

# Assessing Green Governance in Practice: Conflict and Contradiction in Sustainable Hydropower Development in the Amazon

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# Energy is on the agenda

**How do we increase energy provision while not increasing net GHG emissions?**

⚡ Transition to renewable energies

**Hydropower has an important role to play:**

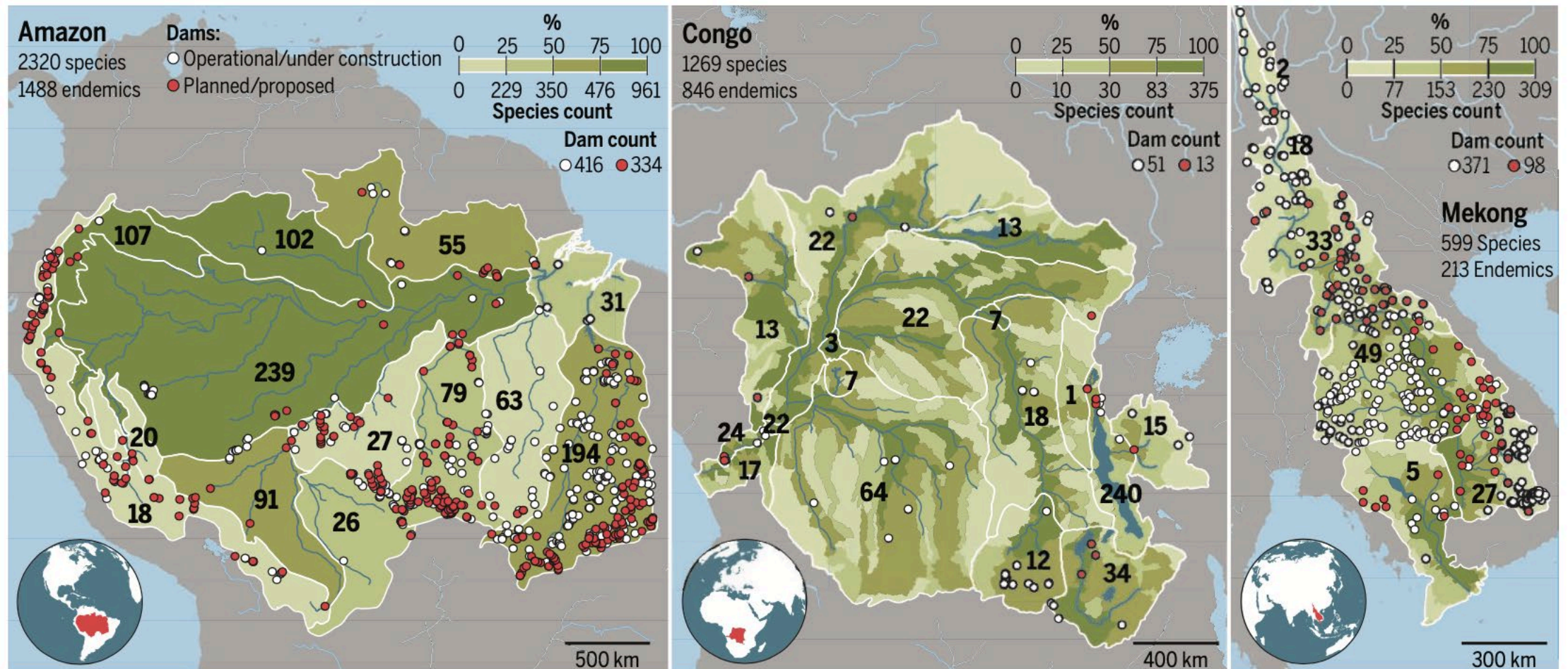
⚡ significant 'untapped' potential (IPCC 2011)

⚡ co-benefits: river navigability, recreation, water management

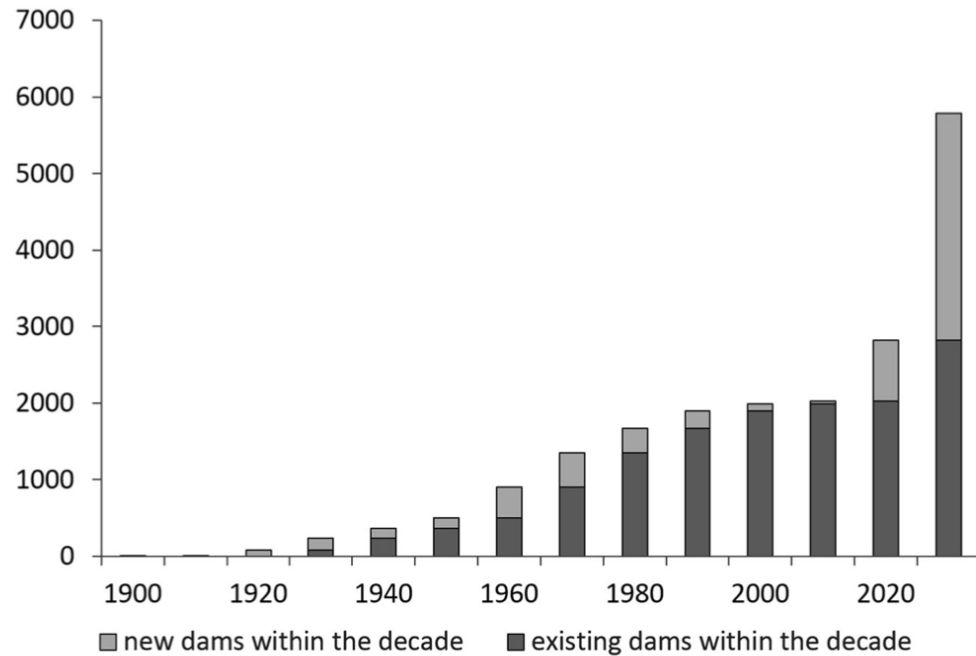
⚡ technologically mature

⚡ cost efficient after initial investment

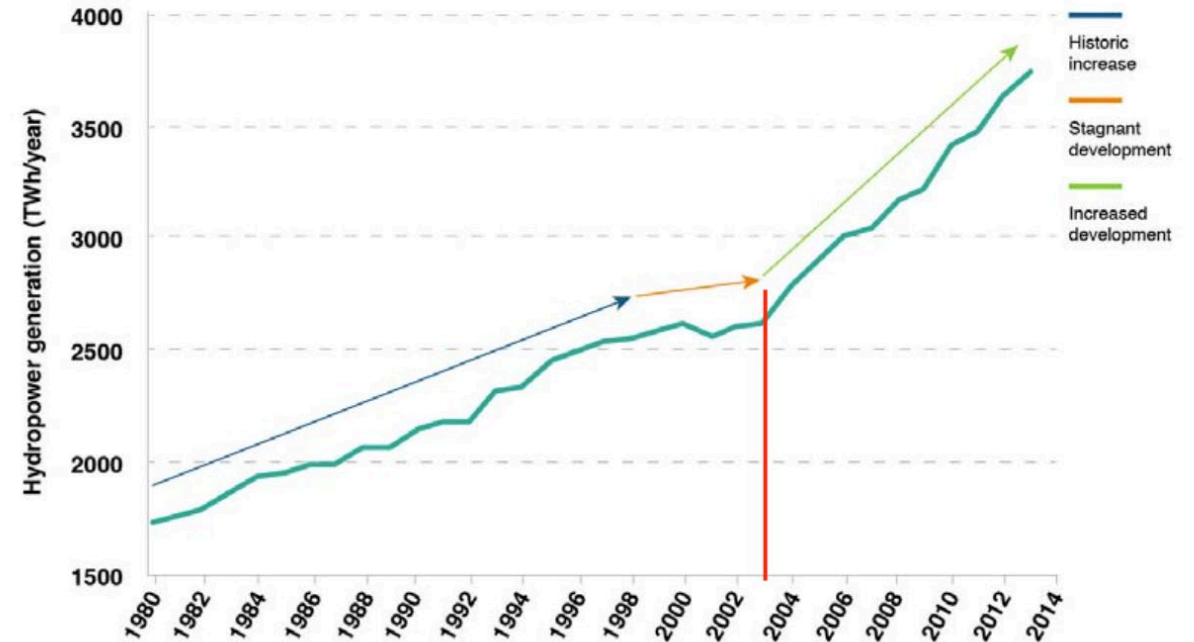
# Hydropower Development on the Rise Globally



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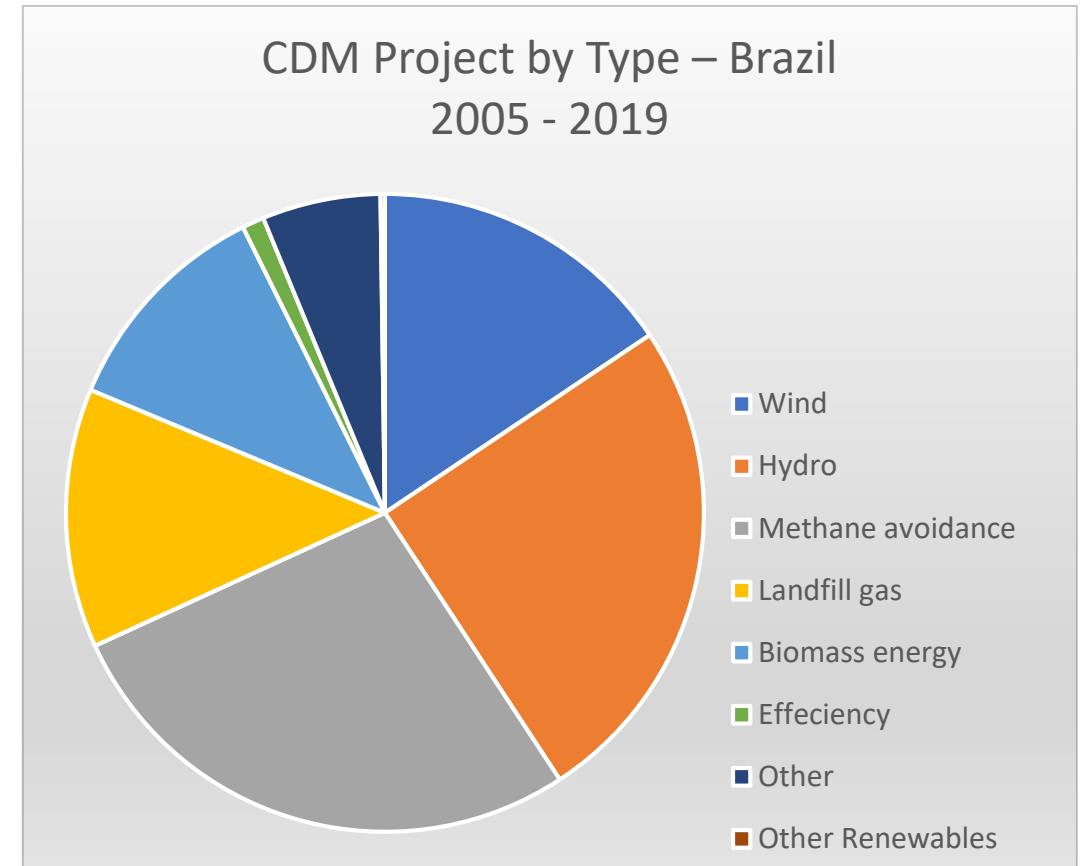
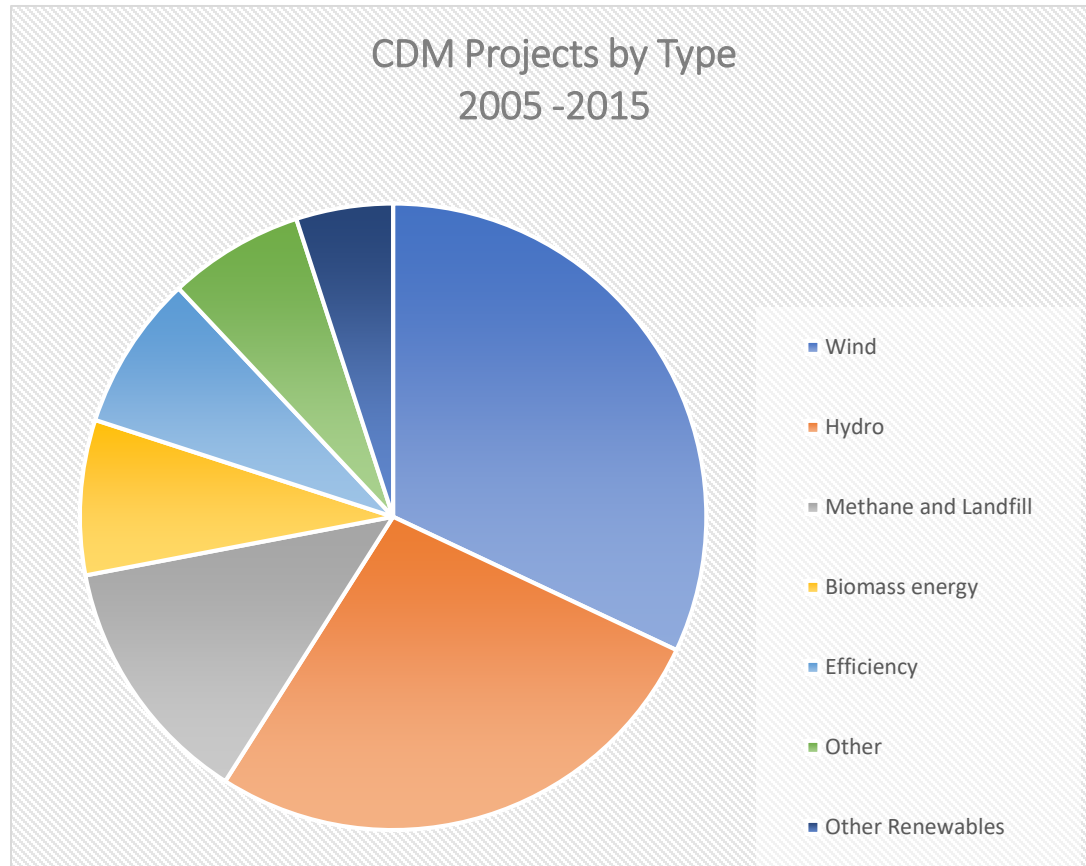


Source: Zarfl et al. 2014



Source: World Energy Council 2015

# Hydropower as Climate Change Mitigation Technology

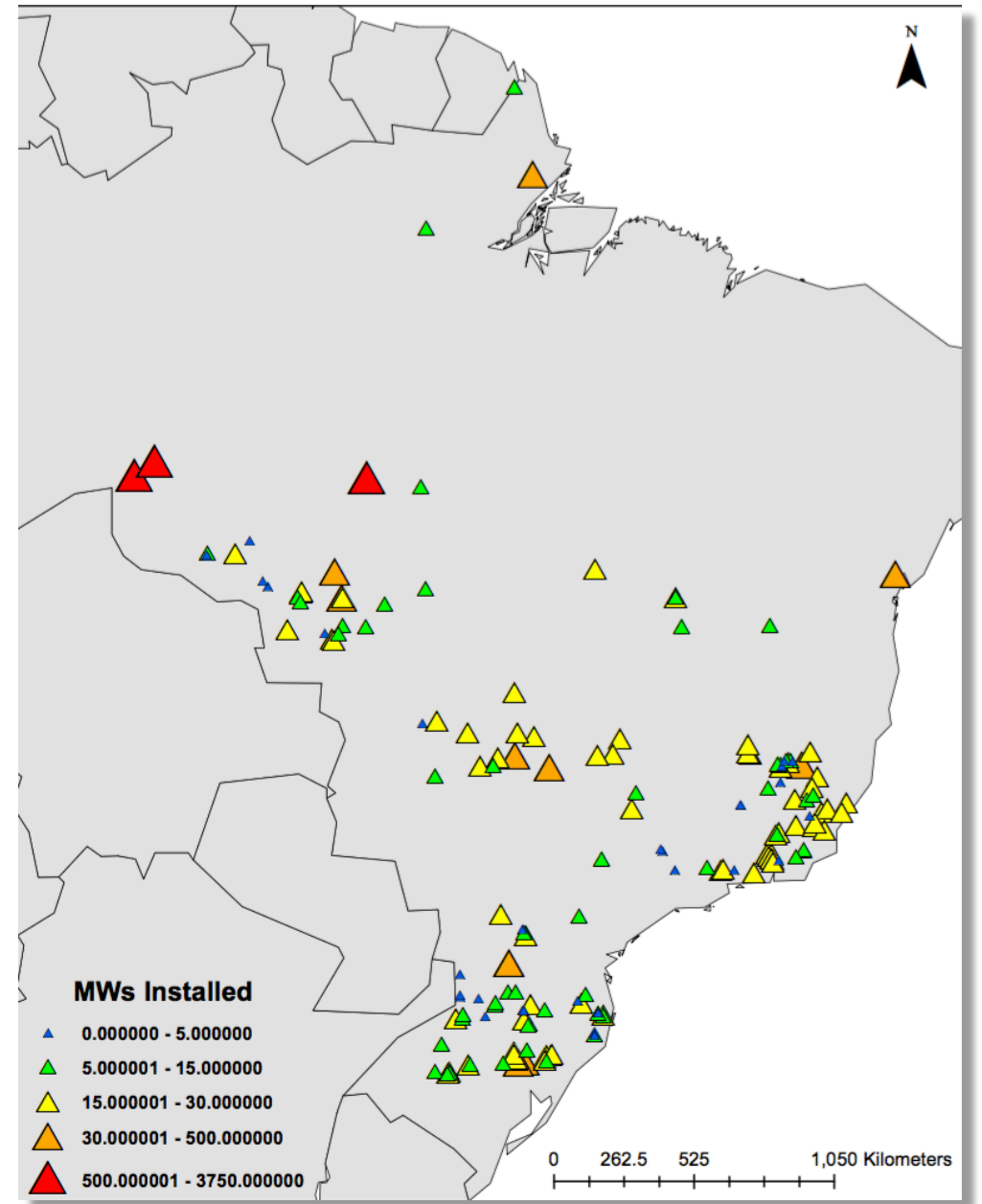


**Hydropower framed as critical in  
the global governance of climate  
change as a mitigation  
technology**

# And this is the case in Brazil

⚡ *Increase in energy supply by hydroelectric power plants (range of estimated reduction: 79 to 99 million tons of CO<sub>2</sub> eq in 2020).*

⚡ intended nationally appropriate mitigation actions



But these  
are not the  
destructive  
dams of the  
past...

## Governance

- ⚡ move towards 'good governance'
- ⚡ norms regarding human rights, the environment, and indigenous rights (Khagram 2004)
- ⚡ Growing constellation of governance actors



# Green Governance

- ⚡ Technological advances
- ⚡ Financing requirements
- ⚡ Environmental regulation
- ⚡ Participatory approaches
- ⚡ **Better dams?**

# The Study

1. **What does the green governance of hydropower look like in practice?**
2. **Is green governance enough to sustain river dependent communities?**

**What impacts are communities facing?  
How are these impacts being governed?  
What are the results?**

# The Santo Antonio and Jirau Dams

## Santo Antonio

## Jirau

4.3 miles upstream  
from Porto Velho

75 miles upstream from  
Porto Velho

3,568 MW

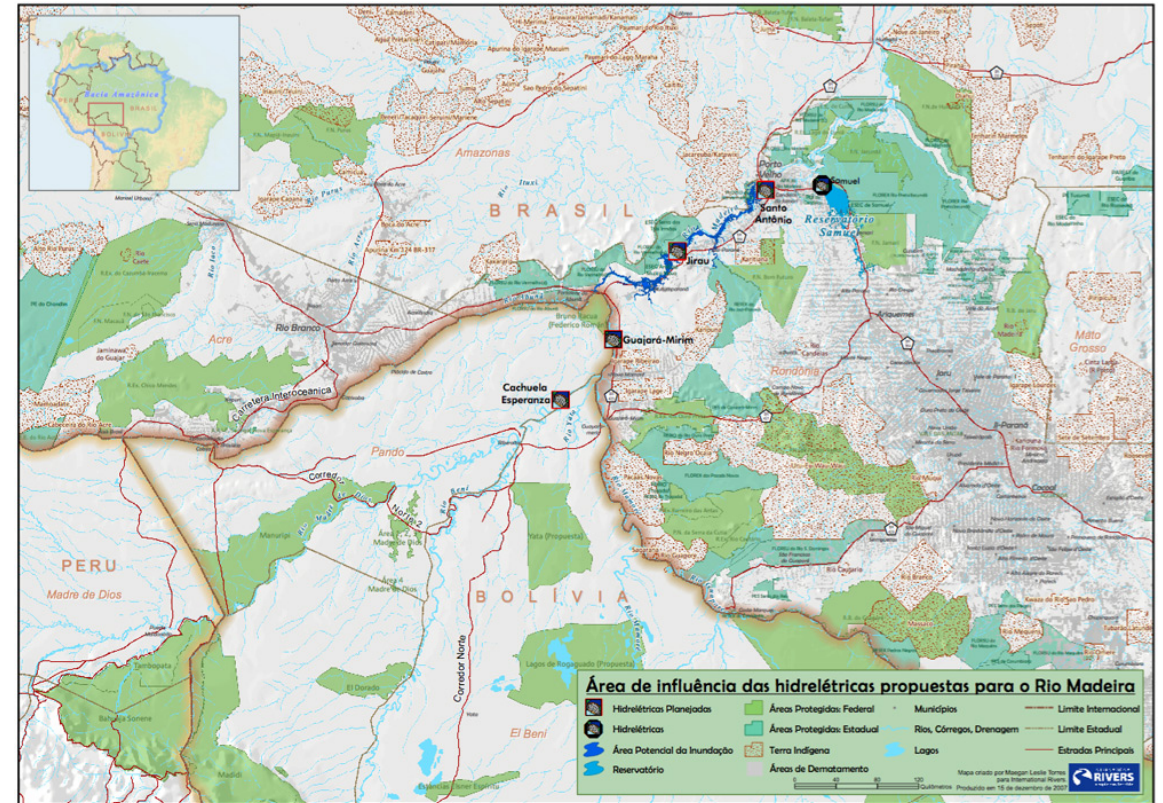
3,750 MW

Went online in 2013

Went online in 2014

Offsetting 5,146,403  
tCO<sub>2</sub>e

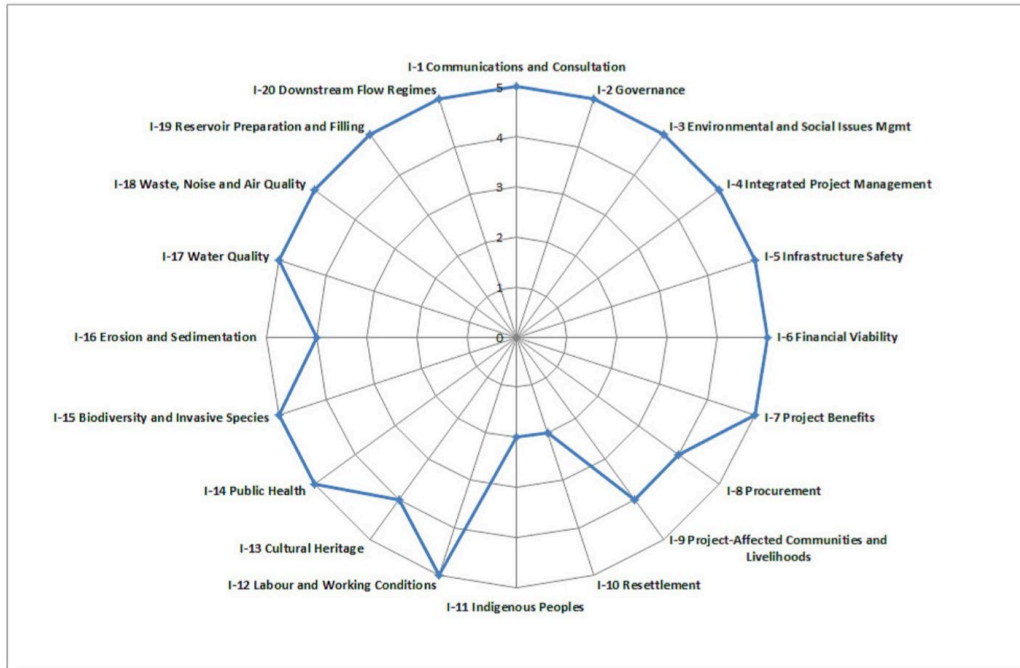
Offsetting 6,180,620  
tCO<sub>2</sub>e



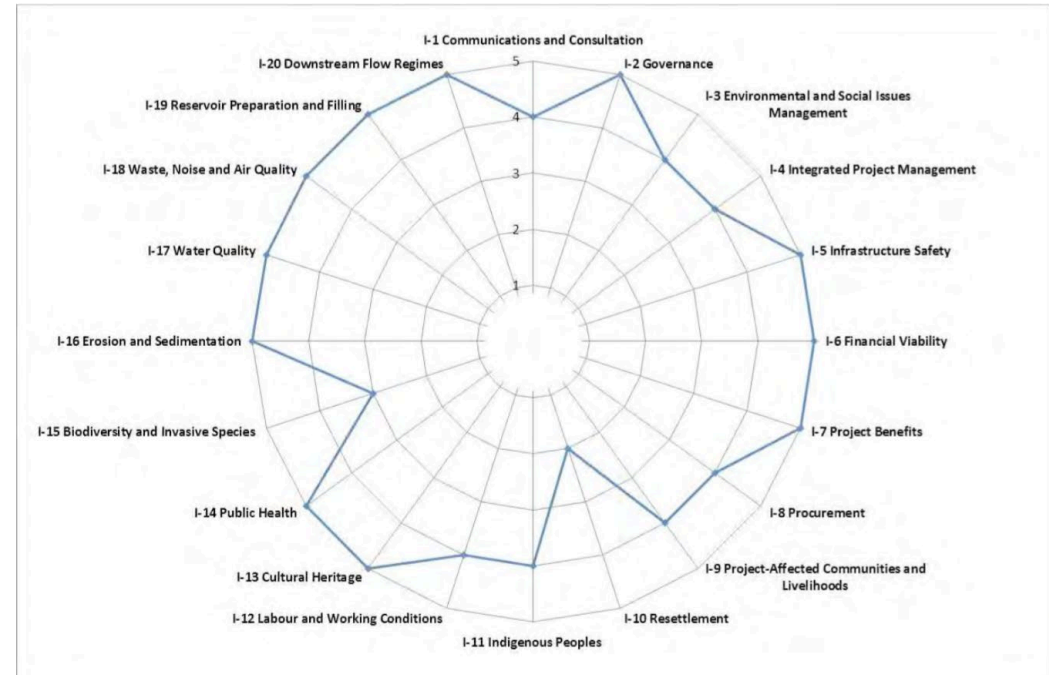
# Green Governance: Sustainability Assessment

## Santo Antonio

## Jirau



Sustainability Profile



Sustainability Profile

# Ethnography of Green Governance

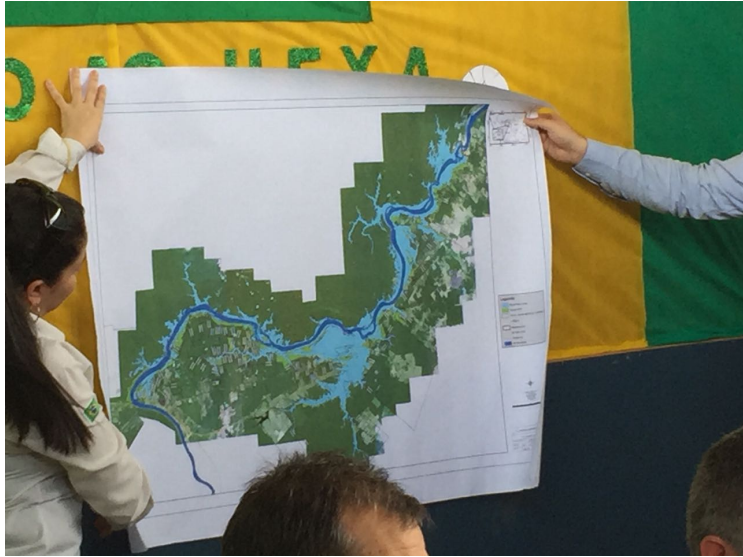
Semi-structured interviews:

- ⚡ Impacted community members & leaders
- ⚡ Social movement, grassroots organizations, union members
- ⚡ Non-governmental organizations
- ⚡ Government institutions

# Ethnography of Green Governance

Participant observation:

- ⚡ Community meetings
- ⚡ Protests
- ⚡ Negotiations with project developers and representatives of local, state, and federal government
- ⚡ Shadowing of community representatives in their official capacity
- ⚡ Governance meetings





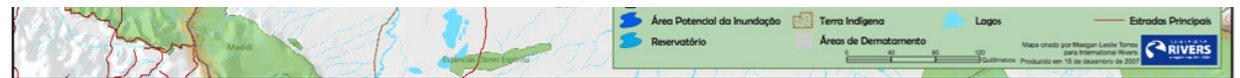
# Abunã



What impacts are the fishers  
of Abunã facing?

How are these impacts being  
governed?

What are the results?





Inability to sustain themselves  
with  
fishing, as fisherpeople

# How are impacts being governed?

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AHE Jirau

Projeto Básico Ambiental - PBA

Maio de 2009



4.30 - Programa de Monitoramento e Apoio à Atividade Pesqueira

- Working Group on Fishing (GT-Pesca)
- Subprogram for the Support of Fishing Activities (SAAP)
- **Subprogram for the Monitoring of Fishing Activities (SMAP)**
- Working Group on Social Group Issues (GAS)

**BUT these impacts are synergistic  
and cumulative**

**Effects are always incomplete**



# Thank you!

# Questions?