

Agricultural Transitions in the Amazon Basin

An LBA Synthesis Activity

Products

- Monograph – about 250 pages, target publisher is Island Press, publication in early 2008
- Article in a peer-reviewed journal – major messages from book

Overview of Book Structure

Agricultural Transitions in the Amazon Basin

- **Chapter 1. Introduction** (Jerry Melillo, Mercedes Bustamante, Diogenes Alves and Ruth DeFries)
 - typology of transitions with multiple pathways possible
- **Chapter 2. Contemporary land-use change and the human dimension** (Emilio Moran, Stephen Walsh)
 - Dynamic mosaic, “extensification” versus intensification

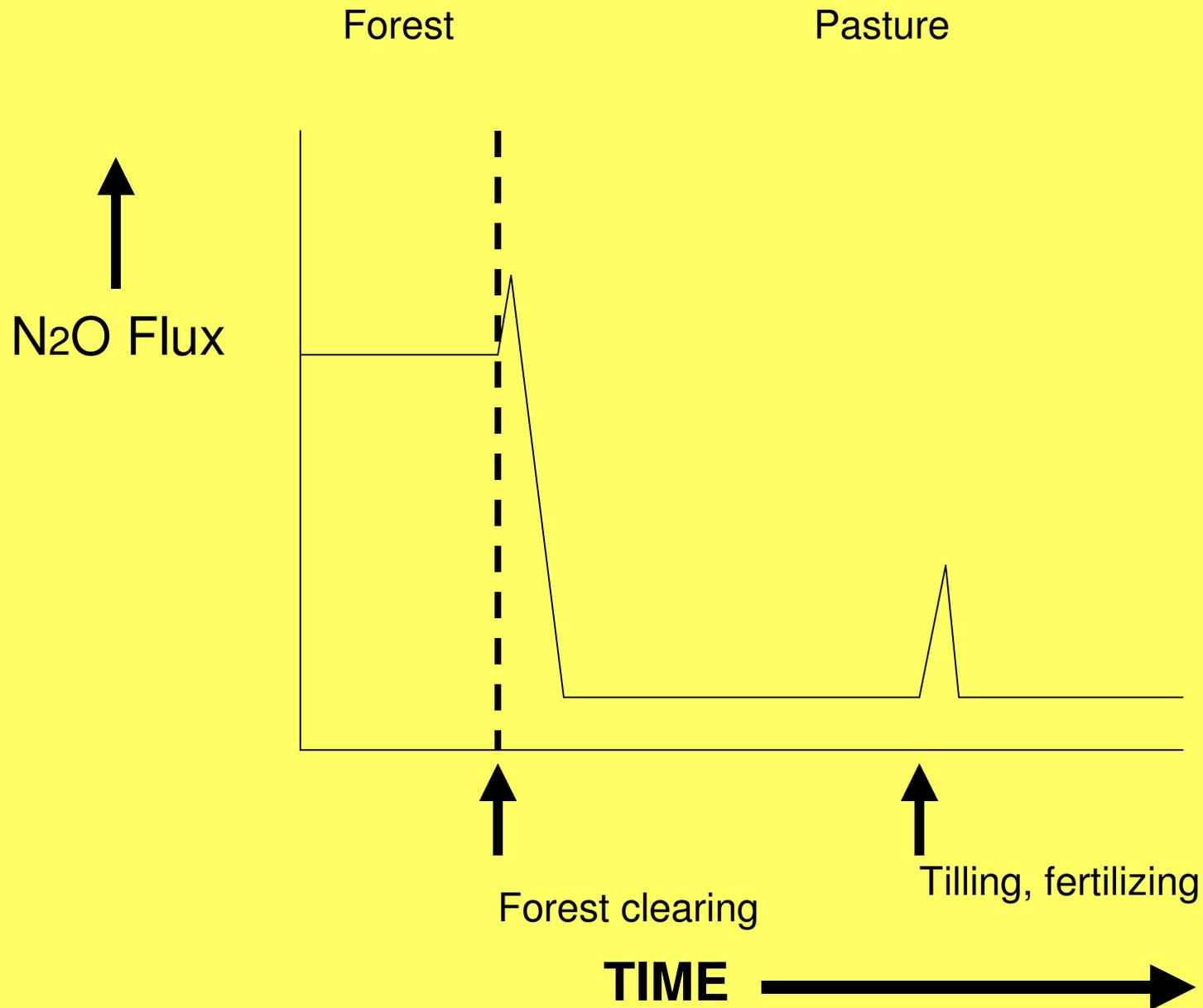
Biogeochemical Changes Along Agricultural Transitions

(Mercedes Bustamante and Chris Neill, coordinators)

Chapter 3. Agricultural transitions in the cerrado (Mercedes Bustamante, Richard Zepp – structure to be coordinated with Chapter 4)
- **Focusing on general patterns of biogeochemical changes along transition pathways (delta C,N, P stocks; gaseous and solution fluxes)**

Chapter 4. Agricultural transitions in the forest (Chris Neill, Carlos Cerri, Eric Davidson, Flávio Luizão – structure to be coordinated with Chapter 3)
- **As in Chapter 3**

Chapter 5. Comparisons of cerrado and forest transitions (Mercedes Bustamante, Chris Neill)
- **Identifying common patterns across systems**



Scaling Process-level Understanding to the Region – coupling remote sensing and simulation modeling

(Diogenes Alves, Chris Potter – coordinators)

Chapter 6. Tracking transitions: remote sensing to document changes in land cover and land use (Diogenes Alves, Ruth DeFries)

- **Focusing on pathways and rates of major land-use transitions associated with agriculture**

Chapter 7. Regional extrapolations using simulation modeling

(Chris Potter, Carlos Eduardo Cerri)

- **Using biogeochemistry models (e.g., CASA, Century) to simulate biogeochemical changes along transition pathways (delta C,N, P stocks; gaseous and solution fluxes)**

Chapter 8. Agriculture and the climate system – local to regional consequences (?Pedro Dias, Ronnie Avissar?)

- **Focusing on interactions between land-surface properties and climate system**

The Future of Agriculture in the Basin

Chapter 9. Looking to a sustainable future – (?Tatiana Sa, others?)

- Exploration of alternative futures for agriculture in the Amazon Basin, identification of policies to guide the region towards a sustainable future

Key dates:

- **March 1, 2007 – 1st drafts due and shared among authors**
- **April 21-26 – 2007 Workshop in Florianopolis to fine-tune book and write an overall synthesis article for *Ambio* or like journal**