

PROJECT MCTI/CNPQ No. 441463/2017-7 NEXUS I



# CONSIDERING THE NEXUS BETWEEN FOOD, ENERGY, AND WATER SECURITY WITH TRADITIONAL COMMUNITIES: AN INTEGRATED ANALYSIS FOR THE BRAZILIAN CERRADO

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### **CERRADO: CONTEXT**

**Diversity** 

#### **Ecosystem services**

Land use

Approximately 50% of the native

vegetation has been converted to

• 40 Mha available for legal

Annual crops grown intensively

• Less than 8% inside protected areas

• Main land use: pasture

other land uses

deforestation

## **ACTIVITIES AND GOALS**

Define the climatic and hydrological limits to

Quantify how agriculture and management techniques have affected the demand for water

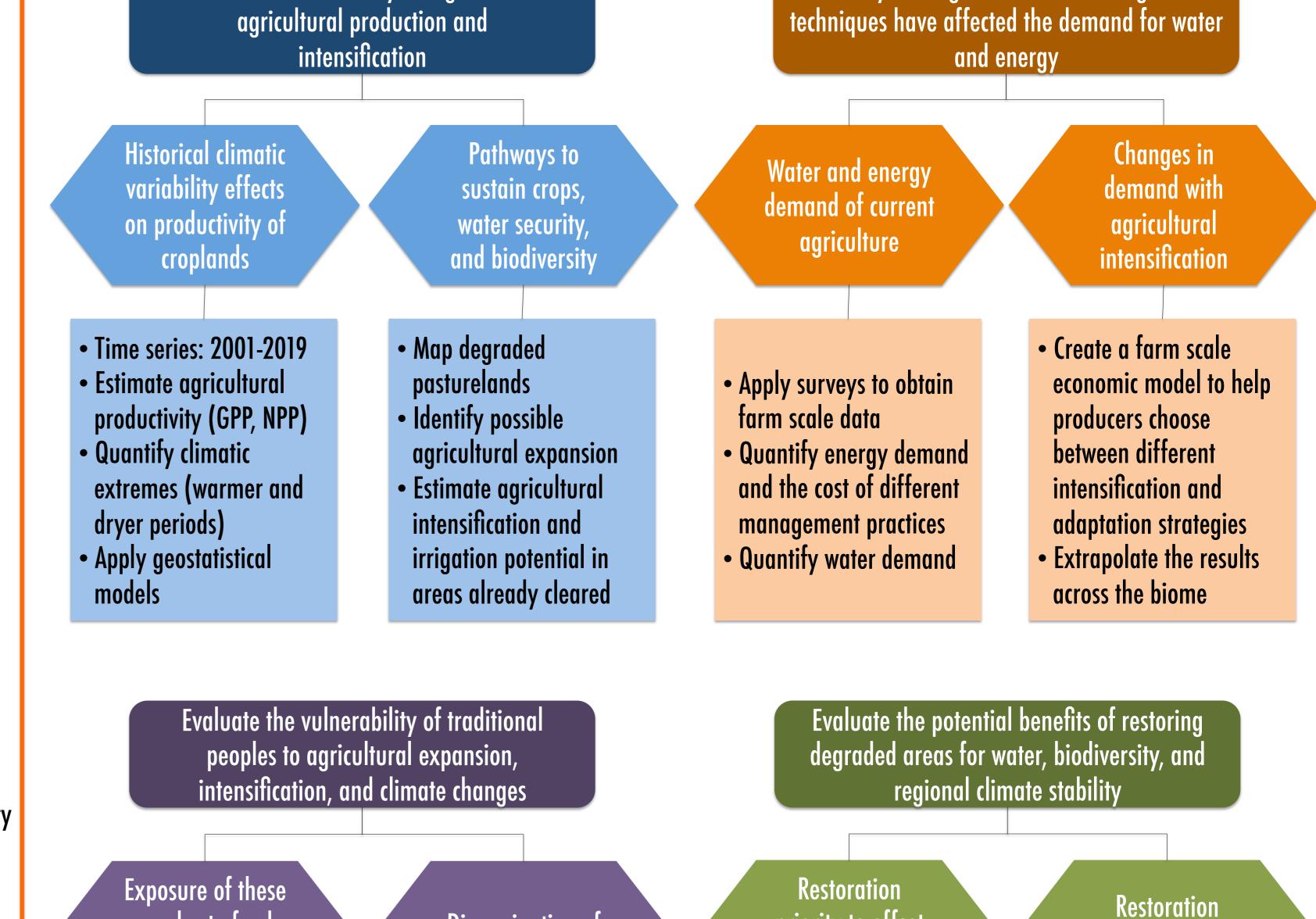
#### • The world's most biologically rich savanna

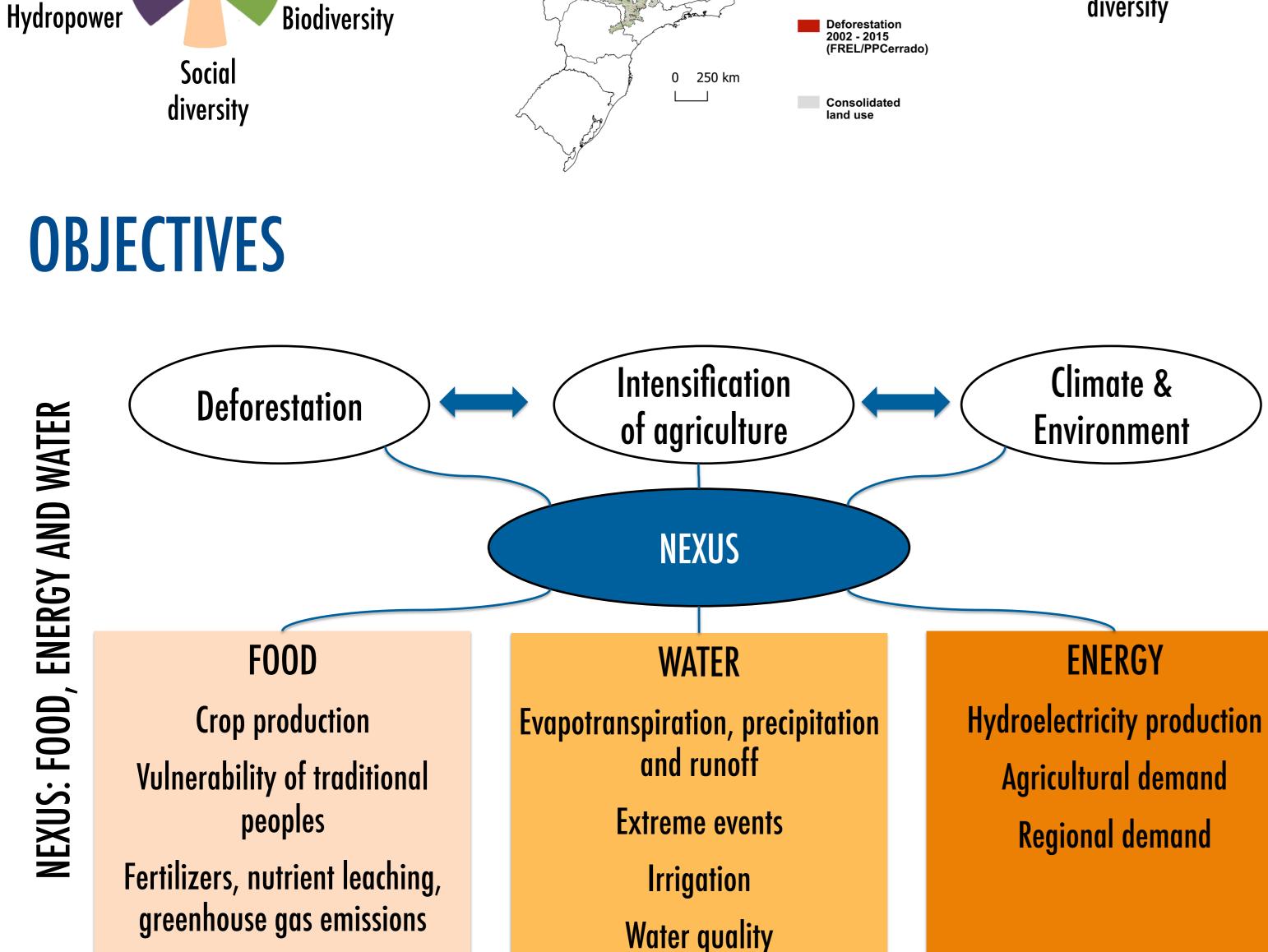
• Home to many groups of indigenous peoples and other traditional communities

• Landscape diversity: second largest biome of South America, extending over Brazil, Paraguay and Bolivia

• Produces the majority of Brazil's agricultural output • Directly provides 21% of Brazilian hydroelectric energy • Feeds 3 of the major water basins in South America: Amazon, Paraguay and São Francisco

- Significant carbon (C) stocks, especially below ground
- Nexus research goals **Current trends** Agriculture Agriculture Climate Fresh regulation water Climate Hydropower Biodiversity Cerrado Fresh water regulation Remaining native Social vegetation 2016 diversity







NEXUS: FOOD, ENERGY AND WATER

<b>OBJECTIVES</b>	1. Climate and water restrictions	2. Energy and water demand	3. Traditional communities, agriculture intensification and climate change	4. Restoration of degraded areas; water, climate and social benefits
CHALLENGE	Balance conservation, economic development, food production, water and energy demand			





