

DRAFT 2 Sept 08
FES 620a:
Leaves, Livelihoods, & Landscapes:
Ecology, Socio-Economics and Politics of Development across
Borneo

**First introductory meeting: Friday Sept 08 12-12:50;
230 Prospect S. classroom**

Tuesdays 12:00 - 1:50pm; 3 credit hours

Limited to 12 students to be determined on or before Sept 9th. Interested students please contact Lisa (lisa.curran@yale.edu) and Amity (amity.doolittle@yale.edu) via email by Monday, September 8th. Class list will be posted on classes server by Sunday, September 7th. All students should come to class on Tuesday September 9th having completed all the readings and ready for discussion. A full syllabus will be available on the class website at <http://classes.yale.edu> and all readings for the first week are available as pdfs on the website.

Instructors: Lisa M. Curran and Amity Doolittle have combined over 40 years of interdisciplinary experience of research and applied conservation, development and policy experience in Borneo.

Lisa's Office Hours: Tuesday after class 2-3 pm or in Greeley Room 101 Wed 3-5; or by email appointment lisa.curran@yale.edu

Amity's Office Hours: Monday: 10:00-12:00, 230 Prospect St. 2nd floor; or by email appointment amity.doolittle@yale.edu

Teaching Assistant: Dwi Astiani, native of Kalimantan (Indonesian Borneo), Ph.D candidate. Office Hours: TBD Greeley 101 or by email dwi.astiani@yale.edu

Course description: Borneo has occupied a space of exoticism in our collective imagination ever since colonial explorers returned to the metropolis with stories of headhunters and the "wild man of the forest". More contemporary images of Borneo include massive forest fires and violent ethnic wars. Despite these images of a 'primitive', 'wild jungles' and 'Survivor Borneo' reality television shows, the past two decades have

brought unprecedented socio-economic and environmental change to Borneo.

This interdisciplinary ‘capstone’ course explores the historical, biogeographical, political and socio-economic context of anthropogenic and natural change across the Bornean landscape. Each week students will be introduced to basic concepts from the ecological and social sciences. These concepts will then be applied to specific case studies in Borneo. We will examine the interrelated issues of forest conversion, local livelihood practices, resource distribution and availability, and extractive industries coupled with political power and corruption contrasted with emerging democracy and decentralized management. By adopting multiple perspectives and using multiple lenses across nested scales of analyses, we will seek to understand the dynamics of how the landscape influences anthropogenic resource use patterns, and how resource use alters the landscape and the resulting synergies and feedbacks. Although Borneo is used as the specific context to explore these issues, comparisons and contrasts will also be emphasized with other tropical regions (e.g., tropical Latin America and Africa) and the conceptual issues should be applicable worldwide in a variety of situations.

THREE OVER-ARCHING THEMES

I. Complexity (Social & Natural Systems)

II. Perturbations & Responses

III. Resilience/Robustness

Robustness is a Santa Fe Institute and other complexity scientists – both social and natural systems term; Resilience Alliance – Holling etc. promote this concept of resilience of ecological and social systems Both terms imply interdisciplinary dynamics and responses.

or Collapse? – Thresholds of Change

– both in space (i.e., too extensive) or in time (i.e., too rapid). Notes here Jared Diamond – assigns Indonesia to Collapse in his Pulitzer prize-winning book – but that’s not Borneo *per se*. How do we define collapse?

Ecosystem functions lost – or in social systems? Lost cultural integrity? How do we define collapse of social systems – loss of networks, native languages, knowledge systems, processes of decision making ? risk averse livelihoods? Individuals vs communal?

Course format: Classes meets for 2 hours and 50 minutes long (with a ten minute intermission break). We will begin with an introductory 50 minute lecture on the week's topic followed by a period of questions. During the remainder of the seminar, we expect students to run the discussion. Each student is expected to organize a critical presentation and be equipped with discussion questions. Everyone is expected to participate actively in the discussion and, therefore, you **MUST** come prepared. As you do the readings each week, please make notes on relevant subjects for discussion, debate, or clarification.

We are aiming for an informed and lively debate of these issues for a truly interactive class.

Course requirements: There are four requirements for this course. First, you will be asked to serve as **seminar discussion leader** for **two seminars**. This will be done in pairs and will consist of preparing a 2-3 page (single spaced) critical essay on the required readings, in which you focus on one or two central themes in the readings, raise questions, and suggest further lines of inquiry. These essays will form the basis of your presentation to the class. Each essay and presentation will be 15% of your grade for a total of 30% of grade.

Second, you will post **e-journal entries on the class website every week** (except on the week when you are presenting the discussion), starting on the week of September 16, 2008. These posting should include discussion questions and should reflect some active evidence of scholarship/intellectual rigor on your part. They should be completed **before** the class for which the reading was assigned. (Late posts will not be counted towards your course grade, we expect posts to be made by **Sunday at midnight**). E-journal entries are worth 15% of your grade.

Third, **active participation in weekly seminars discussions** is essential to the success of any seminar course, 20% of your grade will be based on participation.

Fourth, you will be asked to write a **final review paper**. **Five topics or general themes will be circulated by us early in the semester and discussed in class. We will hand out extensive bibliographic references for each topic and provide guidance on how to approach these reviews.** Papers should be 20 double spaced pages; 1 inch margins, 12 pt. font; <10,000 words with references cited and

tables/figures if appropriate (no more than 3-5 pages). Papers will be written in three stages. First, you should meet with the instructors during office hours to discuss a selected broad paper topic/them before the end of October. Second, a one-paragraph abstract or outline with at least ten suitable references is due by email to the instructors on or before 5pm Friday, November 7th, 2008. Final papers (both an electronic and hard copy) are due on or before 11pm Sunday, December 14th, 2008. This paper will be worth 35% of your grade.

Readings: Each week readings are grouped in the following way:

- § Where possible, background readings are provided for those with less exposure to the material;
- § Required readings are often grouped by sub-themes;
- § Readings marked with an “*” can be purchased in the reading packet (see below) and found on reserve in the library;
- § Readings marked with “pdf” are available as electronic readings on the course website;
- § Readings marked as “reserve” are photocopies of additional readings that will be placed in reserve in the library.

PDFs: All articles are available as pdfs are available on the class website.

**Week 1: September 9th, 2008, Lecturer: Amity Doolittle
History of Colonial Exploration and Colonial Land Use in Borneo**

General Background: Overview to Colonial Intervention in Borneo

Colchester, Marcus. 1993. Pirates, squatters and poachers: the political ecology of dispossession of the native peoples of Sarawak. *Global Ecology and Biogeography Letters* 3: 158-179. (pdf) (read only pages 158-169 for colonial history).

Required readings

Tagliacozzo, Eric. 2006. Onto the coasts and into the forests: Ramifications of the China trade on the ecological history of northwest Borneo, 900-1900 CE. Pp. 25- 60 in Wadley, Reed, ed. *Environmental Change in Native and Colonial Histories of Borneo: Lessons from the Past, Prospects for the Future*. Leiden: KTLV Press. (pdf)

Doolittle, Amity 2004. Powerful persuasions: The language of property and politics in Sabah, Malaysia (North Borneo), 1881-1996. *Modern Asian Studies* 38(4): 821-850. (pdf)

Week 2: September 16th, 2008, Lecturer: Lisa M. Curran
Historical Dynamics of Bornean Landform, Paleoecology, & Biogeography
Paleo- to Present Climate & El Niño Southern Oscillation (ENSO)
Biophysical Complexity

Background- not required

Morley, R. J. 2001. Southeast Asia and the Eastern Pacific. Pp. 174-220 in *Origins and Evolution of Tropical Rainforests*, Wiley NY. (on reserve) will use some in lecture so on background.

Required readings:

Biogeography and Historical Climate: Grassland Debate

Bird, M. I, D. Taylor, C. Hunt. 2005. Palaeoenvironments of insular Southeast Asia during the Last Glacial Period: A savanna corridor in Sundaland? *Quaternary Science Reviews* 24: 2228-2242.(pdf)

Potter, L. 1997. The dynamics of *Imperata*: Historical overview and current farmer perspectives with special reference to South Kalimantan, Indonesia *Agroforestry Systems* 36:31-51.

Current biogeography of Bornean Plants & Primates:

Meijaard, E. & Nijman, V. 2003. Primate hotspots on Borneo: Predictive value for general biodiversity and the effects of taxonomy. *Conservation Biology* 17 (3): 725-732. (pdf)

Slik, JWF., Poulsen AD, Ashton PS, Cannon CH, Eichhorn KAO, Kartawinata K, Lanniari I, Nagamasu H, Nakagawa M, van Nieuwstadt MGL, Payne J, Purwaningsih, Saridan A, Sidiyasa K, Verburg RW, Webb CO, Wilkie P 2003. A floristic analysis of the lowland dipterocarp forest of Borneo. *Journal of Biogeography* 30:1517-1531. (pdf)

El Niño Southern Oscillation (ENSO)

Holmgren, et al. 2001. El Niño effects on the dynamics of terrestrial ecosystems. *Trends in Evolution and Ecology* 16: 88-94. (pdf)

McPhaden, M. et al. 2006. ENSO as an integrating concept in Earth Science *Science* 15: 1740-1745 (pdf)

Climate- Borneo Specific

Walsh, R.P.D. 1996. Drought Frequency changes in Sabah and adjacent parts of northern Borneo since the late nineteenth century and possible implications for tropical rainforest dynamics. *Journal of Tropical Ecology* 12:385-407. (pdf)

Taylor, D. P. Saksena, P.G. Sanderson and K. Kuchera 1999. Environmental change and rain forests on the Sunda shelf of Southeast Asia: drought, fire and the biological cooling of biodiversity hotspots. *Biodiversity and Conservation* 8: 1159-1177. (pdf)

**Week 3 September 23th , 2008 Lecturer: Lisa M. Curran
ENSO-Mast fruiting – Forest Dynamics and Habitat
Heterogeneity
Temporal and Spatial Scale of Dynamics**

El Niño the Creator

Conceptual Overview: Phenology – Forest Dynamics and Reproductive Rhythms.

Van Shaik, C. P., J. W. Terborgh and S. J. Wright. 1993. The phenology of tropical forests: Adaptive significance and consequences for primary consumers. *Annual Review of Ecology and Systematics*. 24:353-377. (pdf)

Janzen, D.H. 1974. Tropical blackwater rivers, animals, and mast-fruiting by the Dipterocarpaceae. *Biotropica*. 4: 69-103. (pdf) (required of discussion leaders)

Required readings:

Curran, L.M., I. Caniago, G. D. Paoli, D. Astiani, M. Kusneti, M. Leighton, C. E. Nirarita, & H. Haeruman. 1999. Impact of El Niño and logging on canopy tree recruitment in Borneo. *Science* 286:2184-2188. (pdf)

Curran, L.M. & M. Leighton. 2000. Vertebrate responses to spatio-temporal variation in seed production by mast-fruiting Bornean Dipterocarpaceae. *Ecological Monographs*. 70:121-150. (pdf)

Dove, M. R. 1993. The Responses of Dayak and Bearded Pig to Mast-Fruiting in Kalimantan: An Analysis of Nature-Culture Analogies. East-West Center Reprints, Environment Series, No. 7. **

Laurence, W.F. 2000. Do edge effects occur over large spatial scales? *Trends in Ecology and Evolution* 15:134-135 plus rebuttal from Ickes and Williamson. (pdf)

Cannon, C. H., L. M. Curran, A. J. Marshall, and M. Leighton, 2007. Long-term reproductive behavior of woody plants across seven Bornean forest types in the Gunung Palung National Park (Indonesia): supra-annual synchrony, temporal productivity and fruiting diversity. *Ecology Letters* 10:956-969. (pdf)

**Week 4: September 30th, 2008, Lecturer: Lisa M. Curran
Conservation Priorities Shift in Scale and Focus:
Charismatic Megafauna, Protected Areas, Ecoregions to Tri-
National 'Heart of Borneo'**

Background for lecture (not required):

Orme, D. D.L. et al. 2005. Global hotspots of species richness are not congruent with endemism or threat. *Nature* 436: 1016-1019. (pdf)

Kier, G, Mutke J, Dinerstein E, Ricketts TH, Kuper W, Kreft H, Barthlott W. 2005. Global patterns of plant diversity and floristic knowledge. *J. of Biogeography* 32 (7): 1107-1116. (pdf)

Required Reading:

Conceptual Overview:

Zimmer, K. S. 2006. Geographical Perspectives on Globalization and Environmental Issues: The Inner-Connections of Conservation, Agriculture and Livelihoods. Pp1-43 in Zimmer, K. S. editor: *Globalization & New Geographies of Conservation*. U. Chicago Press, Chicago. Read specifically: pp 1-11 & 23-43.**

Brechin, S.R., P.R. Wilhusen, C.I. Fortwangler & P.C. West. 2002. Beyond the square wheel: Toward a more comprehensive understanding of biodiversity conservation as social and political process. *Society & Natural Resources* 15:41-64. (pdf)

BINGO Conservation Strategies

Myers et al. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403: 853-858. (pdf) Conservation International

Olson et al. 2001. Terrestrial ecoregions of the world: A new map of life on earth *Bioscience* 51: 933-938. (pdf) World Wide Fund for Nature & The Nature Conservancy

Redford, K. et al. 2003. Mapping the conservation landscape. *Conservation Biology* 17:116-131. (pdf) (BINGO synthesis)

Fonseca, da. G. A. B. 2003. Conservation science and NGOs. *Conservation Biology* 17:345-347 (pdf).

Sodhi NS, Koh, LP, Brook BW et al. 2004. Southeast Asian biodiversity: an impending disaster. *Trends in Ecology and Evolution* 19 (12): 654-660. (pdf)

Social science perspectives & Rebuttal

Role of International Conservation Organizations "Projects"

Li, Tania Murray 2007. *The Will to Improve: Governmentality, Development and the Practice of Politics*. Duke University Press. – Chapter 6 Provocation and Reversal pp. 192-229.

Debate: People vs. Nature Continues

Adams, W.M., Aveling, R., Brockington, D., Dickson, B., Elliott, J., Hutton, J., Roe, D., Vira, B., Wolmer, W., 2004. Biodiversity conservation and the eradication of poverty. *Science* 306: 1146-1149. (pdf)

Hutton, J., Adams, W.M., Murombedzi, J.C., 2005. Back to the barriers?: Changing narratives in biodiversity conservation. *Forum for Development Studies* 32, 341-337.(pdf)

Sanderson, S., 2005. Poverty and conservation: The new century's "Peasant question?". *World Development* 33, 323-332. (pdf)

Non-academic publications – review of web and conference materials.

IUCN – 5-14 October 08 Barcelona Spain –

http://cmsdata.iucn.org/downloads/iucn_programme_2009_2012_dfc.pdf

Website – Review program & topics of interest and approach 2009-2012. Examine the last IUCN conference program (2003) in Durban, South Africa.

What do you see as the major changes in thinking, approach and scale including human-nature relationships of international NGO conservation projects?

TREASURE ISLAND AT RISK: Heart of Borneo WWF (pdf).

Web-based review Assignment: internet search of the various international NGOs TNC, WCS, CI, WRI, WWF FFI etc. for their current programs in Borneo – both Malaysia and Indonesia.

Critique scale, focus, emphasis of specific regions and areas and attempt to discern the involvement of social, economic and political aspects of these programs and who is employed to do them (i.e., ecologists, economists, anthropologists, local NGO partnerships etc. Please also assess the major donors or financial support of these endeavors and the length of the program. Note please attempt to gain an historical perspective especially pre-REDD programs (~ before 2006) or PES Carbon trading focus. Because of substantial funds either promised or available to NGOs now for carbon and PES schemes, assess how these programs have shifted – at least over the last 5-10 years if possible.

**Week 5: October 7rd, 2008, Lecturer: Amity Doolittle
Indigenous and Local Community Livelihood Practices
and Rights to Natural Resources**

Conceptual Overview:

Ostrom, E. and E. Schlager. 1996. “The Formation of Property Rights” in Rights to Nature: Ecological, Economic, Cultural, and Political Principles of Institutions for the Environment – edited by Kenneth Arrow. Island Press, pp. 127- 157**

Required Readings:

Tsing, Anna. 2005. A history of weediness. Pp. 171-204 in *Friction: An Ethnography of Global Connection*. Princeton: Princeton University Press. (pdf)

Dove, Michael. 1983. Theories of swidden agriculture and the political economy of ignorance. *Agroforestry Systems* 1:85- 99. (pdf)

Madjid Cooke, Fadzilah. 2006. State, Communities and Forests in Contemporary Borneo. Canberra: Australian National University Press. Chapter Two Expanding State Spaces Using 'Idle' Native Customary Land in Sarawak, pp. 25-44 (pdf)

**Week 6: October 14st , 2008, Lecturer: Michael R. Dove
Rich Resources and Weak Peoples in Tropical Forests**

Conceptual Overview:

Tsing, Anna L. 2005. The Economy of Appearances. Chapter 2 in: *Friction: An Ethnography of Global Connection*, pp.55-77. Princeton University Press, Princeton, NJ

Required Readings

Dove, Michael R. n.d. The Banana Tree at the Gate: The History of Global Markets and Marginal peoples in Borneo. Manuscript.

**Week 7: October 21st , 2008, Lecturer: Lisa M. Curran
Resource and Land Use: Logging and Mining & Transmigration
Theme: Government and Private Sector Collusion
Power & Resources**

Background

Vatikiotis, M. R.J. 1998. "Two Functions, One Purpose: The Indonesian Army in Politics" pp. 60-91. *Indonesian Politics under Suharto: the Rise and Fall of the New Order*. Third Edition. New York: Routledge.
(*) (in lecture)

Conceptual Overview

Ascher, W. 2000. Understanding Why Governments in Developing Countries Waste Natural Resources. *Environment* 42 (March 2000): 8-18. (pdf)

Brosius, J. P. 2003. Voices for the Borneo Rain Forest: Writing the History of an Environmental Campaign In: *Nature in the Global South: Environmental Projects in South and Southeast Asia*. Greenough, P and A. L. Tsing editors: pp 319-346. *

Required readings:

The State and Resource Capture

Anonymous. 1987. The Extended Family: Survey of Indonesia. *The Economist* 15 August 1987. (*)

Ascher, William. 1998. From Oil to Timber: The Political Economy of Off-Budget Development Financing in Indonesia's Timber Sector. *Indonesia* 65: 37-62 (*).

Runyon, C. 1999. An Unfinished Revolution. *World Watch* 12 (January/February): 34-8. (pdf)

Government sponsored migration: Transmigration

Fearnside, P. M. 1997. Transmigration in Indonesia: Lessons from its environmental and social impacts. *Environmental Management* 21: 553-570. (pdf)

Effects on Institutions and Politics of Logging

Barr C. 2002. Timber concession reform: Questioning the "sustainable logging" paradigm. Pp 191-220. In : *Which Way Forward? People, Forests & Policymaking in Indonesia*. Colfer, C.J. and I. A. Pradnja Resosudarmo, editors Resources for the Future.

Ross, Michael L. 2001. " Explaining Institutional breakdown" pp. 29-53 & "Conclusion: Rent Seeking and Rent Seizing" pp. 190-203. In: *Timber Booms and Institutional Breakdown in Southeast Asia*. Cambridge University Press. (pdf)

Dauvergne, Peter. 2001. "Capitalism and Corporate Structures pp. 107-120 In: *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*. Cambridge University Press. (*)

Effects on Land use change

Curran, L.M. *et al.* 2004. Lowland forest loss in protected areas of Indonesian Borneo. *Science* 303: 1000-1003; & Supplementary online materials. (pdf)

McMorrow, J. and M. A. Talip 2001. Declines of forest area in Sabah, Malaysia: Relationship to state policies, land code and land capability. *Global Environmental Change- Human and Policy Dimensions* 11(3) 217-230. (pdf)

Effects on local community livelihoods

Parnwell, Michael J. G. and D. M. Taylor 1996. Environmental degradation, non-timber forest products and Iban communities in Sarawak: Impact, response and future prospects. Pp. 269-300 in *Environmental Change in South-East Asia: People, Politics and Sustainable Development*. M.J.G. Parnwell and Raymond L. Bryant, eds. New York: Routledge. (*)

**Week 7: October 28, 2008, Lecturer: Lisa M. Curran
Human-Environmental Synergies: Land Use Change,
Climate-ENSO– Fires, 97/98 Asian Fiscal Crisis & Political
Upheaval**

Background Global Context readings (non required for lecture):

van der Werf GR, Randerson JT, Collatz GJ, et al. 2004. Continental-scale partitioning of fire emissions during the 1997 to 2001 El Nino/La Nina period. *Science* 303 (5654): 73-76. (pdf) (will be in lecture)

Achard, F. *et al.* 2003 Determination of deforestation rates of the world's humid tropical forests. *Science* 297:999-1002. (pdf) (will be in lecture)

Fires: Diversity of Proximate & Ultimate Causes in Indonesia

Applegate et. al. CIFOR summary online
WRI reference: *Trial by Fire* online

Required Readings:

Conceptual Overview:

Lavorel, S., M. D. Flannigan, E. F. Lambin and M. C. Scholes 2007.

Vulnerability of land systems to fire: Interactions among humans,

climate, the atmosphere, and ecosystems. *Mitig Adapt Strat Glob Change*. 12:33–53. (pdf)

Bornean Fires: Effects on forest and carbon emissions

Siegert, F., et al. 2001. Increased damage from fires in logged forests during droughts caused by El Niño. *Nature* 414: 437-440. (pdf)

Page S. et al. 2002. The amount of carbon released from peat and forest fires in Indonesia during 1997. *Nature* 420: 61-65. (pdf)

Dennis RA, Colfer CP 2006. Impacts of land use and fire on the loss and degradation of lowland forest in 1983-2000 in East Kutai District, East Kalimantan, Indonesia
Singapore Journal of Tropical Geography 27 (1): 30-48. (pdf)

Suyanto, S., 2007. Underlying cause of fire: different form of land tenure conflicts in Sumatra. *Mitig. Adapt. Strat. Glob. Change* 12: 67-74.

Pre- and Post-Suharto and Corporate Debt

Schwarz, A. 1997. Indonesia after Suharto. *Foreign Affairs* 76(4): 119-134. (pdf)

Dauvergne, Peter. 2001. The Asian Financial Crisis and Forestry Reforms. Pp. 83-103 In *Loggers and Degradation in the Asia-Pacific: Corporations and Environmental Management*. Cambridge: Cambridge University Press (*)

Barr, C. D. Brown, A. Casson and D. Kaimowitz. 2002. Corporate debt and the Indonesian Forestry Sector. pp. 277-292. In : *Which Way Forward? People, Forests & Policymaking in Indonesia*. Colfer, C.J. and I. A. Pradnja Resosudarmo, editors Resources for the Future.

Effects on local community livelihoods

Sunderlin WD, Angelsen A, Resosudarmo DP, et al. 2001. Economic crisis, small farmer well-being, and forest cover change in Indonesia. *World Development* 29 (5): 767-782. (pdf).

Week 9: November 4th, 2008, Lecturer: Amity Doolittle

Resistance, Contested Claims, Land and Resource Rights

Conceptual Overview:

Norgrove L. and D. Hulme. 2006. Confronting Conservation at Mount Elgon, Uganda. *Development and Change* 37(5): 1093–1116 (2006).

Required readings

Brosius, Peter. 1997. Transcripts, divergent paths: resistance and acquiescence to logging in Sarawak, East Malaysia. *Comparative Studies in Society and History* 39: 468-510. (pdf)

Peluso, Nancy Lee and Emily Harwell. 2001. "Territory, Custom, and the Cultural Politics of Ethnic War in West Kalimantan Indonesia." In: *Violent Environments*. Nancy Lee Peluso, Michael Watts, eds. Ithaca: Cornell University Press.*

McCarthy, John. 2004. Changing to Gray: Decentralization and the emergence of volatile socio-legal configurations in Central Kalimantan, Indonesia. *World Development* 32 (7): 1199-1223. (pdf)

Van Klinken, Gerry. 2008. Blood, Timber and the state in West Kalimantan, Indonesia. *Asia Pacific Viewpoint*, 49 (1): 35-47. (pdf)

Week 10: November 11th, 2008, Lecturer: Amity Doolittle Civil Society, Governance and Democracy – Asian Style

Conceptual Overview:

Li, Tania, 2008. "Beyond "the State" and Failed Schemes" *American Anthropologist* 107:3, 383 – 394. (pdf)

Required readings

Thornburn, Craig. 2002. "Regime Change—Prospects for Community-Based Resource Management in Post-New Order Indonesia." *Society and Natural Resources* 15: 617-628. (pdf)

Doolittle, Amity A. 2007 'Native land tenure, conservation, and development in a pseudo-democracy: Sabah, Malaysia', *Journal of Peasant Studies* 34:3, 474 – 497. (pdf)

Peluso, Nancy; Afiff, Suraya; Rachman, Noer Fauzi 2008 Claiming the Grounds for Reform: Agrarian and Environmental Movements in Indonesia. *Journal of Agrarian Change*, Vol. 8 Nos. 2 and 3, April and July 2008, pp. 377-407. (pdf)

Fall Break 21-28 Nov 08

Week 11: Dec 2nd, 2008, Lecturer: Lisa M. Curran
Conservation Revisited:
Global (Climate) Change, Kyoto & REDD, Bali

Background- Current Global Context:

Hansen, M.C. *et al.* 2008. Humid tropical forest clearing from 2000 to 2005 quantified by using multitemporal and multiresolution remotely sensed data. *PNAS* 105: 9439-9444. (Pdf) (in lecture)

Turner II, B. F., E. Lambin and A. Reenberg 2007. The emergence of land change science for global environmental change and sustainability. *Proceedings of the National Academy of Science* PNAS 104: 20666-20671. (Pdf) in lecture

Background for Social Science- Environmental Linkages: The Challenge

Chpt 1: Rindfuss *et al.* 2003. Linking Household and Remotely Sensed Data: Methodological and Practical Problems pp 1-29 IN: *People and the Environment Approaches for Linking Household and Community Surveys to Remote Sensing and GIS*. Fox J. *et al.* editors Kluwer Academic Publishers. in lecture **

Background for REDD

UNFCCC, 2007. Decision2/CP.13: Reducing emissions from deforestation in developing countries: approaches to stimulate actions, In United Nations Climate Change Conference. Bali, Indonesia. Web

Required readings:

Conceptual Overview:

Kremen C. *et al.*, 2000. Economic incentives for rainforest conservation across scales. *Science* 288: 1828-1832. (pdf)

Kyoto - Forests REDD

COP 9- COP13

Santilli, M., P. M. Moutino, S. Schwartzman, D. C. Nepstad, L. M. Curran, and C. Nobre. 2005. Tropical deforestation and the Kyoto Protocol. *Climatic Change* 71:267-276. (pdf)

Gullison, R.E, P. Frumhoff, J. Canadell, C. B. Field, D.C. Nepstad, K. Hayhoe, R. Avissar, L.M. Curran, P. Friedlingsten, C.D. Jones and C. Nobre. 2007. Tropical forests and climate policy. *Science* 316:985-986. (pdf)

Carbon, REDD & Deforestation

Gibbs, H.K. S. Brown, S. J. O. Niles, and J. A. Foley 2007. Monitoring and estimating tropical forest carbon stocks: making REDD a reality. *Environmental Research Letters* (pdf)

Langner A, J. Miettinen and F. Siegert. 2007. Land cover changes 2002-2005 in Borneo and the role of fire derived from MODIS imagery. *Global Change Biology* 13: 2329-2340. (pdf)

Casson, A. and K. Obidzinski. 2002. From New Order to Regional Autonomy: Shifting Dynamics of “Illegal” Logging in Kalimantan, Indonesia. *World Development* 30: 2133-2151. (pdf)

REDD & Governance

Fuller, D. O. 2006. Tropical forest monitoring and remote sensing: A new era of transparency in forest governance? *Singapore Journal of Tropical Geography* 27:15-29.(pdf)

Ribot, J.C. A. Agrawal, A.M. Larson 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34:1864-1886. (pdf)

Discussion and Debate: “The Burning Season” first aired 22 July 08

Please view, download and scan the commentary from PBS website

<http://www.pbs.org/wnet/wideangle/episodes/burning-season/video-full-episode/1987/>

contrasted with:

Pro-Poor REDD documents – IUCN-et al. executive summary 3-4ppspdfs. Full report will be posted for background/interest. This will be discussed and debated

at the World Conservation Commission IUCN Oct 5-14 2008.

Assignment: Personal thoughts and reflections on the differences on popular articles and films, NGO programs, CIFOR's role, donor materials (World Bank) and scholars in the natural and physical sciences.

How have your views changed from initial interests to current evaluation of these materials now? Due/upload post break before final lecture on 5 Dec 08

Fall Break 21-28 Nov 08

Week 12: December 5th, 2008, FRIDAY!

Lecturers: Amity Doolittle & Lisa Curran

**Political, Social-Economic and Ecological Change:
Resilience and Recovery?**

Background Readings

Angelsen, A., 1999. Agricultural expansion and deforestation: modelling the impact of population, market forces and property rights. *J. of Development Economics* 58, 185-218.

Chomitz, K.M., Buys, P., World Bank., 2007. At loggerheads? : Agricultural expansion, poverty reduction, and environment in the tropical forests. World Bank, Washington (pdf)

Janssen, M.A., Schoon, M.L., Ke, W., Boerner, K., 2006. Scholarly networks on resilience, vulnerability and adaptation within the human dimensions of global environmental change. *Global Environmental Change* 16: 240-252 (pdf).

Young, O.R., Berkhout, F., Gallopin, G.C., Janssen, M.A., Ostrom, E., van der Leeuw, S., 2006. The globalization of socio-ecological systems: an agenda for scientific research. *Global Environmental Change* 16:304-316. (pdf).

Required Readings:

Conceptual Overview:

Complexity of social-ecological systems

Liu, J et al. 2007. Complexity of coupled human and natural systems. *Science* 317:1513-1516. (pdf).

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