

# INTERROGATING SOCIAL SUSTAINABILITY IN THE BIOFUELS SECTOR IN LATIN AMERICA: GLOBAL STANDARDS AND LOCAL EXPERIENCES IN BRAZIL AND COLOMBIA



Dr. Theresa Selfa, Associate Professor  
Department of Environmental Studies  
SUNY- Environmental Science and Forestry  
Syracuse, New York, USA  
Presentation to RCN Conference,  
Recife, Brazil, July 22-25, 2014

Based on Paper under Review:

## Interrogating Social Sustainability in the Biofuels Sector in Latin America: Global Standards and Local Experiences in Mexico, Brazil and Colombia

Theresa Selfa, Department of Environmental Studies, SUNY ESF

Carmen Bain, Department of Sociology, Iowa State University

Renata Moreno, Department of Environmental Studies, SUNY ESF

Amarella Eastmond, Universidad Autonoma de Yucatan, Mexico

Sam Sweitz, Department of Social Sciences, Michigan Technological University

Conner Bailey, Department of Rural Sociology and Agricultural Economics, Auburn University

Gustavo Simas Pereira, Department of Environmental Sciences, Federal Rural University of Rio de Janeiro;  
Federal Institute of Education, Science and Technology of the State of Rio de Janeiro

Tatiana Martins, Environmental Management Lab, Department of Environmental Sciences, Federal Rural  
University of Rio de Janeiro

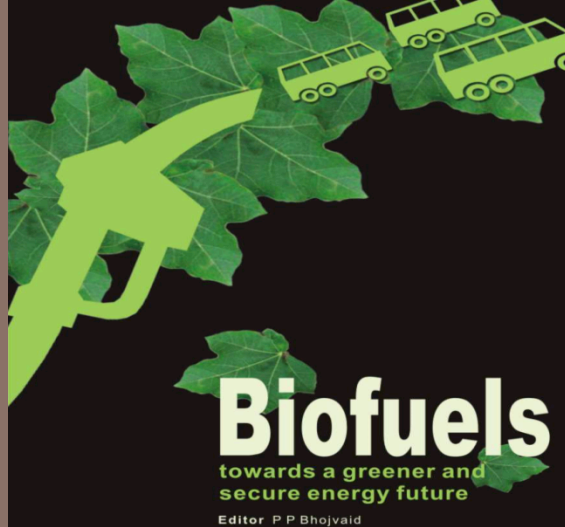
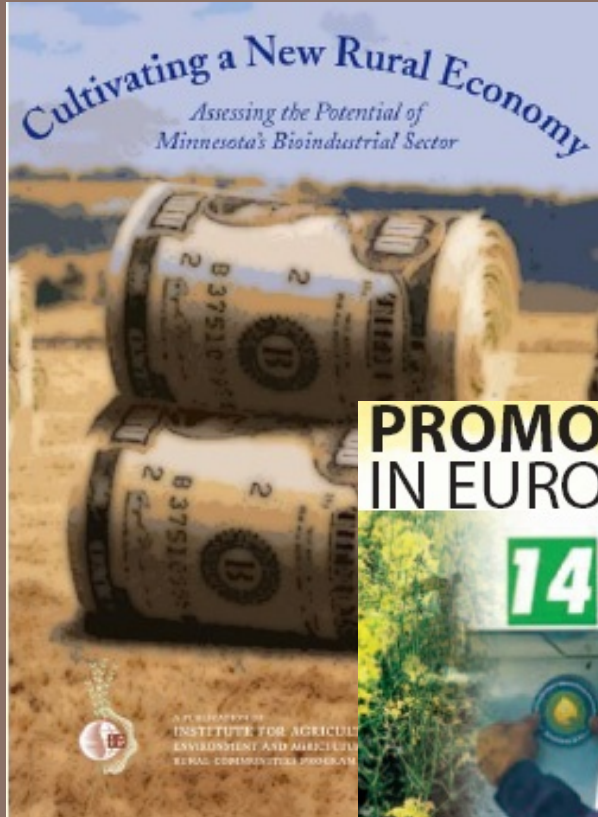
Rodrigo Medeiros, Department of Environmental Sciences, Federal Rural University of Rio de Janeiro /  
Conservation International, Americas Center for Sustainability

# Presentation Outline



1. Background- Emergence of Biofuels
2. Environmental and Social Sustainability
3. Sugarcane and Palm Production in Colombia
4. Palm Oil Production in Brazil
5. Challenges for Sustainability/ Governance Tools
6. Conclusions

# Rural Development



## PROMOTING BIOFUELS IN EUROPE



## Potential for Biofuels for Transport in Developing Countries

October 2005



**20 years** Institute for Agriculture and Trade Policy

**Where are future markets for  
Midwestern agriculture?**  
Right here in the Midwest!

## Biofuels: A Win-Win Approach That Can Serve the Poor

Peter Hazell and Joachim von Braun



# Background

- Dramatic growth in biofuel production around the world -2000s
  - Key role of governments (mandates for production and use)
  - EU 2009 Renewable Energy Directive (RED)
    - Interest in importing biofuels from Latin America
  - US 2008 Renewable Fuels Standard (RFS2)
- Expansion of Multi Stakeholder Initiatives (MSI) to **certify environmental and social sustainability**
  - MSI composed of non state, corporate and NGO actors; legitimacy through broad stakeholder participation
  - Examples: Bonsucro, Roundtable Sustainable Bioenergy (RSB), Roundtable Sustainable Palm (RSP), Roundtable Responsible Soy (RTRS)

# Background

- ❑ MSI certification and standards are necessary for imports to the EU
- ❑ Standards emphasize environmental requirements:
  - ❑ reduction of GHG emissions
  - ❑ biofuels production does not occur on lands with high biodiversity or conservation areas
- ❑ Standards have fewer social requirements
  - ❑ Should ensure that labor and land tenure laws, human rights are respected
  - ❑ Should improve livelihoods for local communities

# Research Objectives

- Multi-site comparative research interrogates:

- How are global standards translated into local places?

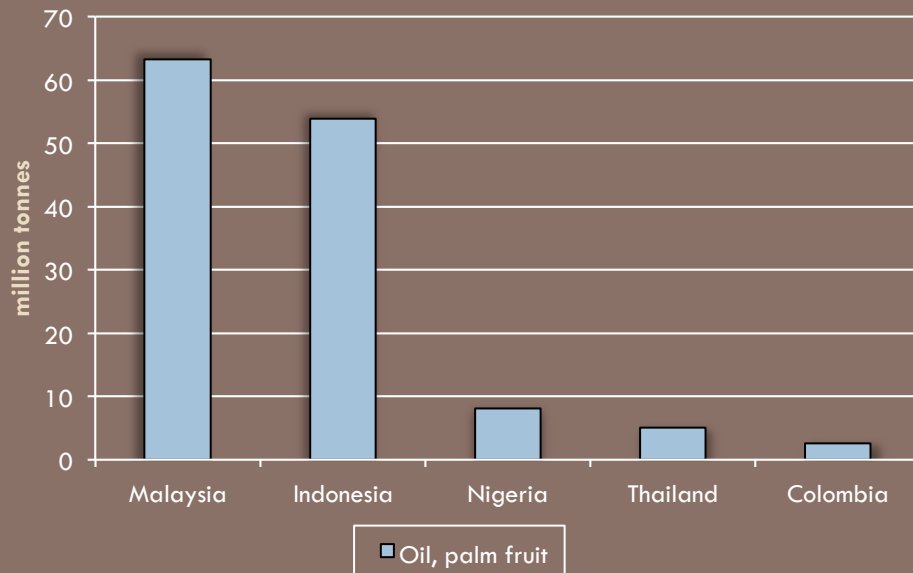
(Silva-Castenada, 2012; Selfa, Bain and Moreno, 2014; Kohne, 2014; Klooster, 2011; German et al 2011; Bailis and Baka, 2011; Elgert, 2012)

- How can we enact and measure social sustainability, i.e. livelihoods and resilience?

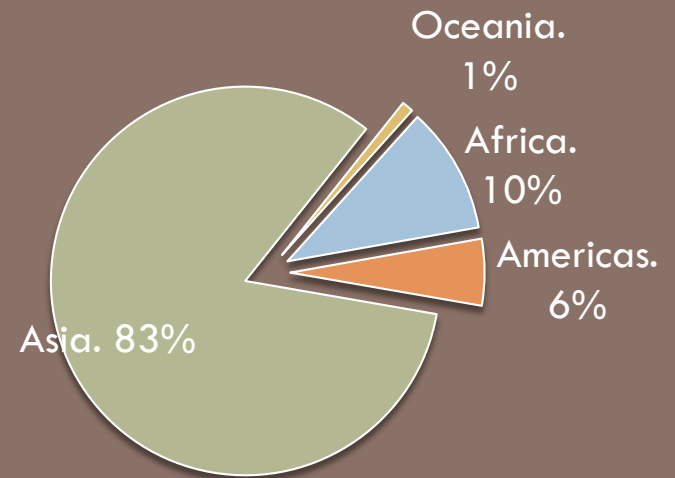
(Hunsberger, et al. 2013; Stattman and Mol, 2013; Wilkinson and Herrera, 2013)

# Palm oil in the World

Production of top 5 palm oil producers  
Average 1992-2012



Production share by region  
Average 1992-2012



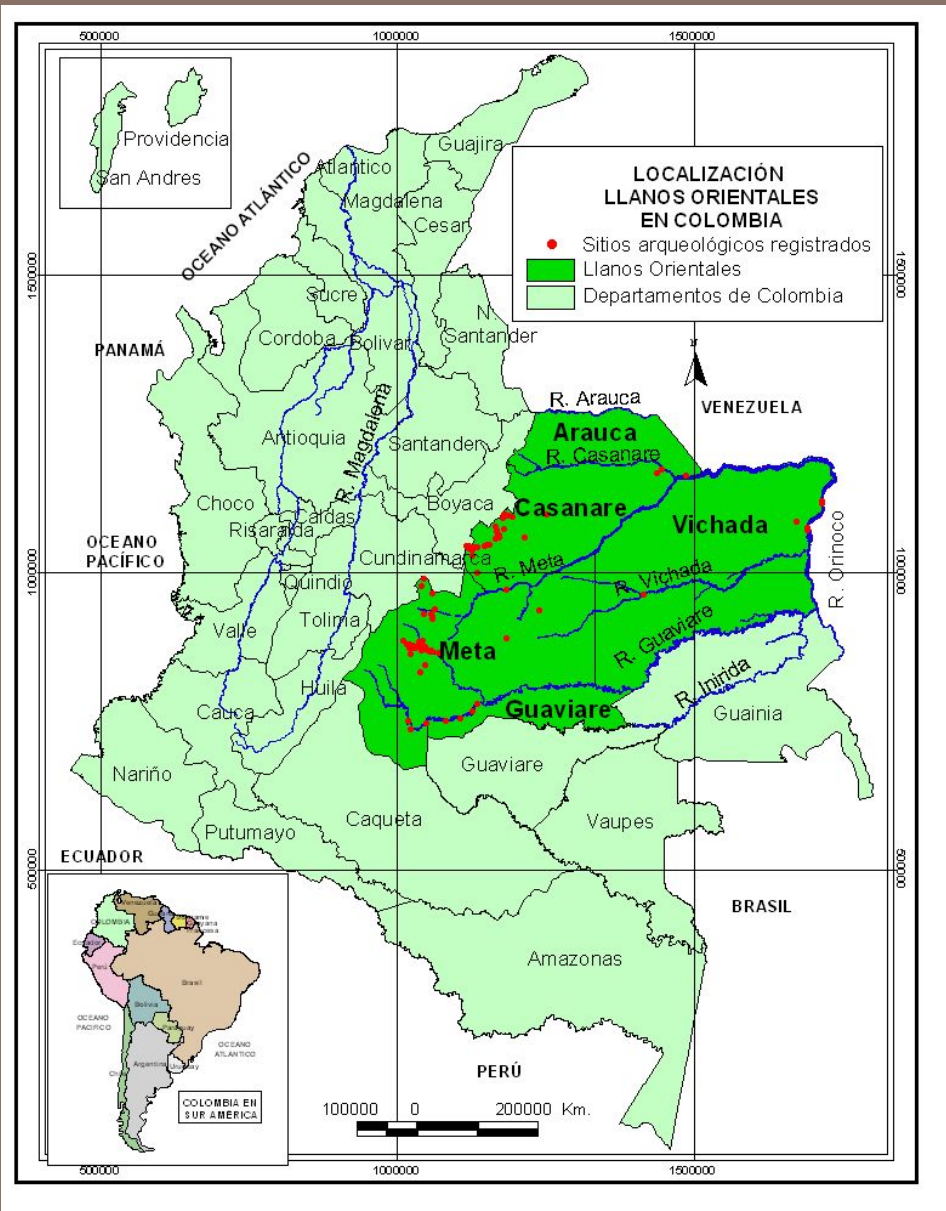
Source: FAO 2012 - <http://faostat.fao.org>



# Colombia Case



- Colombia is one of larger biofuel producers in Latin America (both sugarcane ethanol and palm oil)
- President Uribe (2002-10) established biofuel production and use mandates; they not yet been met
  - ▣ Major strategy for rural development, context of armed conflict
  - ▣ Goal to become exporter of biofuels
- Long history of entrenched unequal land distribution patterns
- Expansion area into Los Llanos



# Colombia Los Llanos Region

# Colombia Case: Los Llanos

- History of being a frontier, outside of government control
- Armed conflict and paramilitary groups
- Government and biofuel companies describe it as a region that lacks forests or reserve areas, with 'underutilized lands' that have been inefficiently used for cattle ranching
- Framed as 'Ideal' for biofuels because not there are no food crops

# Colombia Case: Challenges

- Environmental groups contend the region contains a variety of ecosystems and cultural groups that have become invisible in push for biofuel expansion.
- Cultural diversity represented in an indigenous population estimated at 57,000
- Land grabbing by Colombian and foreign companies for palm oil production
- Easy to accomplish these grabs because of lack of state control, regulation and no rule of law

# Colombia Case: Los Llanos



Territory includes tropical savannahs, wetlands, tropical forests and mountain ecosystems.

# Colombia Case: Social Sustainability Challenges?

- Palm producers in Los Llanos are getting certification for Roundtable on Sustainable Palm (RSPO)
  - ▣ RSPO requires that land tenure, labor and human rights laws are respected and no conservation or high biodiversity areas are used for palm production
- In Colombia, palm companies are more concerned about gaining RSPO certification to access EU markets than they are about local sustainability
- Colombian state is ineffective at regulating companies to ensure they are adhering to sustainability (local and global)

# Brazil Case: Palm Oil and Social Inclusion



# Brazil

- Long history of Sugarcane Ethanol production (1970s), second largest ethanol producer in the world
  - ▣ Brazil was criticized for labor and environmental conditions (i.e. burning) associated with sugarcane for ethanol
- In 2004, National Program of Biodiesel Use and Production (PNPB) was launched, with the goal to expand biodiesel production and increase its share in the Brazilian energy matrix.
- PNPB promotes social inclusion by targeting crops grown by small farmers for biodiesel (castor, palm oil )

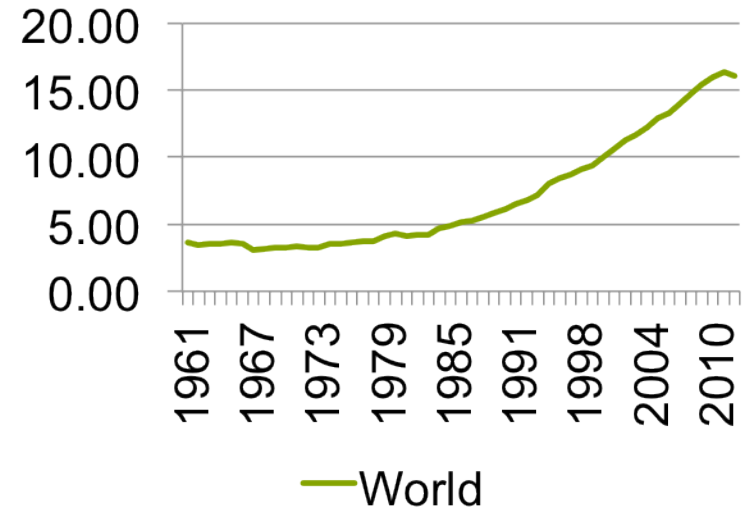
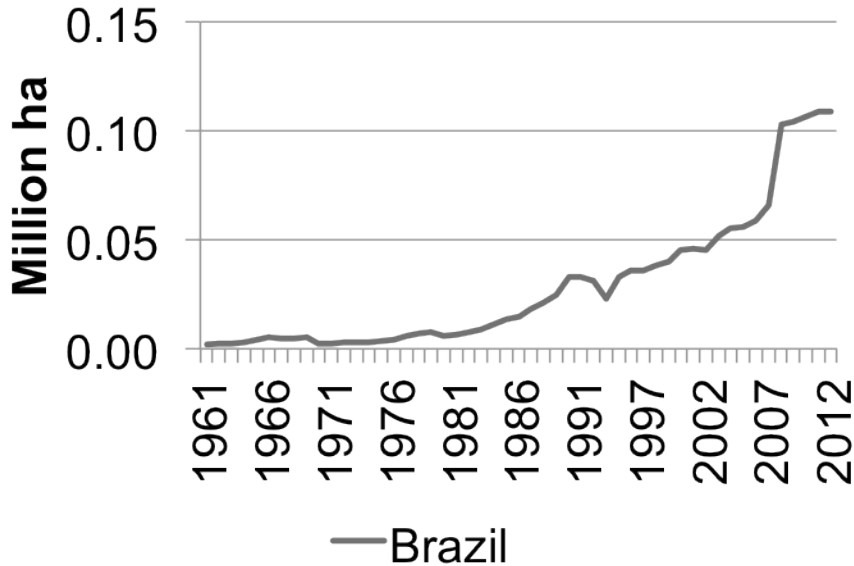


# Brazil

- 2010, Brazil launched the National Program of Sustainable Palm Oil Production (PSOP) to expand palm oil through more socially and environmentally sustainable production.
- Palm oil has high labor needs, and is targeted for production on 'degraded' pasture lands identified by zoning
- Para, Amazon has 86% of national palm production
- Big companies (Vale mining, Petrobras, ADM) buying or renting land for palm production

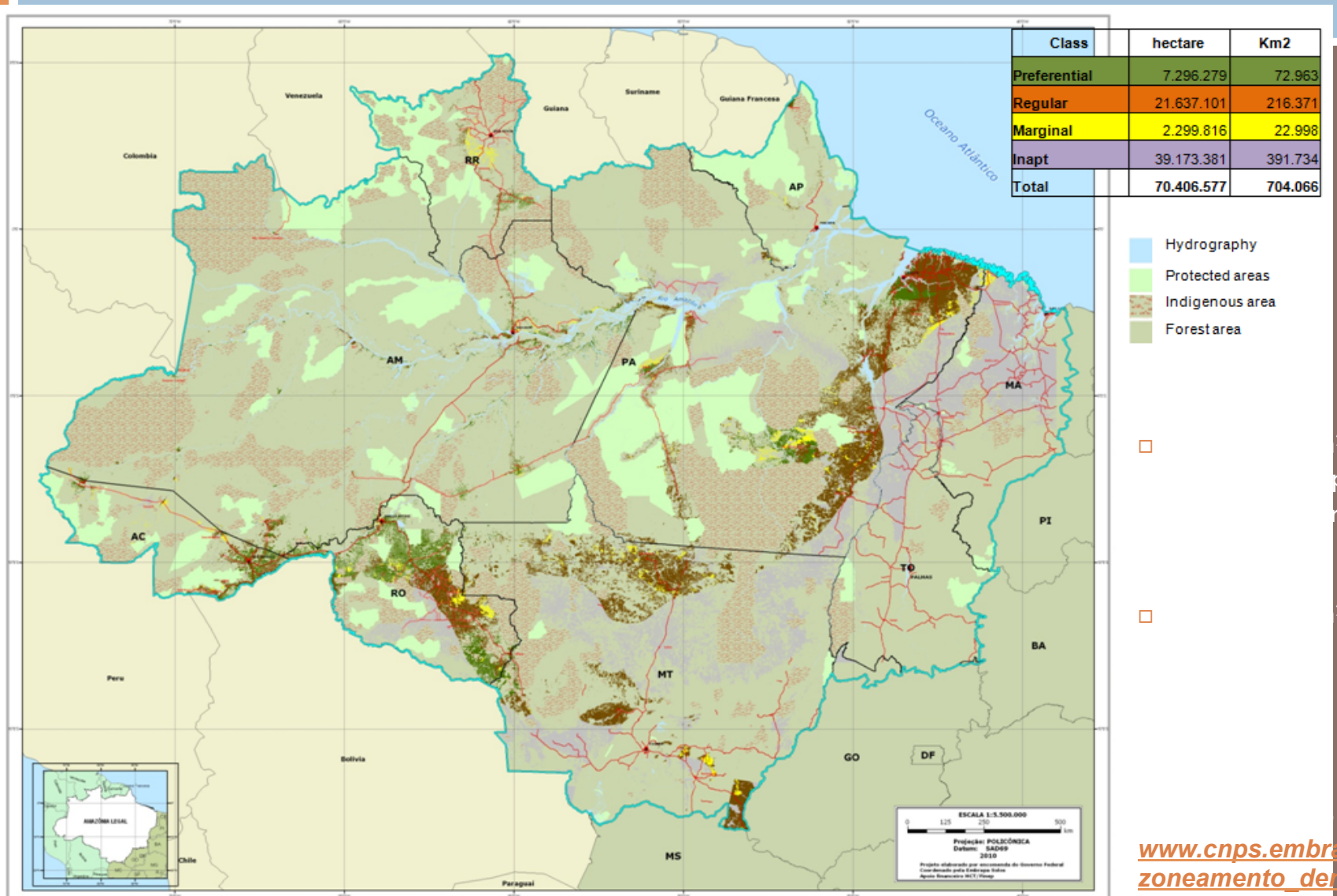
# Palm Oil in Brazil

Area harvested (ha) of palm oil in Brazil and World

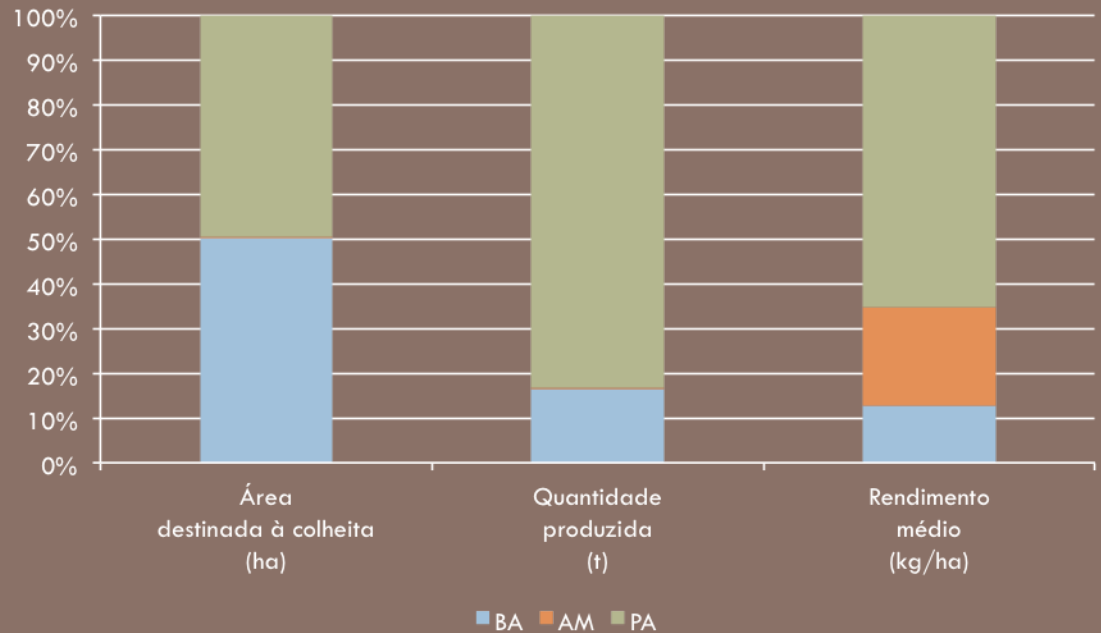


Source: FAO 2012 - <http://faostat.fao.org>

# Agro-ecological zoning



# Pará State: Main production region



Source: PAM/IBGE 2011

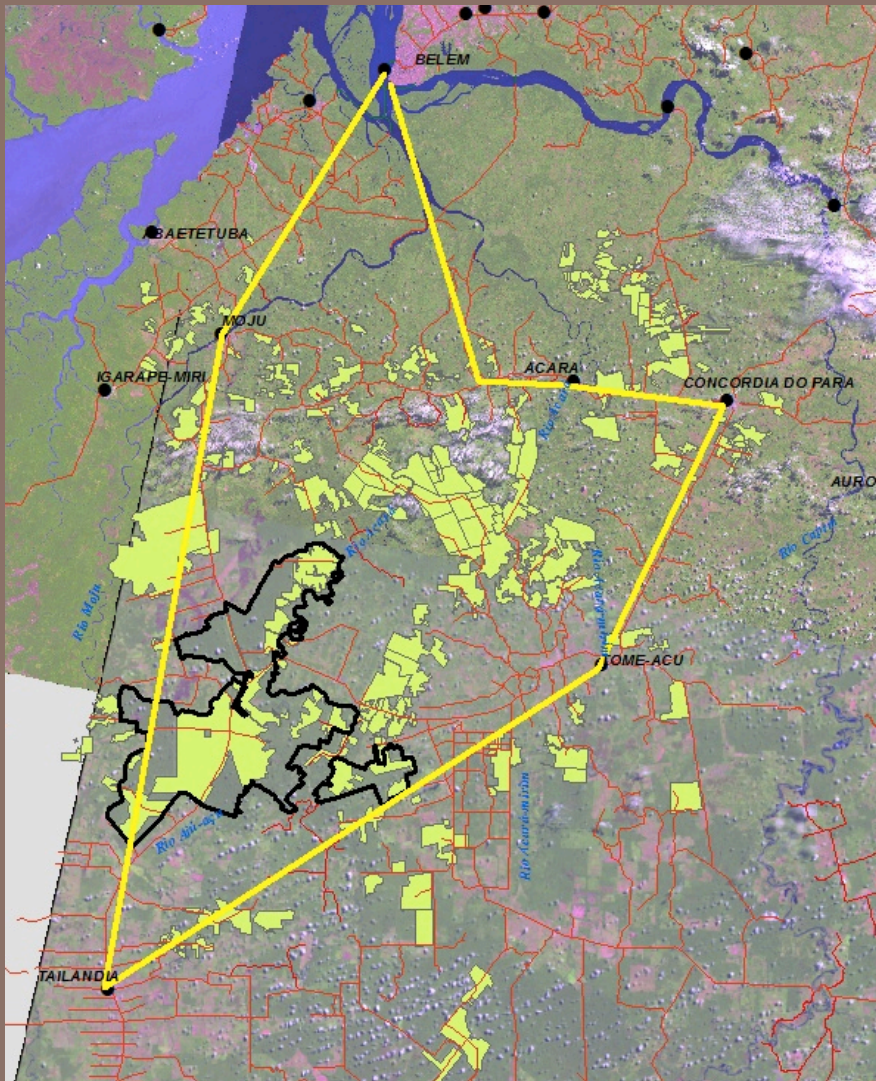
# Brazil Challenges

- Social Fuel Seal (SFS) given to companies who purchase diesel from small farmers (castor and palm oil)
- Challenges in past have been lack of production capacity by small farmers to produce enough oil to blend with diesel, so soybean oil is used instead
- Reinforces advantages of large soya producers

# Brazil Challenges to Palm Expansion in Para

- Land use changes to palm monocultures
- Food security issues as small farmers lack subsistence food production and rely on income from palm to buy food
- Some small farmers abandon or sell land leading to greater land concentration
- Traditional communities (quilombolos and others) who do not want to participate in palm production face disruption of the livelihoods

# Brazil



Field site  
locations in Para

# Pilot Interviews

- 4 municipalities
  - Moju, Acará, Concórdia do Pará and Tomé-Açu
  
- 23 families interviewed
  - 15 with palm oil
  - 8 with other crops
  
- First contact with biodiesel companies
  - Belém Bioenergia (Galp and Petrobras)
  - Biopalma (Vale)
  - Dendetauá





# Brazil Social Sustainability Challenges?

- Social Fuel Seal that was focused on 'social inclusion' of smaller farmers in the palm sector is not working as intended yet
- Resistance from traditional communities to palm
- Community concerns about impacts of pesticides on local water resources
- Jobs are created, unclear about future financial viability



# Summary

- Governments throughout the Americas have incentivized biofuel production but have done less to manage social and environmental impacts
- ‘Land grabbing’ by national and foreign companies was justified by framing lands as ‘marginal’ ‘abandoned’, ‘degraded’, ‘empty’, ‘underutilized’, or ‘inefficient
- Land use changes directly or indirectly impact the sustainable livelihoods of local peoples as access to land and natural resources was restricted
- Biofuels are not an overwhelming “win-win” for rural communities, though they may be for some (large) producers.

## Conclusions:

# Social and Environmental Sustainability of Biofuels?

- Governance tools like standards and certifications ( RSPO, RSB, Bonsucro, and SFS) are imperfect
- Certifications are premised on compliance with global standard but often ignore local social and environmental conditions
- Need for developing robust policy and governance tools, such as MSIs, that can protect and enhance rural livelihoods
- Regardless of policy/governance instrument, need for incorporating local stakeholders into analysis, design and implementation of bioenergy projects

# Acknowledgements



Research in Latin America funded by:

NSF OISE-PIRE: Sustainability, Ecosystem Services, and Bioenergy  
Development across the Americas

NSF Research Coordination Grant: Pan American Biofuels and Bioenergy  
Sustainability

I would like to thank my collaborators on the project and research  
participants in Brazil, Mexico and Colombia.