. The impact of climate change on smallholder and subsistence agriculture. *PNAS*. 104: 19680-19685.
7. Tubiello et al. 2007 Crop and Pasture responses to climate change. *PNAS*. 104: 19686-19690