

# Searching for Regional Sustainability in an Interlinked World: Reflections from the Amazon

Eduardo S. Brondizio

Department of Anthropology

Anthropological Center for Training and Research on  
Global Environmental Change (ACT)

Science Council of Japan  
International Conference on  
Science and Technology for Sustainable Societies

**“Building from regional to global sustainability: Visions from Asia”**

# Presentation Outline

## 1. A case for parallels between the Amazon and Asian regions

- 1.1 Underlying social and economic contexts
- 1.2 Common analytical challenges

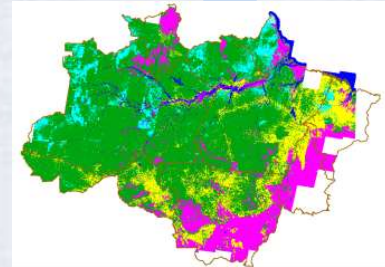
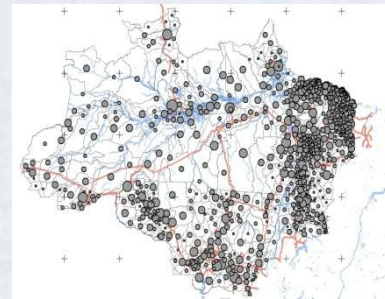
## 2. A region in transition: the last 40 years

- 2.1 Urbanization
- 2.2 LUCC & Deforestation
- 2.3 Boom of conservation units/Indigenous areas

## 3. Understanding the underlying mechanisms of change

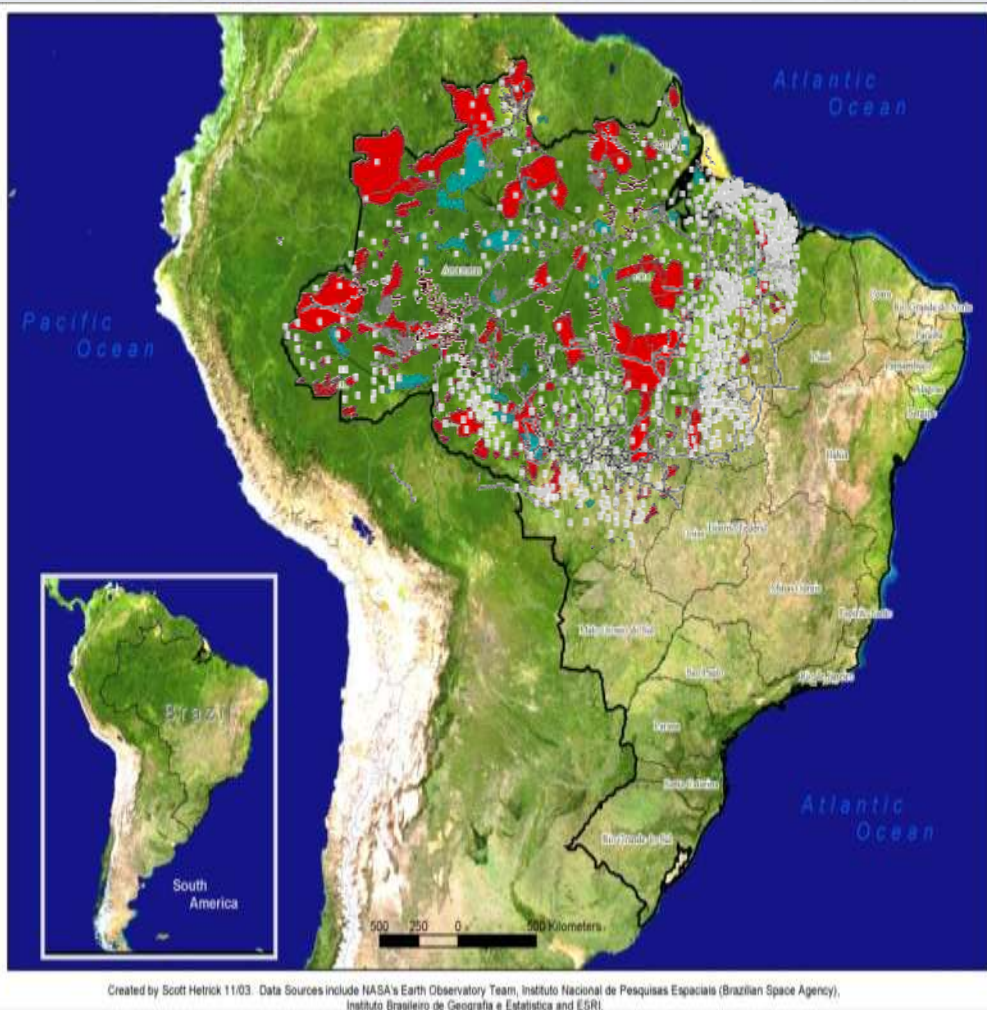
- 3.1. Families, communities, and the rural-urban
- 3.2 LUCC and level-dependent factors
- 3.3 Commodity chains, tele-connections, recurrent under-development

## 4. Broader implications



# 1. A case for parallels between the Amazon and Asian regions:

## 1.1 Underlying conditions and trajectories



### UNDERLYING CONDITIONS

- . Policies of economic development
  - . Structural adjustments
  - . Demographic transitions
  - . Social and cultural change

### TRAJECTORIES OF CHANGE

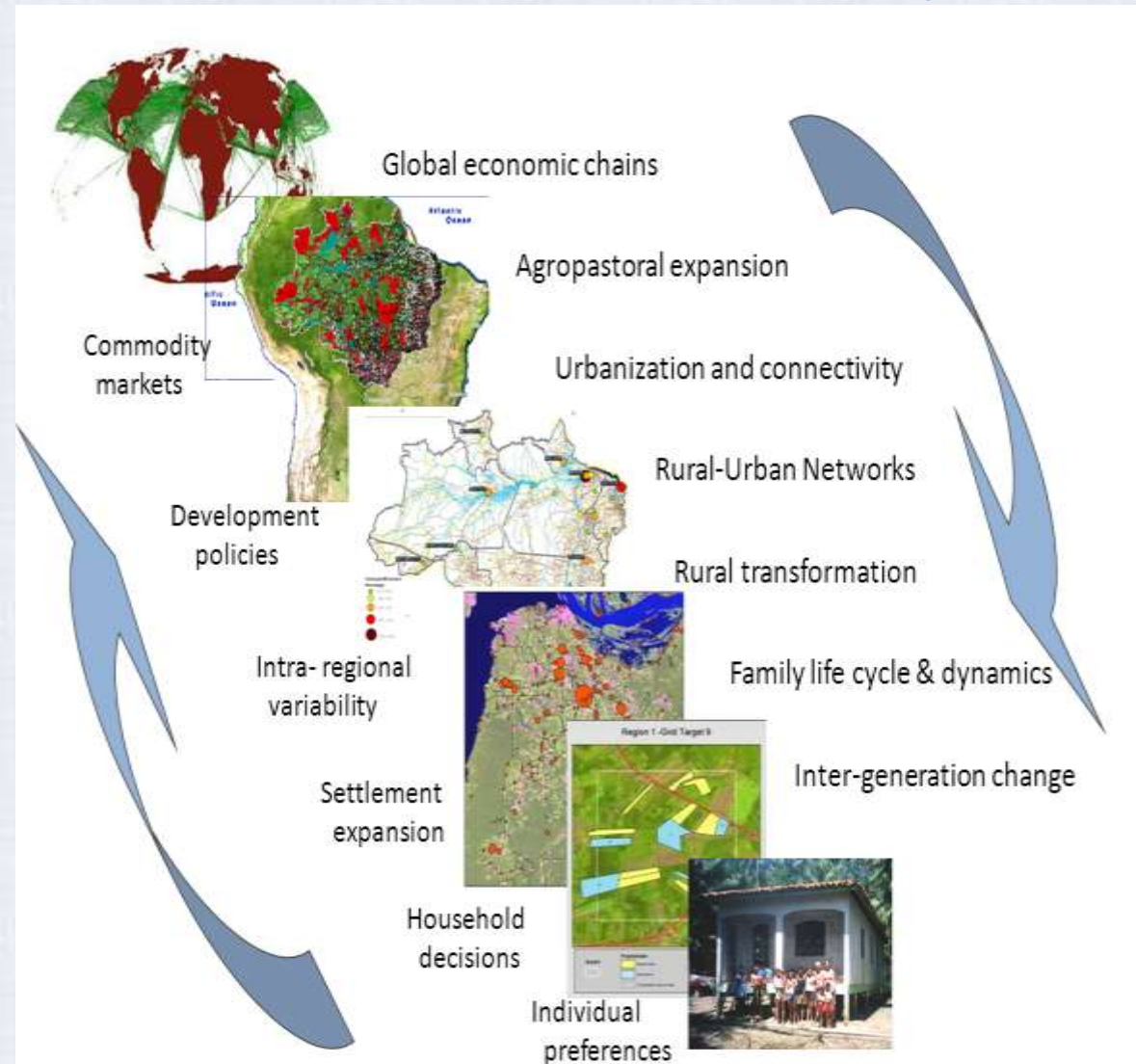
- . Intensity of urbanization
- . Deforestation and reforestation
- . Intensification and extensification
- . Complex institutional landscapes
- . Connectivity of economic systems

The Brazilian Amazon: A Transforming  
Socio-ecological Mosaic



# 1. A case for parallels between the Amazon and Asian regions:

## 1.2 Common analytical challenges



- Disciplinary traditions and level specific research
- Structure vs. Agency
- Causality vs. teleconnections
- Historical conditions and intra-regional variability
- Complex systems and policy



## Research sites

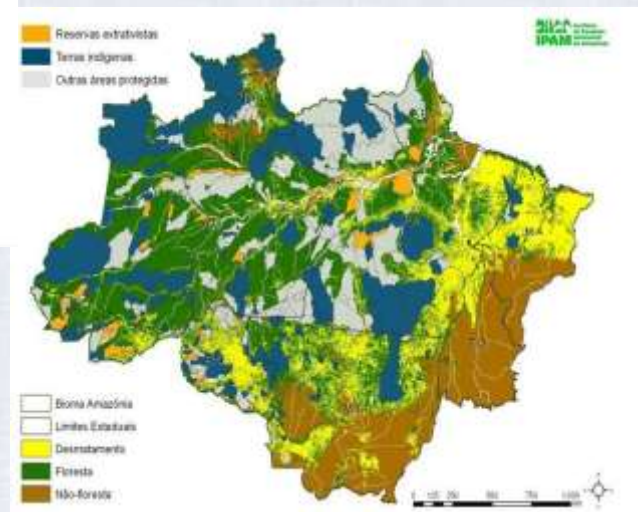
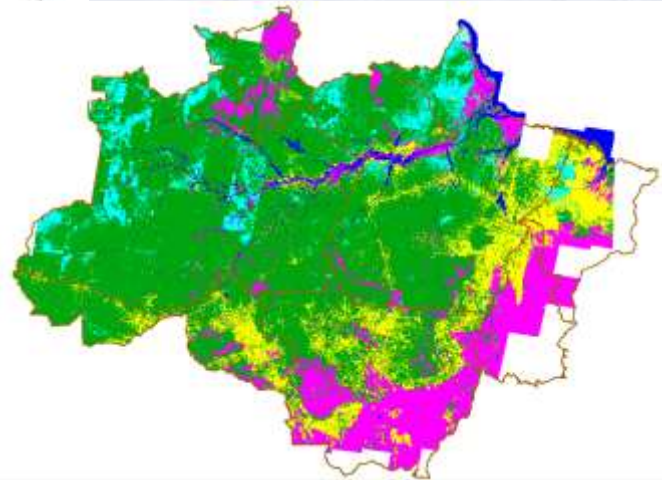
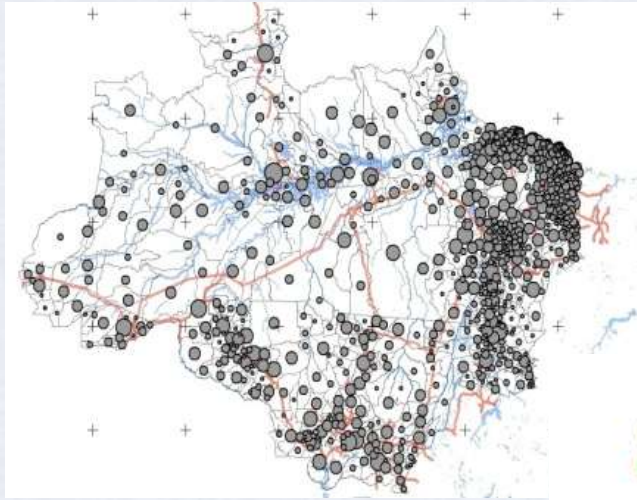
Longitudinal  
Cross-sectional  
Nested sampling

## INTEGRATIVE METHODOLOGIES

Ethnography  
Household and community survey  
Historical/Archival  
Remote sensing/Geospatial  
analysis  
Social network  
Ecological assessments

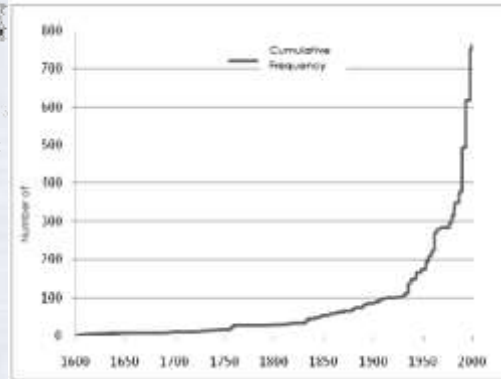
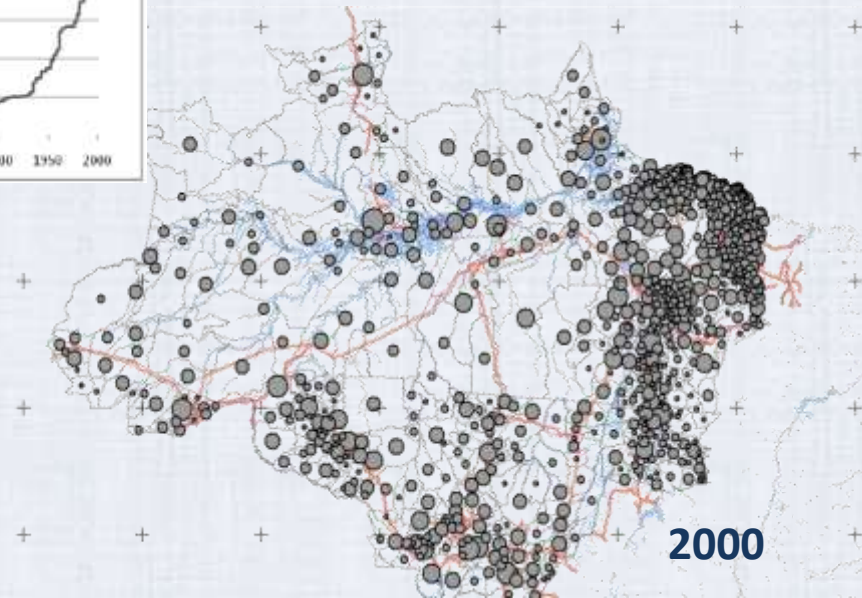
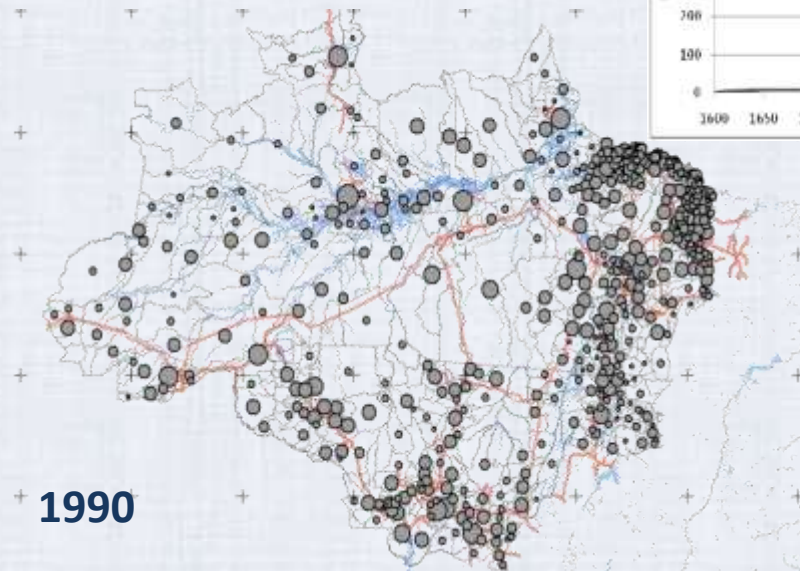
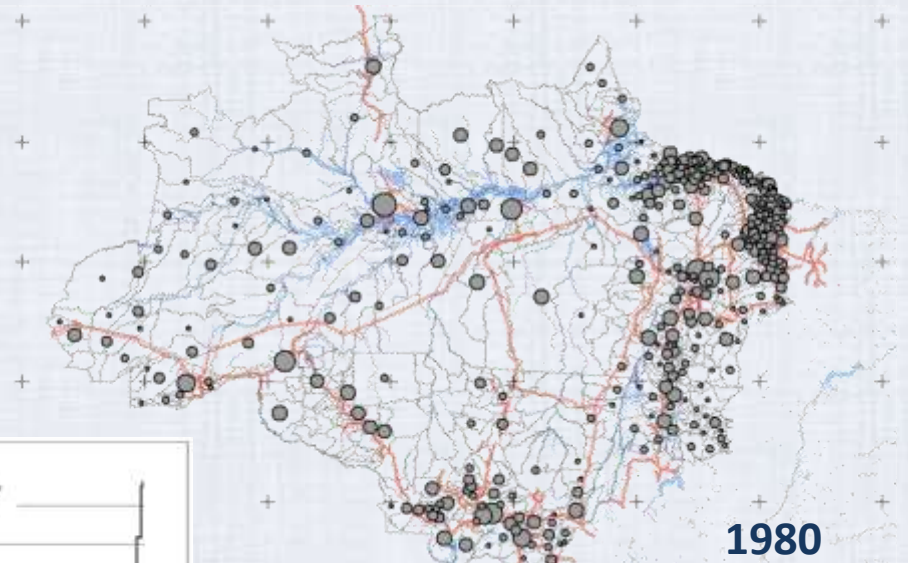
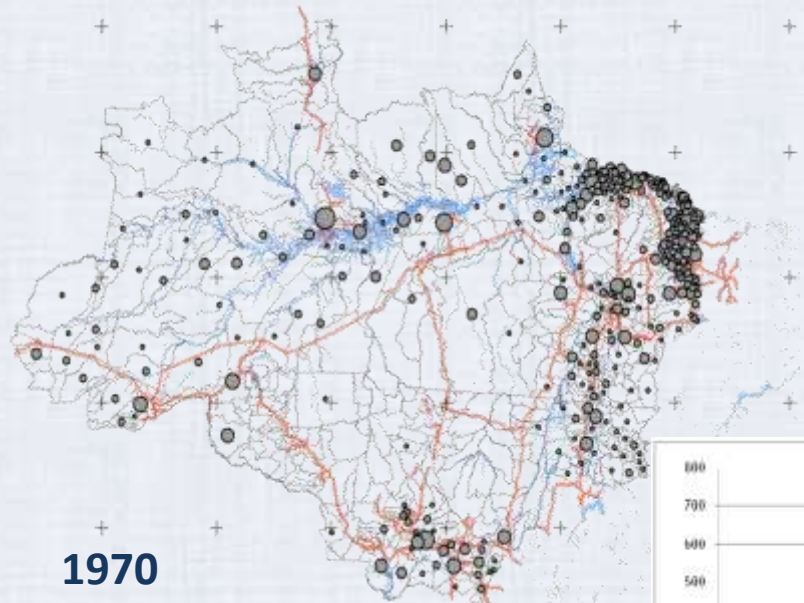
## 2. Regional trajectories: the last 40 years

### Urbanization, LUCC and Deforestation, and Reserves

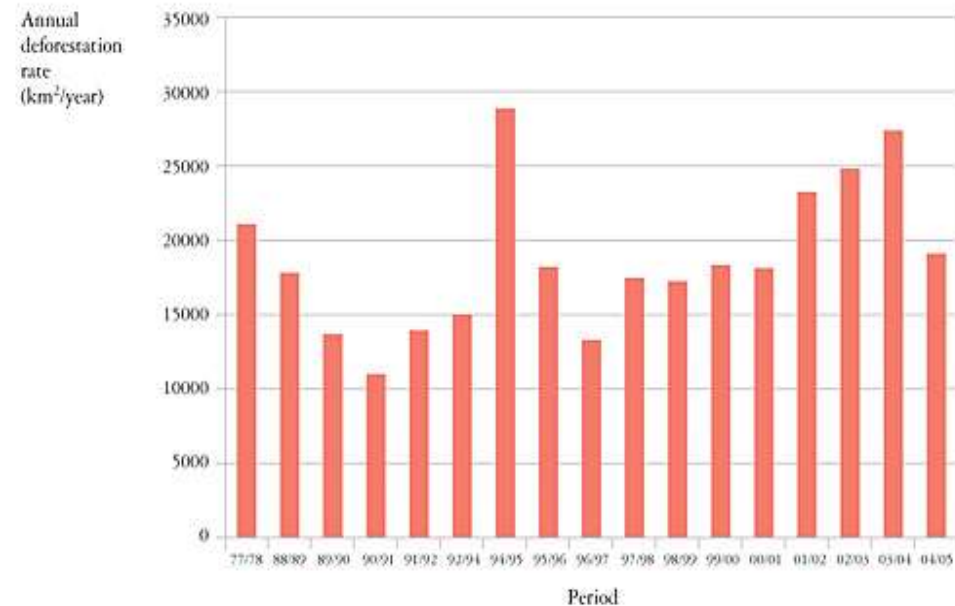
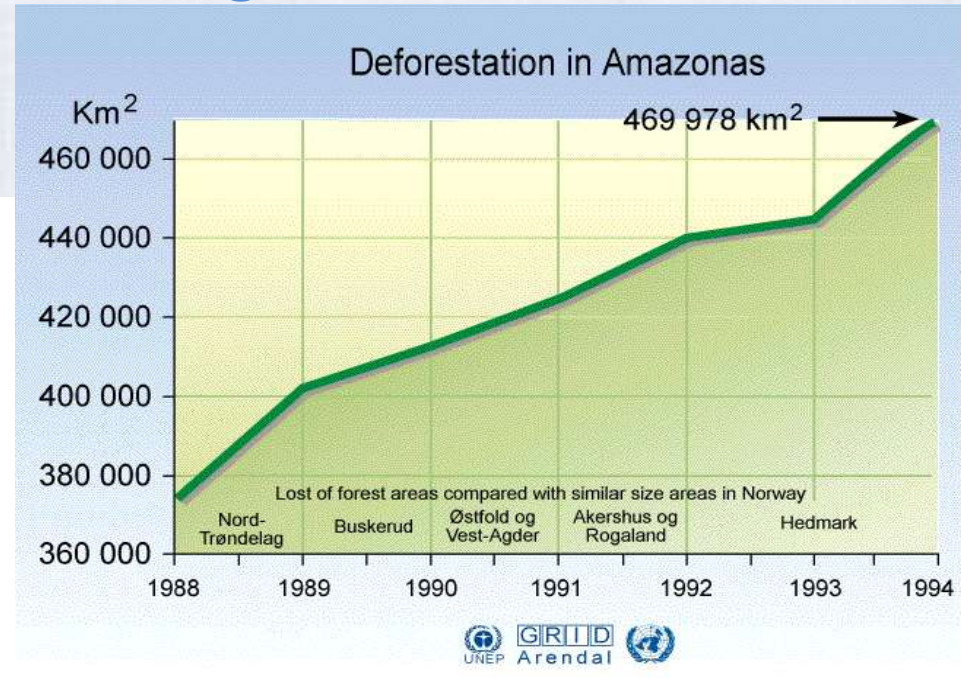
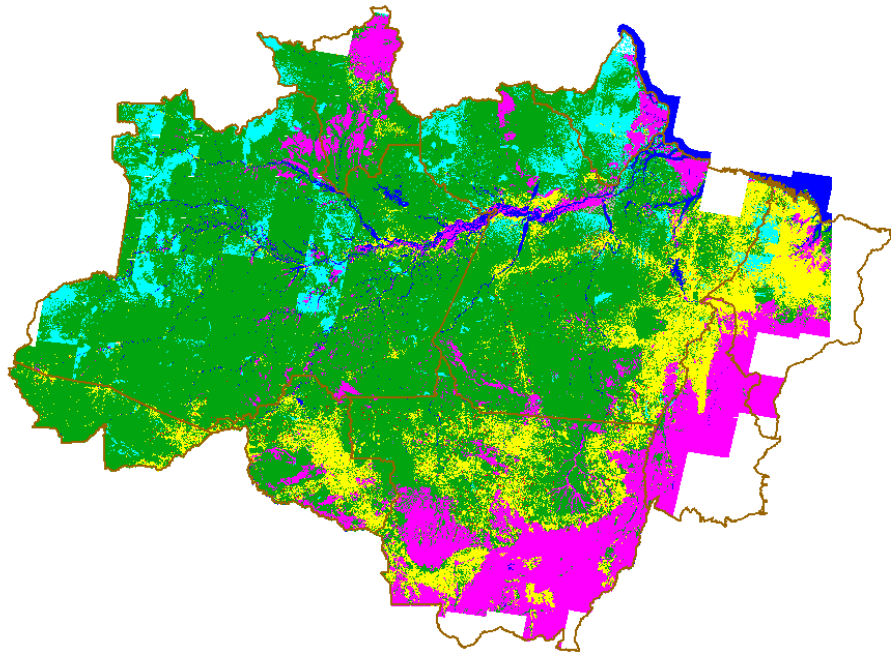




# Brazilian Amazon: Formation of urban centers and population



# Deforestation and land cover change



Geopolitical strategy

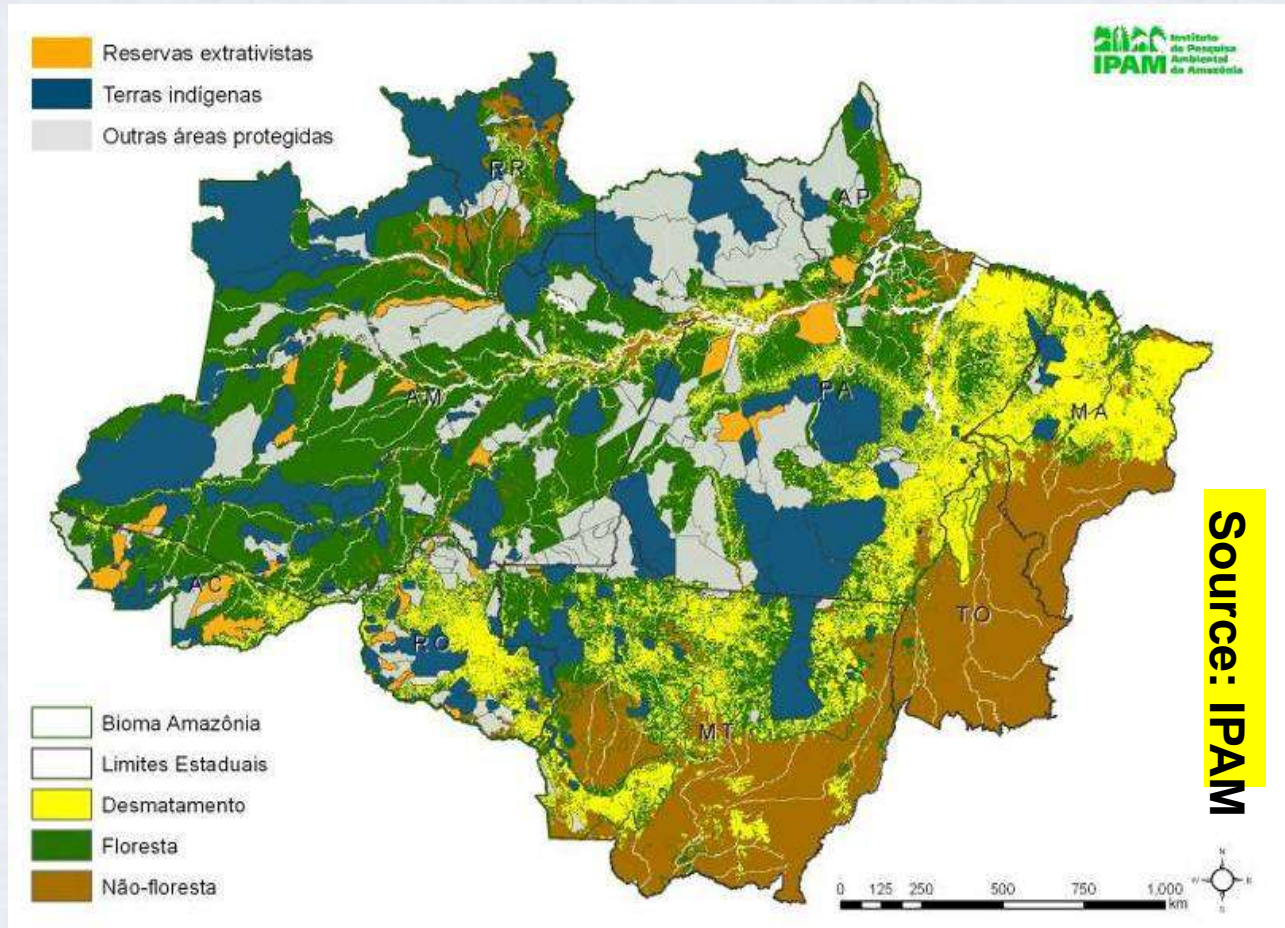
Road network

Agropastoral expansion

Regional trends, intra-regional variability



# Conservation units, indigenous reserves, community management areas



-Social movements-  
Environmentalist alliance

-International-national  
pressure against  
deforestation

-Co-existence with  
incentives for agro-  
pastoral expansion

A mosaic of institutional arrangements: 35% of the region designated as indigenous reserve, protected area, and different types of management reserve

# What have we learned about the underlying processes and mechanisms of change?

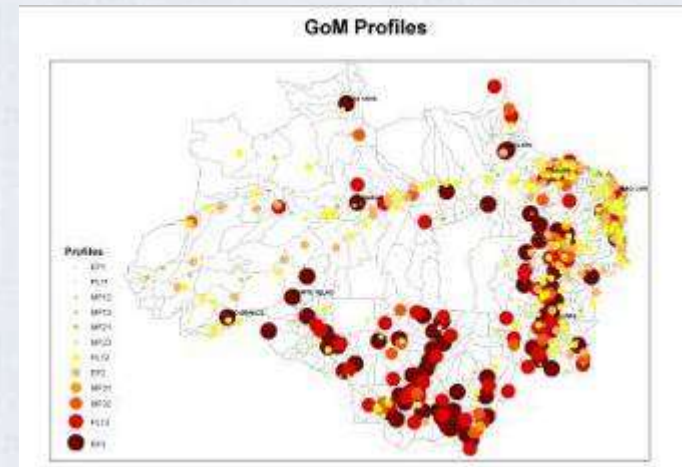
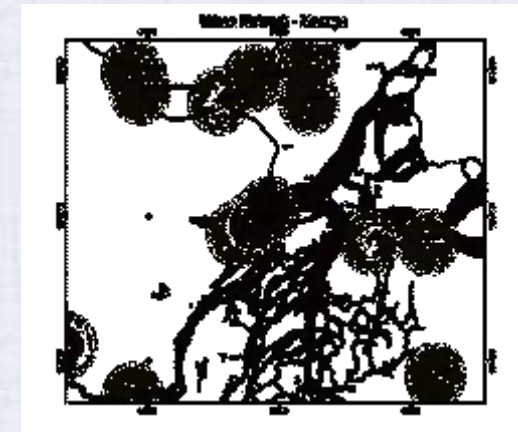
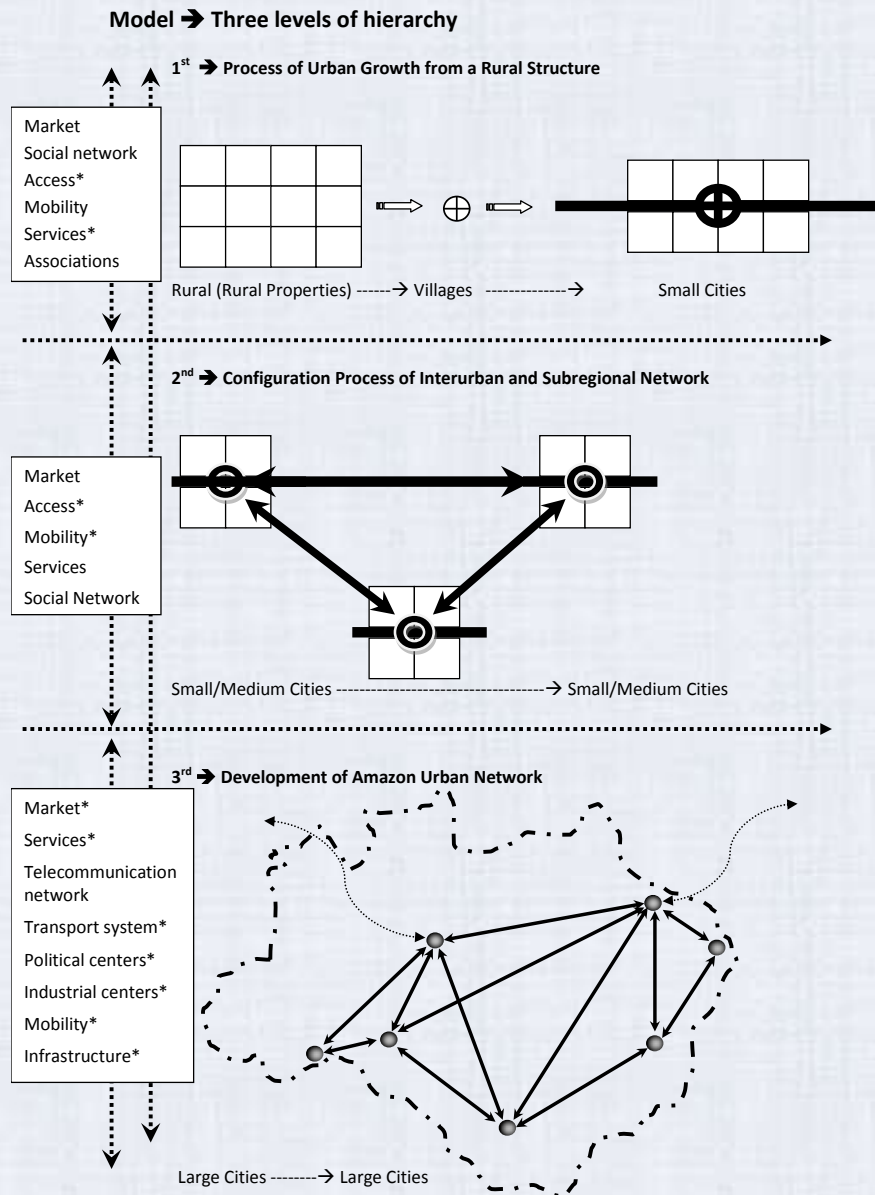
- .Formation of rural settlements and urban areas

- .Commodity chains and resource export

- .Scale-dependent LUCC trajectories

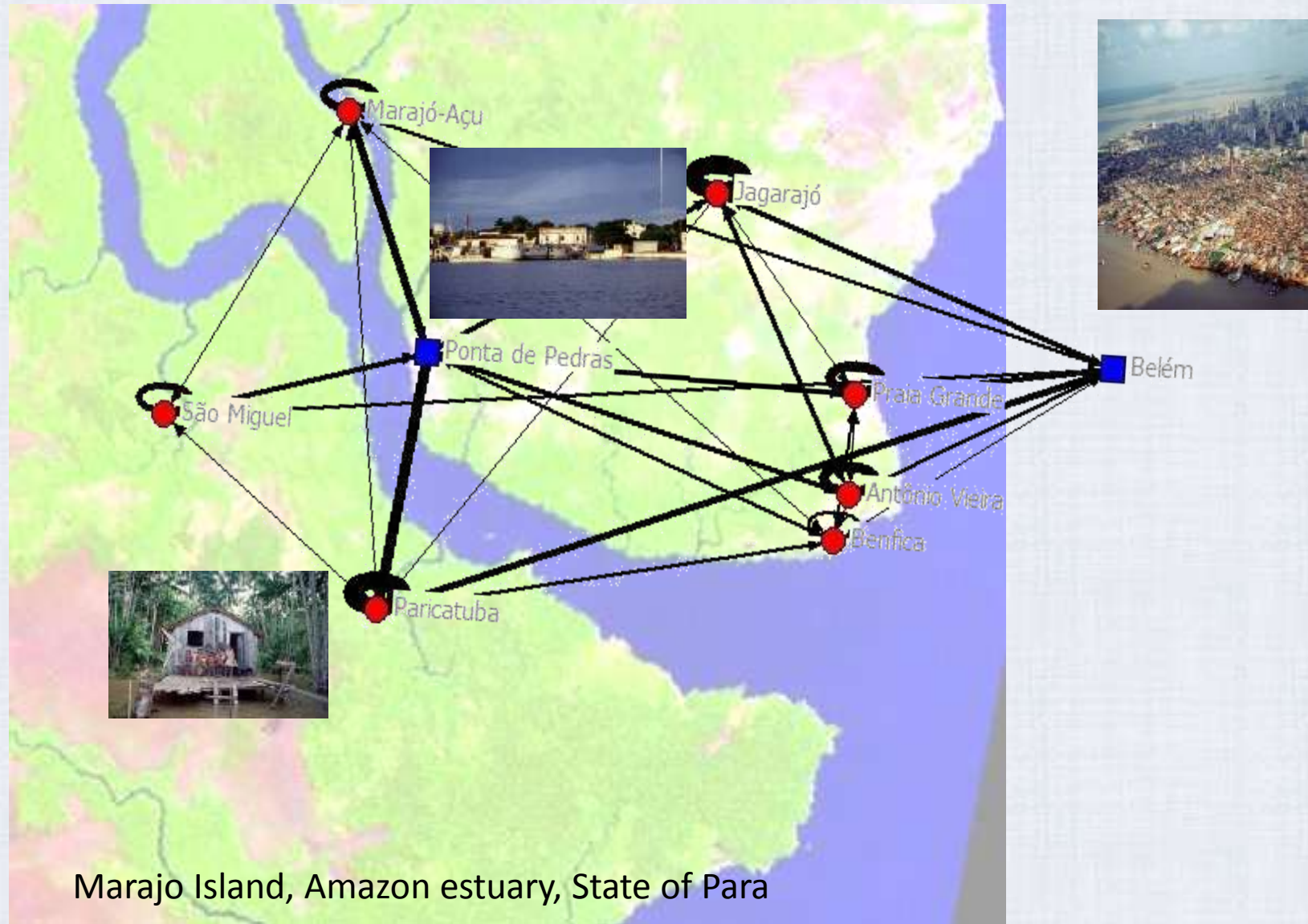
- .Interdependent institutional arrangements

# The Formation of Urban Systems and Inter-regional urban networks



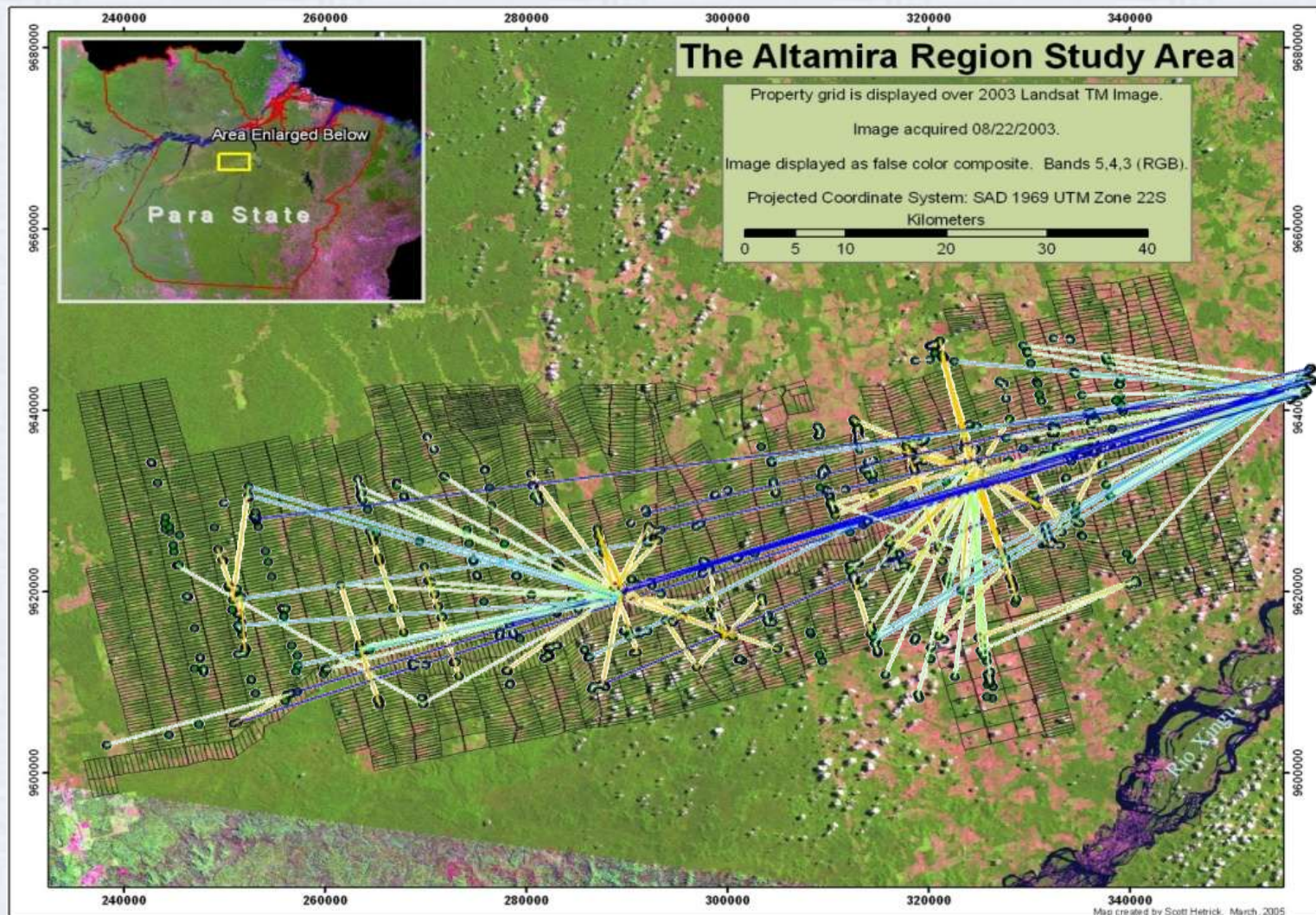


# The emergence of multi-sited households and rural-urban social networks





# Rural properties with Associated Urban Households in 2005



Unpublished A. Cak, dissertation research 2011