



Land Use Change, Biofuels and Rural Development in the La Plata Basin

Activity 2. Socio-Economic Context

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Activity 2 Objectives / Social POV

- Identify and characterize the main drivers of land use change in the different contexts of LPB (e.g., biofuel investment, urban/rural migration and investment patterns, climate change, mechanization, social dynamics)
- Analyze the influence of alternative energy (biofuel) production on the evolution of land use and rural development
- Identify key-elements of public and private policy influencing this evolution using Agents – Based Modelling (ABM) simulations to evaluate effects/impacts.
- Develop possible short-term (4-5 years) and mid term (12-15 years) scenarios jointly between scientists and local actors (producers, stakeholders, ...), based on participative methods and ABM
- Develop recommendations to advance public policies on land use and rural development in the context of renewable energy markets.
- Capacity Building (PhD, MSc, Post-doc) + Networking

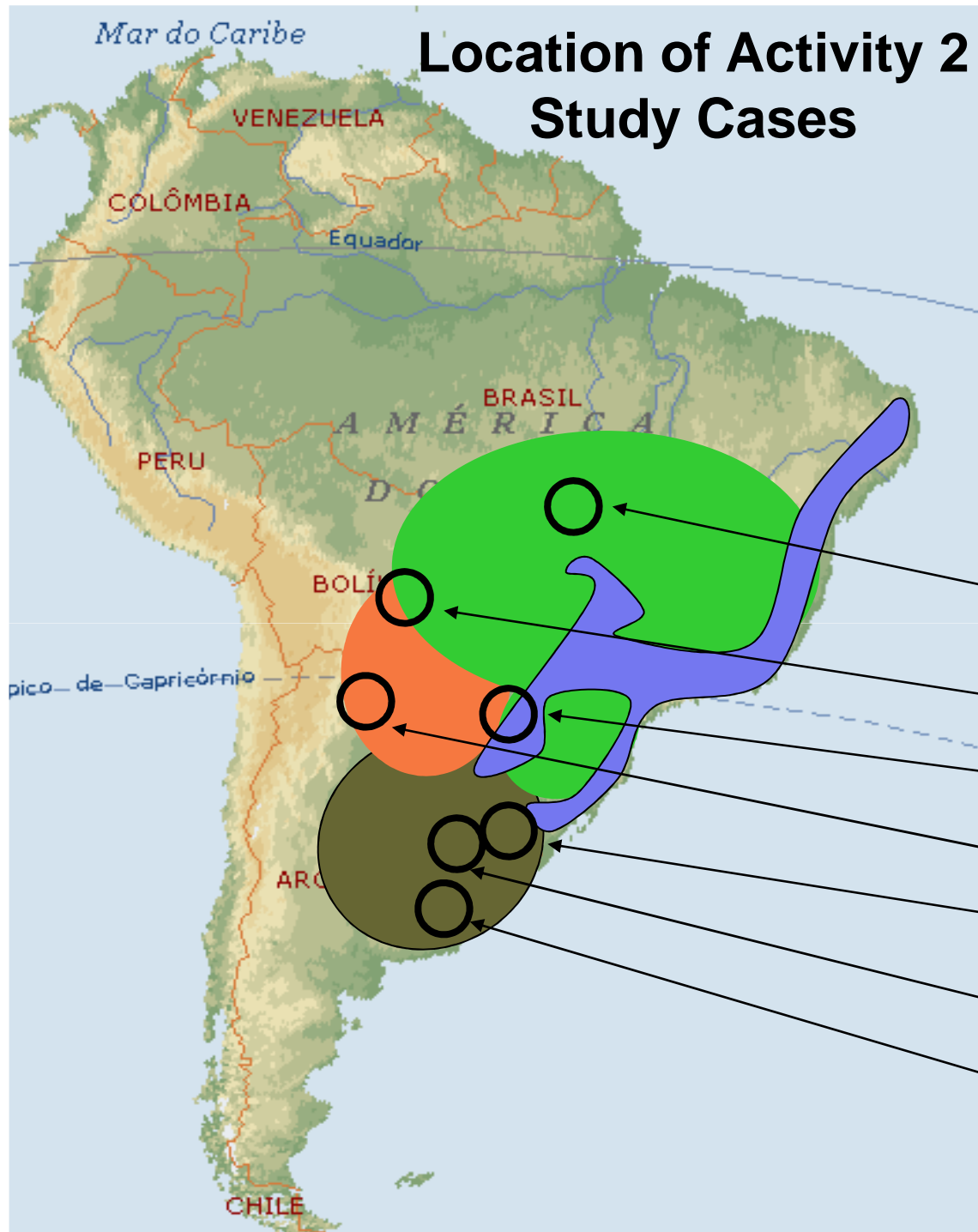
Location of Activity 2 Study Cases

Biomas

- Pampa
- Chaco
- Mata Atlantica
- Cerrado

Study Cases

- Rio Verde, Brasil
- Santa Cruz, Bolivia
- San Pedro, Paraguay
- Salta, Argentina
- Tacuarembó, Uruguay
- Paysandú, Uruguay
- Tandil, Argentina



Research Design

1. Activity 2 is organized in 10 specific Research Operations (PhD or MsC):

RO1: Brazil

RO2, RO3: Argentina

RO4, RO5: Argentina and Uruguay

RO6, RO7: Uruguay

RO8: Bolivia

RO9: Paraguay

RO10: La Plata Basin scale

2. Comparative Analysis / Study case common indicators

3. Building LPB Biofuel Expansion “Social” Meta-Model

1. 10 Acciones de Investigacion

Research Operation 1 - Biofuels Impacts on Land Use Change in Central Brazil, Rio Verde, Goías State, Brazil, March 2008, in progress

Coord. Laura G. Duarte & Cassia A. Coutinho, UnB, Brazil

Capacity building: 1 MSc. Student, Universidade de Brasília, Brazil

Research Operation 2 - Environmental Impacts of Soybean Expansion in Tandil, Buenos Aires Prov., Argentina, September 2008, in progress

Coord. Luciana Nogar, UNICEN & Guillerma Jacinto, CONICET, Argentina

Capacity building: 1 PhD Student, Universidad Nacional del Sur (UNS), Argentina

Research Operation 3 - Soybean Expansion, Biofuels and Labor Dynamics in Buenos Aires Prov., Argentina, November 2008, in progress

Coord. Marcela Lopez, UNMDP & Marcelo Sili (UNS), Argentina

Capacity building: 1 PhD Student, Universidad Nacional del Sur (UNS), Argentina

Research Operation 4 - Agricultural Transformations and Land Use Change in Pampa Litoral Oeste, Uruguay & Provincia Buenos Aires, Argentina, March 2008, completed

Coord. Pedro Arbeletche, Julio Cesar Burgues, Jorge Corral

Capacity building: 1 PhD Student, Universidad Nacional del Sur, Argentina

Research Operation 5 - Pool de Siembra or Network Compagny: Another Way of Thinking Agriculture in La Plata Basin, Argentina & Uruguay, March 2008, completed

Coord. Laure Clasadonte & Pedro Arbeletche, UDELAR, Uruguay, Graciela Nogar, UNICEN, Argentina

Capacity building: 1 MSc. Student, Wageningen University, Netherlands

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Research Operation 6 - Environmental Perception of Rural Dynamics by Rural Actors in North Uruguay, March 2008, in progress
Coord. Maria Fernanda de Torres, UDELAR, Uruguay
Capacity building: 1 MSc. Student, UDELAR, Montevideo, Uruguay

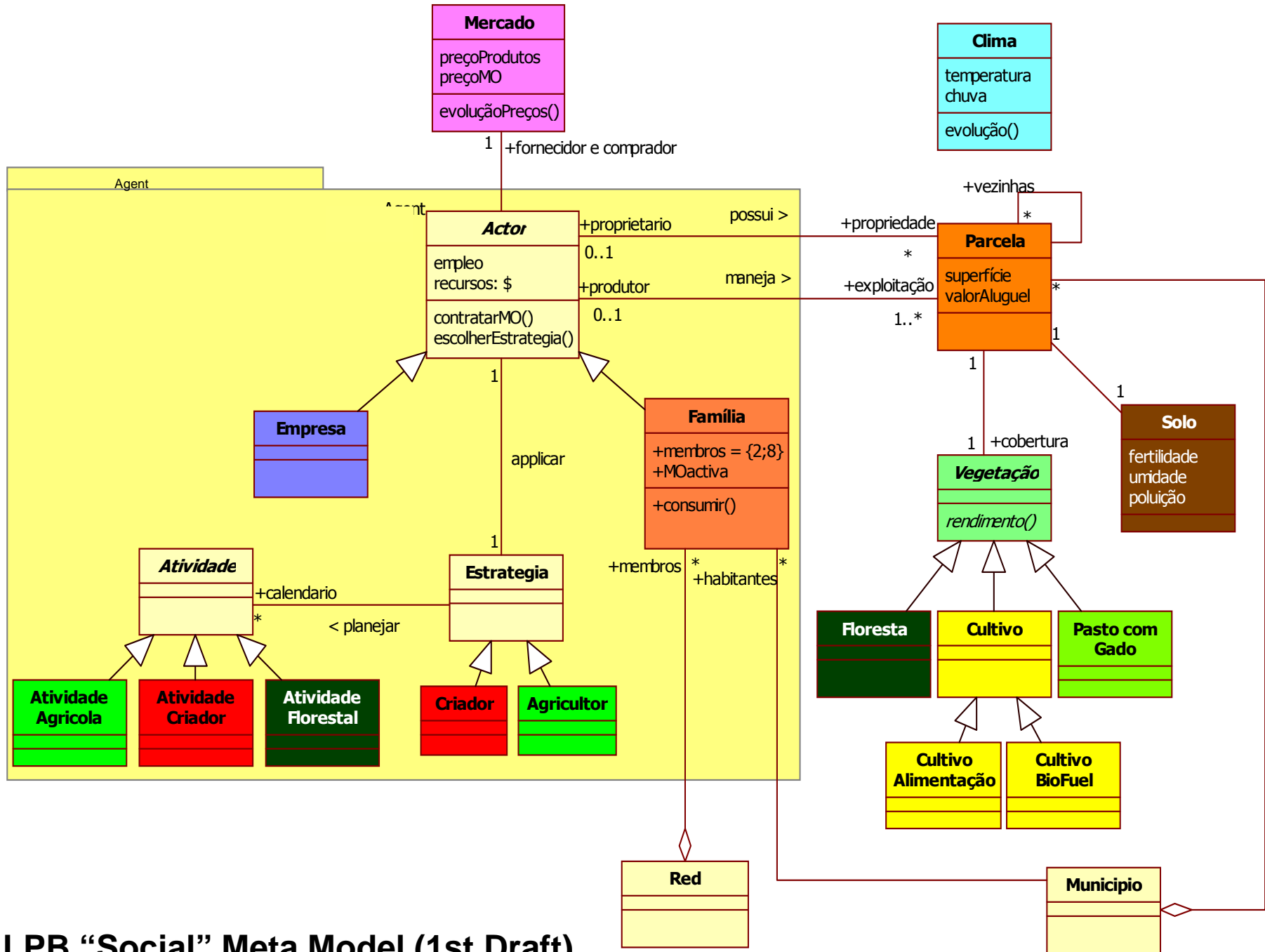
Research Operation 7 - Agro forestry, Cattle Ranching and Land Competition in North Uruguay, November 2008, in progress
Coord. Alejandro Saravia, IPA, Uruguay
Capacity building: 1 MSc. Student, UFGRS & AgroParisTech, Brasil/France

Research Operation 8 - Biofuels Expansion in Bolivia, August 2008, in progress
Coord. David Cruz Choque & Romulo Torrez, UMSA, Bolivia
Capacity building: 1 MSc. Student, Universidade de Brasília, Brazil

Research Operation 9 - Biofuels Expansion in Paraguay, January 2009, in progress
Coord. Oscar Figueredo Torres & Gloria Cabrera, UNA-FCA, Paraguay

Research Operation 10 - Modelling of Biofuels Development in La Plata Basin
Location: La Plata Basin – LPB, June 2008, in progress
Coord. Silvina Carrizo (CONICET), Carolina Cardoso (UCL/UnB)
Capacity building: 1 PhD Student, UCL & UnB, Belgium/Brasil

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LPB "Social" Meta Model (1st Draft)

Results

1. Network Development

Argentina, Bolivia, Brazil, Paraguay, Uruguay



2. Four relevant research themes

- Dynamic of workforce market
- New agricultural actors
- Re-colonization of the land
- Re-location of agricultural activities

3. Publications

- #50 papers: articles, chapters of books, communications

Results:



4. Capacity building: 4 PhD and 6 MSc.

Name of Student	Nationality	Institution	Grade	Area of expertise	IAI/IDRC Scholarship (Yes/No)
Luciana Nogar	Argentina	Univ. Nacional del Sur, Argentina	PhD	Geography	Yes
Marcela Lopez	Argentina	Univ. Nacional del Sur, Argentina	PhD	Geography	Yes
Maria Fernanda Torres	Uruguay	Univ. La Republica, Uruguay	MSc.	Anthropology	Yes
Italo Malaquin	Uruguay	Univ. Fed. Rio Grande Sul, Brazil	MSc.	Economy	No
Alejandro Saravia	Uruguay	AgroParisTech, France	PhD	Geography	Yes
Cassia Coutinho	Brazil	Univ. de Brasilia, Brazil	MSc.	Sust. Develop.	No
Carolina Cardoso	Brazil	Univ. de Brasilia, Brazil	PhD	Sust. Develop.	Yes
Fernanda Duarte	Brazil	Univ. de Brasilia, Brazil	MSc.	Sust. Develop.	No
Romulo Torres	Bolivia	Univ. de Brasilia, Brazil	MSc.	Sust. Develop.	Yes
Laure Clasadonte	France	Wageningen Univ., Netherlands	MSc.	Management	No

Perspectives

1. To write articles based on papers
2. Complete current Masters and PhD
3. Plan research on 2-3 relevant themes at regional scale
4. Develop networking with other research groups and policymakers in biofuels sector





Gracias, Obrigado, Thank you

2. Indicators for each study case / Comparative Analysis

- **Tipología de los productores**

Criterios para elaborar la tipología (3-5 tipos): propiedad o no de la tierra, tamaño de la propiedad, destino de la producción, tipo de mano-de-obra, sistema de producción (diversificado, agrícola, ganadero, etc.)

- **Propiedades de referencias (#120)**

Escoger 4-5 propiedades por tipo (=> 15-20 propiedades de referencias por región) para recolectar las informaciones sobre la dinámica de los indicadores en los 20 últimos años

- **Criterios / Indicadores**

- Cuantificar, cualificar y localizar la diferencia de la mano de obra
- Evaluar la evolución de la cualidad de el agua a partir de uno o dos criterios
- Accesibilidad (insumos, teléfono, electricidad, combustible, escuela, salud,...)
- Uso la tierra: superficies de vegetación natural, cultivo y/o ganadería
- Percepción del impacto en el ambiente
- Precio del arrendamiento de la tierra
- Disponibilidad de energía: fuentes de energía, consumo, faltantes, costo,
- Estimar proporción de gasto de combustible en costo de producción
- Produce o planea producir biocombustible? Por qué?

- **Productores actuales de biocombustibles**

Tipo, capacidad, volumen, variaciones, tecnologías, costo, destino, % superficie, mano de obra, interés, perspectivas