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RSCN 571.01: International Conservation and Development

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RSCN 571: International Conservation & Development

Spring 2011
3 credits, grade

Time: T & Th 8:10 – 9:30 AM
Location: Journalism 113

Instructor:

Stephen Siebert
office: SC 406 tel: 243-4661

Office hours: T & Th 11:30 - 1 PM
Email: steve.siebert@cfc.umt.edu

Course description:

A critical review of international conservation and development approaches and experiences with a focus on tropical and subtropical developing states. This is a graduate-level course intended for students preparing for field assignments. We will explore conservation and development challenges in the context of rapidly changing ecological, socioeconomic and political conditions likely to be encountered while working in the field. Weekly topics will be covered through lectures on Tuesdays followed by discussions on Thursdays.

Course requirements:

Attendance, informed participation, one in-class presentation, preparation of an annotated bibliography, and a term paper on a topic pertaining to your international assignment or a specific subject of interest.

Learning Outcomes:

At the conclusion of this course students will be able to:

- identify, describe and evaluate the relative importance of underlying driving forces of forest degradation and conversion in the tropics and subtropics;
- identify and describe important climatic, edaphic and floristic characteristics of and constraints to the development and sustained use of tropical soils and forests;
- describe the role and importance of national and international policies and macroeconomic conditions on land use in tropical and subtropical countries;
- describe the history, effectiveness and challenges associated with biodiversity conservation and protected area management efforts in tropical and subtropical countries; and
- commence ICD M.S. degree field work having completed a review of relevant literature and prospectus of proposed research.

Grading (+/- grading will be used):

Seminar presentation	30 %
Annotated bibliography (due May 5)	30
Term paper (due May 5)	30
Attendance & participation	<u>10</u>
Total	100 %

Readings:

Readings are available on ERES: <http://eres.lib.umt.edu> (Password: RSCN571)

Syllabus

Week/Date

Topic

1 Jan 25 & 27 Discussion Frameworks & Questioning Assumptions

Required readings:

- Berkes, F., J. Colding, C. Folke (eds). 2003. Navigating Social-Ecological Systems. Cambridge Univ. Press, Cambridge. pp. 13-21.
- Dove, M. 1993. A revisionist view of tropical deforestation and development. *Environmental Conservation* 20:17-24.
- Gomez-Pompa, A. and A. Kaus. 1992. Taming the wilderness myth. *BioScience* 42:271-279.
- Janzen, D. 1998. Gardenification of wildland nature and the human footprint. *Science* 279:1312-1313.
- Stocking, M. 1995. Soil erosion in developing countries: where geomorphology fears to tread! *Catena* 25:253-267.

2 Feb 1 & 3 Underlying Drivers of Forest Degradation & Conversion

Required Readings:

- Bradshaw, C. et al. 2009. Tropical turmoil: a biodiversity tragedy in progress. *Front Ecol Environ* 7:79-87.
- Fearnside, P. 2008. The roles and movements of actors in the deforestation of Brazilian Amazonia. *Ecology and Society* 13(1):23 (abstract & conclusion)
- Geist, H. and E. Lambin. 2002. Proximate causes and underlying driving forces of tropical deforestation. *BioScience* 52:143-150.
- Holland, T. et al. 2009. A cross-national analysis of how economic inequality predicts biodiversity loss. *Conservation Biology* 23:1304-1313. (abstract & conclusion)
- Morton, D. et al. 2006. Cropland expansion changes deforestation dynamics in the southern Brazilian Amazon. *PNAS* 103:14637-14641.
- Rodrigues, A., et al. 2009. Boom-and-bust development patterns across the Amazon deforestation frontier. *Science* 324:1435-1437.
- Tucker, R. 2000. Insatiable Appetite. Univ. of California Press, Berkeley. pp. 1-11 & 380-388.
- Whitmore, T. 1998. An Introduction to Tropical Rain Forests. Oxford Univ. Press, NY. (pp. 1-9).

3 Feb 8 & 10 Climate and Soils

Required Readings:

- Bruijnzeel, L.A. 2004. Hydrological functions of tropical forests: not seeing the soil for the trees? *Agriculture, Ecosystems and Environment* 104:185-228 (abstract & conclusion; skim).
- Mawdsley, J., et al. 2009. A review of climate-change adaptation strategies for wildlife management and biodiversity conservation. *Conservation Biology* 23:1080-1089.
- Sanchez, P. 1976. Properties and Management of Soils in the Tropics. John Wiley & Sons, NY. (excerpts).
- Whitmore, T. 1998. An Introduction to Tropical Rain Forests. Oxford Univ. Press, NY. (pp. 156-162).

4 Feb 15 & 17 Forest Status, Diversity, Complexity & Change

Required Readings:

- Marshall, C. 2006. Fossil record reveals tropics as cradle and museum. *Science* 314:66-67.
Corlett, R. and R. Primack. 2006. *TRENDS in Ecol & Evol* 21:104-110.
Sodhi, N., et al. 2004. Southeast Asian biodiversity: an impending disaster. *TRENDS in Ecol & Evol* 19:654-660.
Whitmore, T. 1998. An Introduction to Tropical Rain Forests. Oxford Univ. Press, NY. (pp. 109-131).

5 Feb 22 & 24 Government Policies, Trade & Consumption

Required Readings:

- Chomitz, K. 2007. At Loggerheads? The World Bank, Washington, D.C. pp. 1-18, 211-219.
CIFOR. 2008. Quo vadis Indonesian forestry? *CIFOR* 45:15.
Fitzherbert, E., et al. 2008. How will oil palm expansion affect biodiversity? *TRENDS in Ecol & Evol* 23:538-454.
Green, R., et al. 2005. Farming and the fate of wild nature. *Science* 307:550-555.
Nelson, F. 2009. Conservation and aid: designing more effective investments in natural resource governance reform. *Conservation Biology* 23:1102-1108.

6 March 1 & 3 Conservation and Management: What Role Humans?

Required Readings:

- Brooks, T., et al. 2006. Global biodiversity conservation priorities. *Science* 313:58-61.
Bush, M. and M. Silman. 2007. Amazonian exploitation revisited: ecological asymmetry and the policy pendulum. *Front Ecol Environ* 5:457-465.
Denevan, W. 2004. Semi-intensive pre-European cultivation and the origins of anthropogenic dark earth in Amazonia. In: Glaser, B and W. Woods (ed). Amazonian Dark Earths: Explorations in Space and Time. Springer, NY. pp. 135-143.
Laurance, W., et al. 2002. Ecosystem decay of Amazonian forest fragments: a 22-year investigation. *Conservation Biology* 16:605-618.
Willis, K.; L. Gillison, T. Brncic. 2004. How “virgin” is virgin rainforest. *Science* 304:402-403.

7 March 8 & 10 Sustainable Use: NTFPs & Traditional Agriculture

Required Readings:

- Bird, R., et al. 2008. The “fire stick farming” hypothesis: Australian aboriginal foraging strategies, biodiversity, and anthropogenic fire mosaics. *PNAS* 105(39):14796-14801.
Cairns, M. 2007. Conceptualizing indigenous approaches to fallow management. In: Cairns, M. (ed). Voices from the Forest. RFF Press, Washington, D.C. pp. 16-36.
Campos, M and D. Nepstad. 2006. Small holders, the Amazon’s new conservationists. *Conservation Biology* 20:1553-1556.
Foppes, J., et al. 2008. Creating the right conditions. *Insight: Notes from the Field*. Issue 3, pp. 5-14. RECOFT & SNV.

- Harvey, C. et al. 2008. Integrating agricultural landscapes with biodiversity conservation in the Mesoamerican hotspot. *Conservation Biology* 22:8-15.
- Knoke, T. et al. 2009. Can tropical farmers reconcile subsistence needs with forest conservation? *Front Ecol Environ* 7:548-554.

8 March 15 & 17 Sustainable Use: Natural Forest Management for Timber

Required Readings:

- Nasi, R. & P. Frost. 2009. Sustainable forest management in the tropics: is everything in order but the patient still dying? *Ecology and Society* 14(2):40.
- Nepstad, D. et al. 2004. Managing the Amazon timber industry. *Conservation Biology* 18:575-577.
- Pearce, D.; F. Putz; J. Vanclay. 2003. Sustainable forestry in the tropics: panacea or folly? *Forest Ecology and Management* 172:229-247.
- Putz, F. et al. 2001. Tropical forest management and conservation of biodiversity: an overview. *Conservation Biology* 15:7-20.
- Putzel, L., et al. 2008. The Chinese timber trade and the logging of Peruvian Amazonia. *Conservation Biology* 22:1659-1661.
- Whitmore, T. 1998. An Introduction to Tropical Rain Forests. Oxford Univ. Press, NY. (pp. 131-144).

9 March 22 & 24 Conservation, Development and Social Justice - Discussion

Tuesday (3/22) Discussion:

Required Readings:

- Bruner, A.; R. Gullison; R. Rice; G. da Fonseca. 2001. Effectiveness of parks in protecting tropical biodiversity. *Science* 291:125-128.
- Butler, R. & W. Laurance. 2008. New strategies for conserving tropical forests. *TRENDS Ecol. & Evol.* 23:469-472.
- Hayes, T. 2006. Parks, people, and forest protection: an institutional assessment of the effectiveness of protected areas. *World Development* 34:2064-2075.
- Ostrom, E. 2009. A general framework for analyzing sustainability of social-ecological systems. *Science* 325:419-422.
- Perrings, C. et al. 2010. Ecosystem services for 2020. *Science* 330:323-324.

Thursday (3/24) Discussion:

- Berkes, F. 2008. Community conserved areas: policy issues in historic and contemporary context. *Conservation Letters* 2:19-24.
- Campese, J., et al. 2009. What have we learned and where do we go from here. In: Campese, J., et al. Rights-based Approaches. CIFOR/IUCN, pp. 287-305.
- Dressler, W. et al. 2010. From hope to crisis and back again? A critical history of the global CBNRM narrative. *Environmental Conservation* 37:5-15.
- Shackleton, C. et al. 2010. Reflecting on the next generation of models for community-based natural resource management. *Environmental Conservation* 37:1-4.
- Zahabu, E. and G. Jambiya. 2009. Community-based forest management and carbon payments: real possibilities for poverty reduction? *The Arc Journal* 21:25-27

10 March 29 Conservation Alternatives - Discussion

Required Readings:

Campbell, B. 2009. Beyond Copenhagen: REDD+, agriculture, adaptation strategies and poverty. *Global Environmental Change* 19:397-399.

Milder, J. et al. 2010 Trends and future potential of payment for ecosystem services to alleviate rural poverty in developing countries. *Ecology and Society* 15(2):4.

Phelps, J. et al. 2010. Does REDD+ threaten to recentralize forest governance. *Science* 328:312-131.

Putz, F. and K. Redford. 2009. Dangers of carbon-based conservation. *Global Environmental Change* 19:400-401.

March 31 Case Study: Lore-Lindu National Park, Indonesia

Required Readings:

Curran, L. et al. 2004. Lowland forest loss in protected areas of Indonesian Borneo. *Science* 303: 1000-1003.

Li, T. 2007. The Will to Improve. Duke Univ. Press, Durham, NC (pp. 123-155).

Siebert, S.F. and J.M. Belsky. 2002. Livelihood security and protected area management. *International Journal of Wilderness* 8(2):38-42.

Spring Break

11 Case Studies: Student Presentations

April 12	“
April 14	“
12 April 19	“
April 21	“
13 April 26	“
April 28	“
14 May 3	“
May 5	“

Concluding Discussion - What of the future? Is change possible?

Required Readings:

Wallace, A.R. 1869. The Malay Archipelago. Oxford Univ. Press, Oxford (reprint). pp. 596-598.