



MONITORING BIODIVERSITY IN BRAZIL

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EMBRAPA

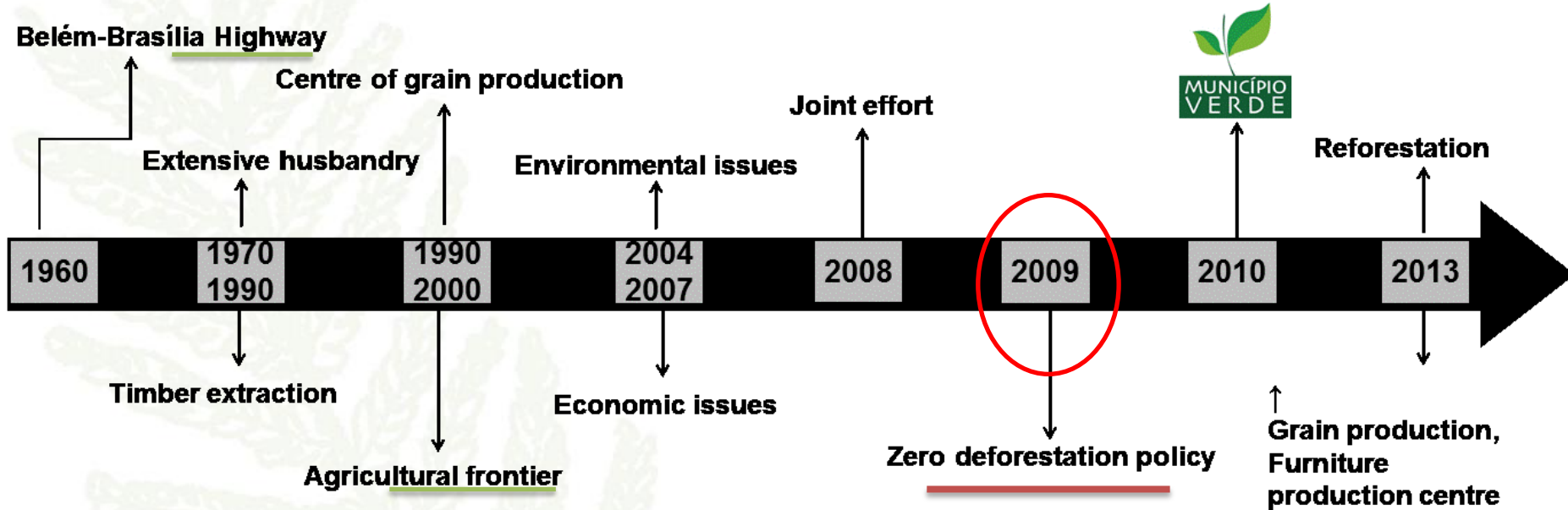


Amazon: BIODIVERSITY

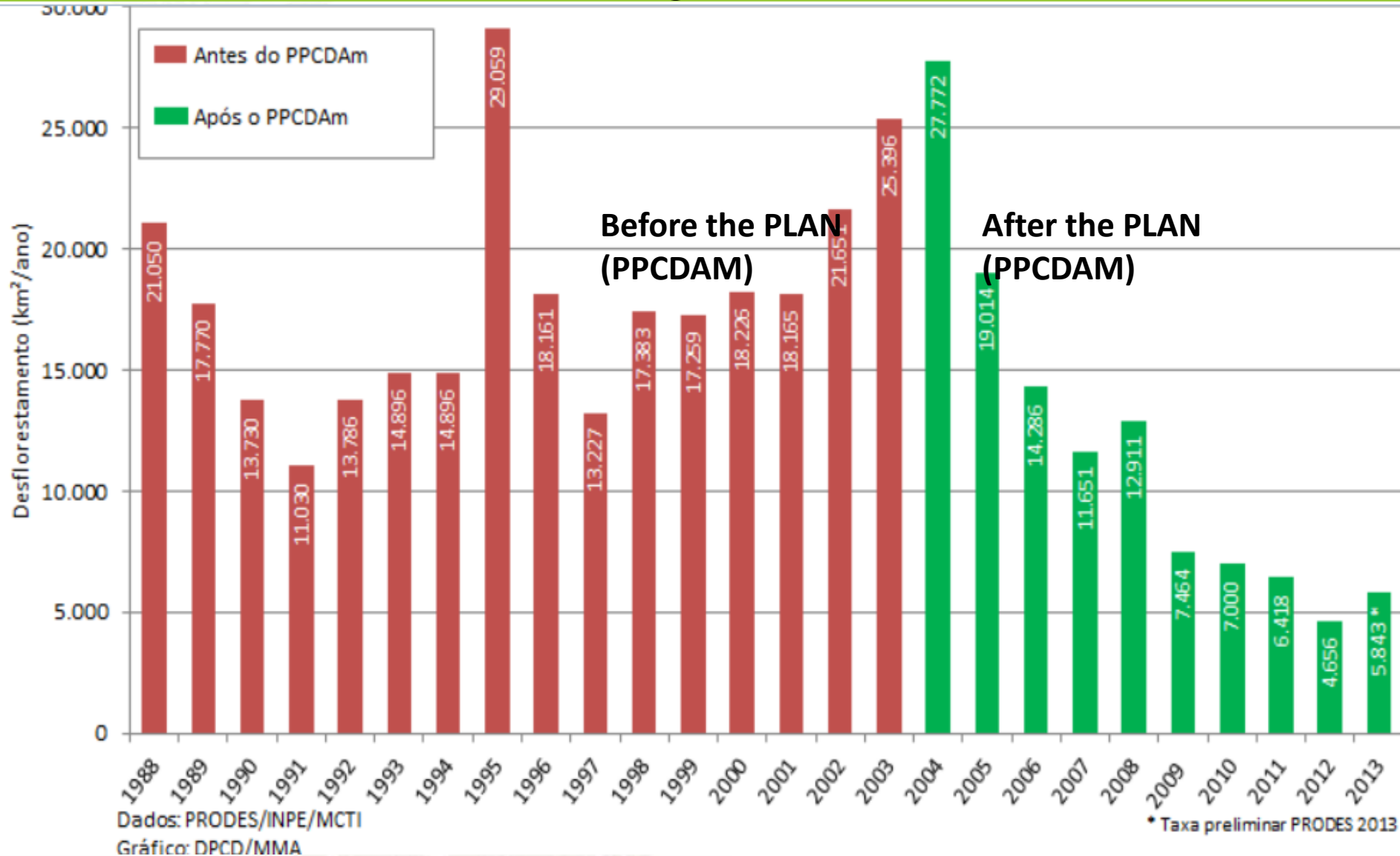


Amazon : Context of Transformation

INFRASTRUCTURE IN THE AMAZON



Plan for Amazon Deforestation Control and Prevention - PPCDAM



Dados: PRODES/INPE/MCTI
Gráfico: DPCD/MMA

* Taxa preliminar PRODES 2013





Adaptation : Low Carbon Emission Agriculture (ABC) PLAN

“Reverting the Carbon Signal of Brazilian Agriculture”



GOAL 3 M ha
1,95 M.T. CO₂eq.ha.ano

Increase afforestation

Goal 8 M ha
14,6 M.T. CO₂eq.ha.ano

Increase No-tillage

Brasil - DF

Emissões de GEE pela agropecuária

Agricultural GHG emissions

MAPA, 2015

Goal 4 M ha
27,1 M.T. CO₂eq.ha.ano

Goal 4 M ha
27,1 M.T. CO₂eq.ha.ano

Goal 15 M ha
101,7 M.T. CO₂eq.ha.ano



Integration Crop-Forest

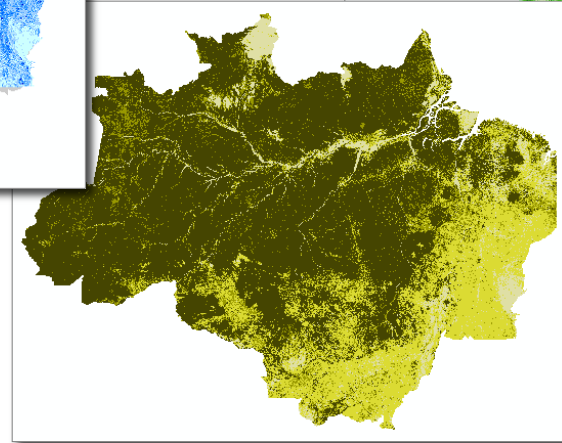
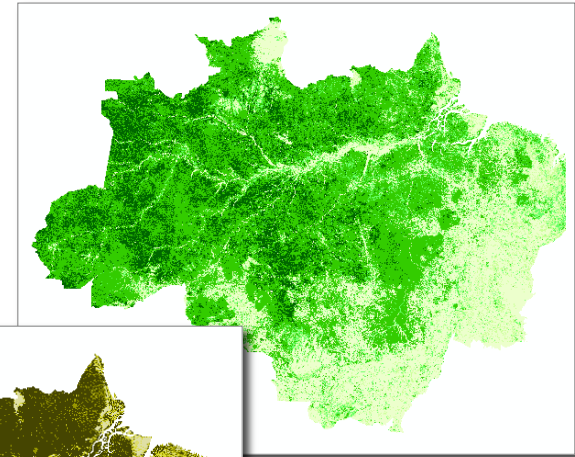
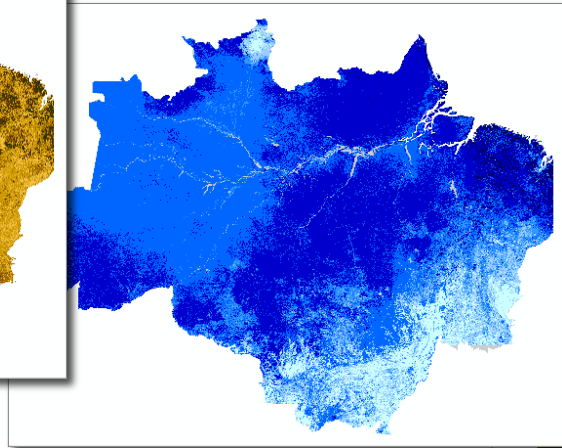
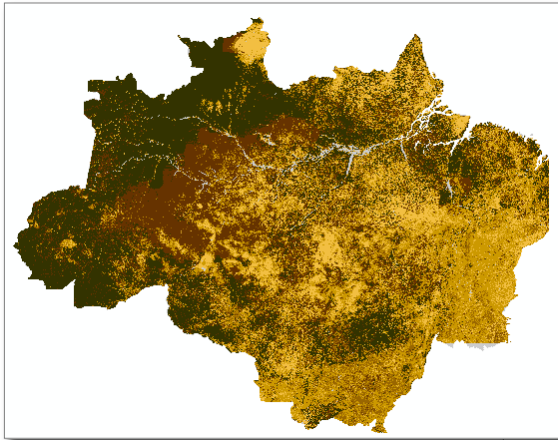


Recover Degraded Pasture



Integration Crop-Livestock-Forest

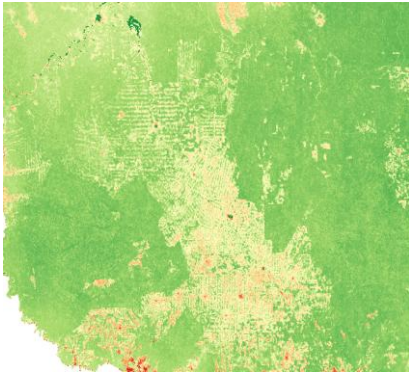
Ecosystem Integrity Based on Satellite Products – Free Data Access (Modis)



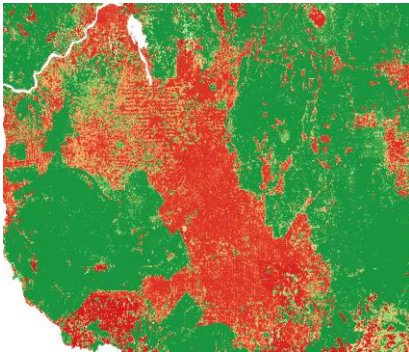
Ecosystem Integrity and Services



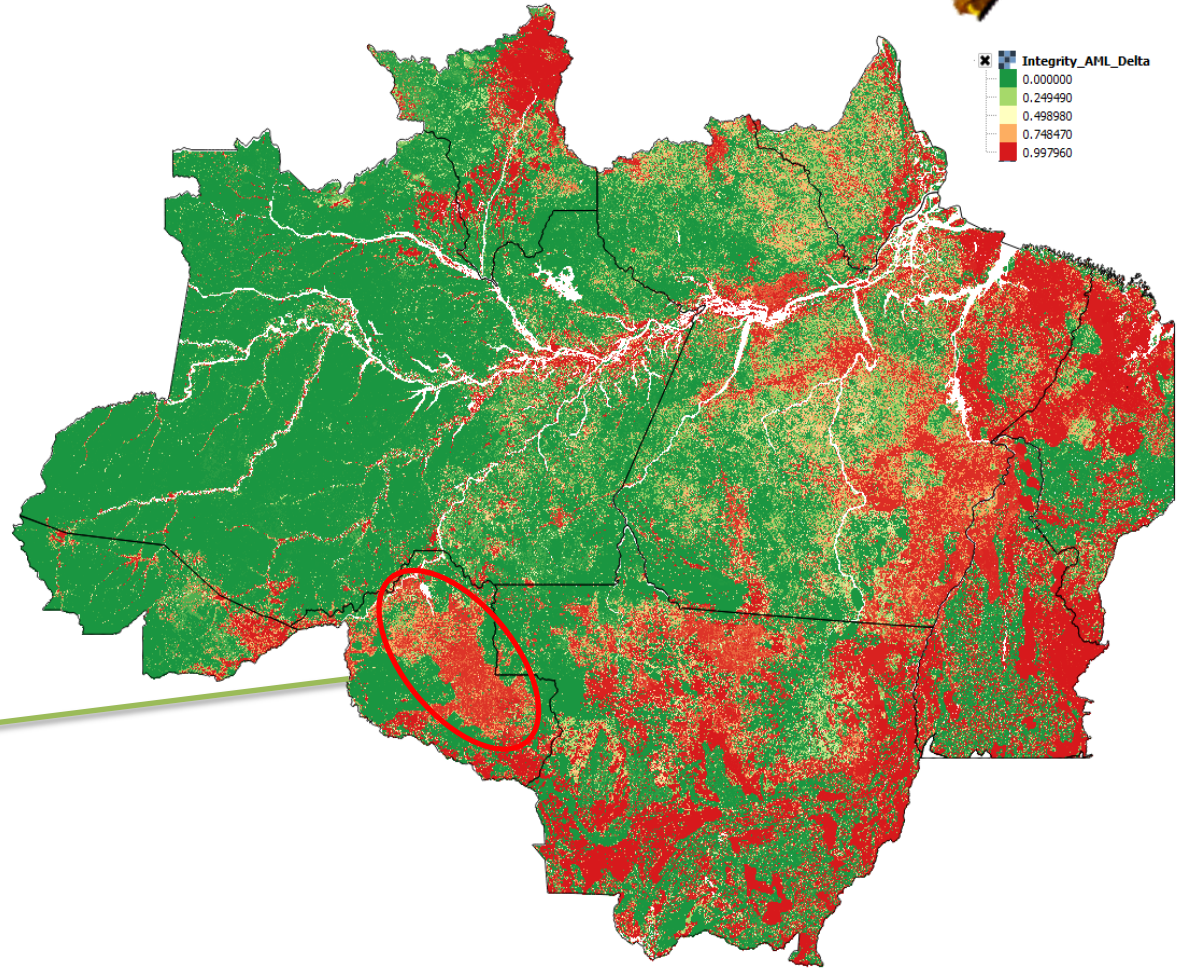
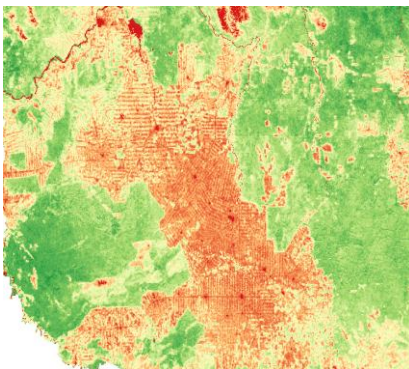
Evapotranspiration (water)



Ecosystem Integrity



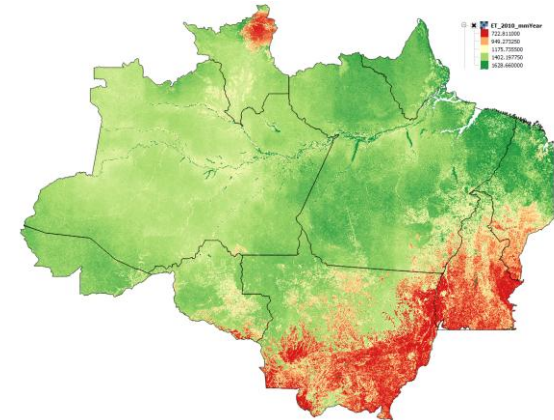
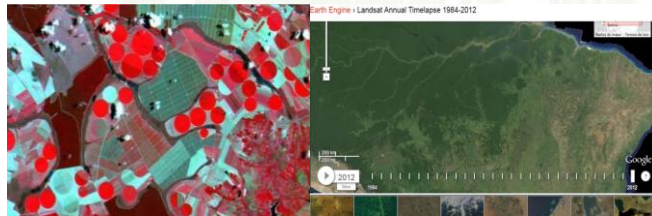
Carbon



Ecosystem Integrity from Space



- ⊙ Satellite based Ecosystem Integrity **could monitor Ecosystem Condition**– supporting National and Global Policies
- ⊙ Could Build a Road Map for a **Global Land and Biodiversity Observatory**



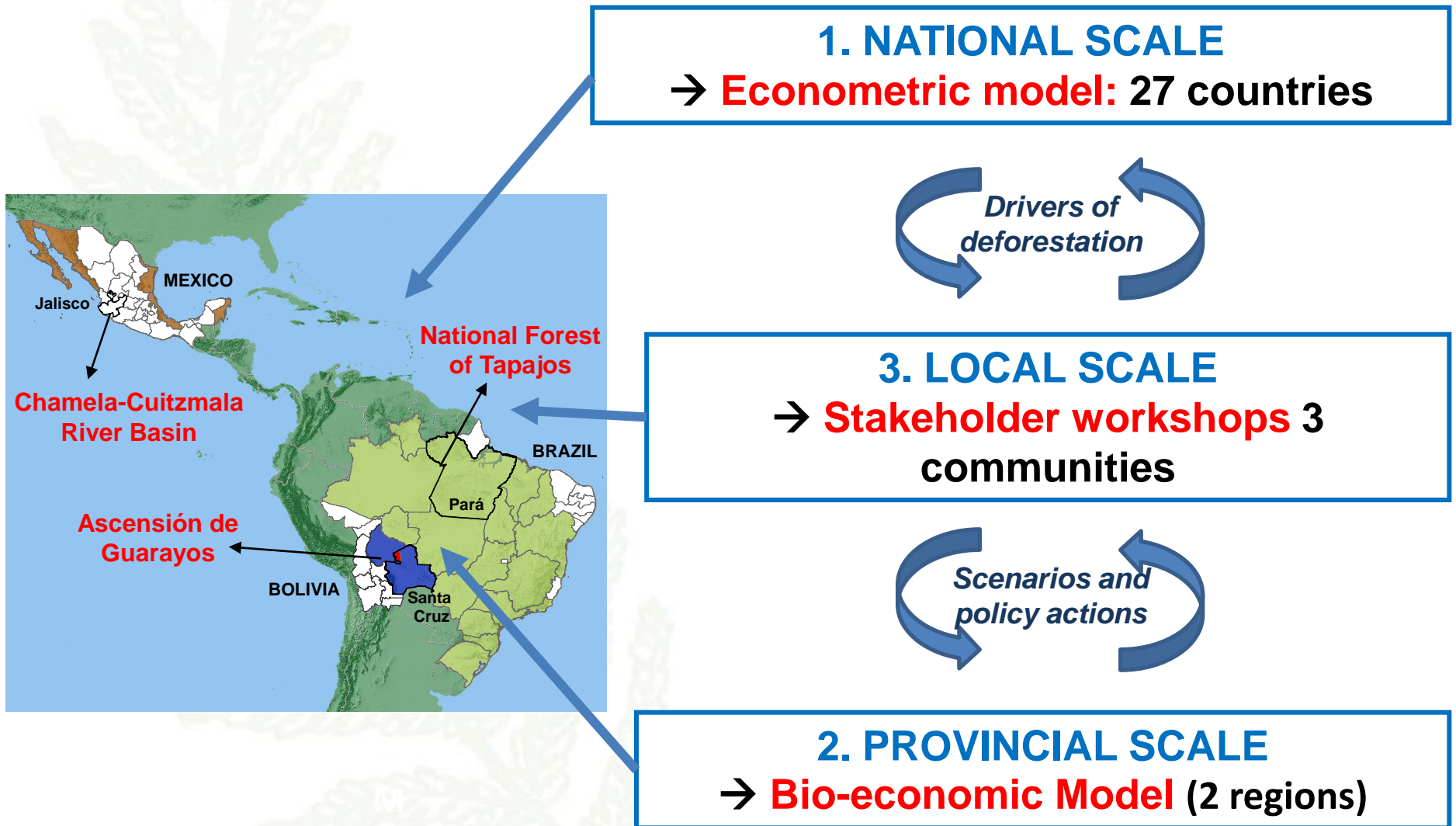


UNDERSTANDING AND MANAGING TRADEOFFS

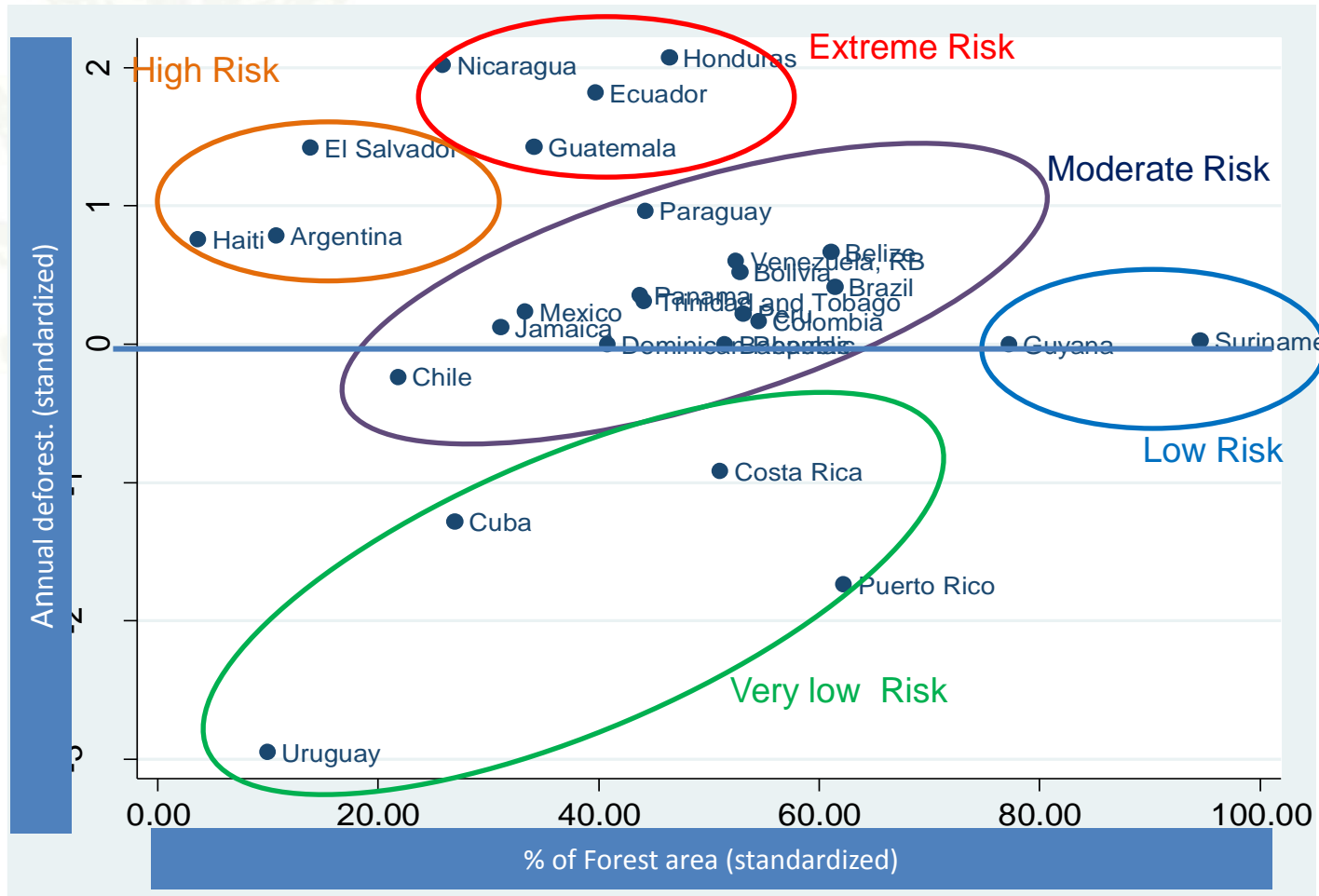
LEON BRAAT

ALTERRA

Socio-Economic-Ecological Interactions



1. National Scale: ROBIN Case Studies in Moderate Risk Zone

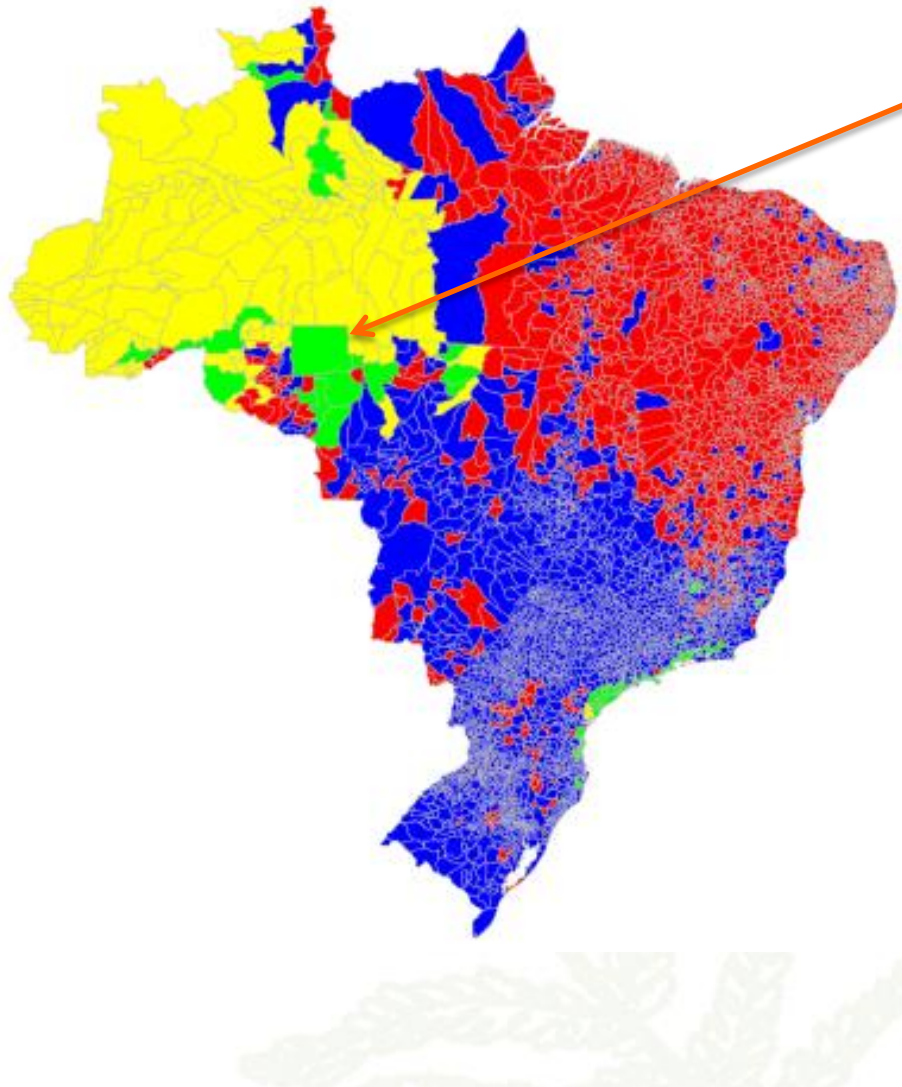


2. Provincial Scale -----Fieldwork in Bolivia & Brasil

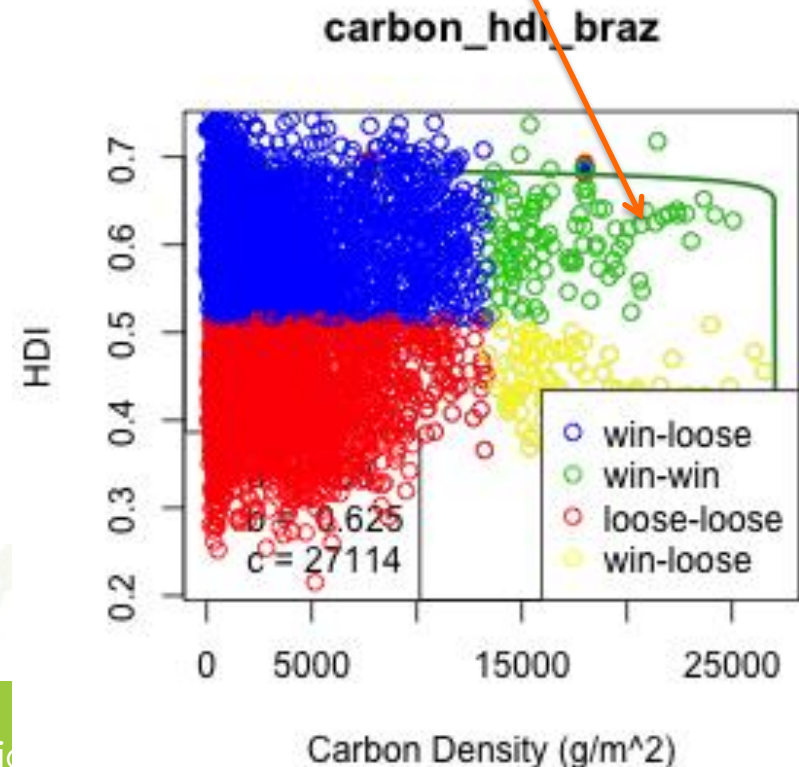
■ Key findings Bolivia & Brasil:

- 1. **Subsistence farms have largest forest area,**
.....large farms are highly deforested
- 2. Trend to **single crop cultivation** in **large farms**
- 3. **market prices drive decisions** in **middle-large** farms;
.....family consumption in **subsistence farms**
- 4- **Farmers have access to social programs,**
but most **do not** have **property rights** and
therefore **cannot benefit** from **credit lines**

From “lose:lose” to “win:win”

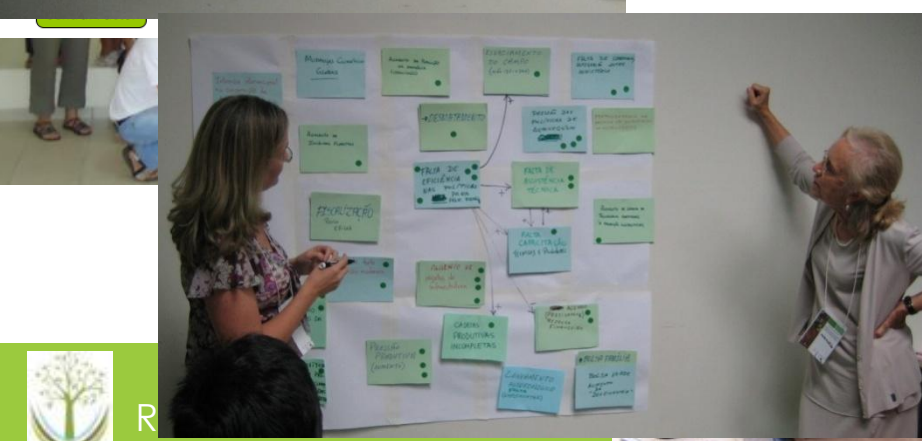
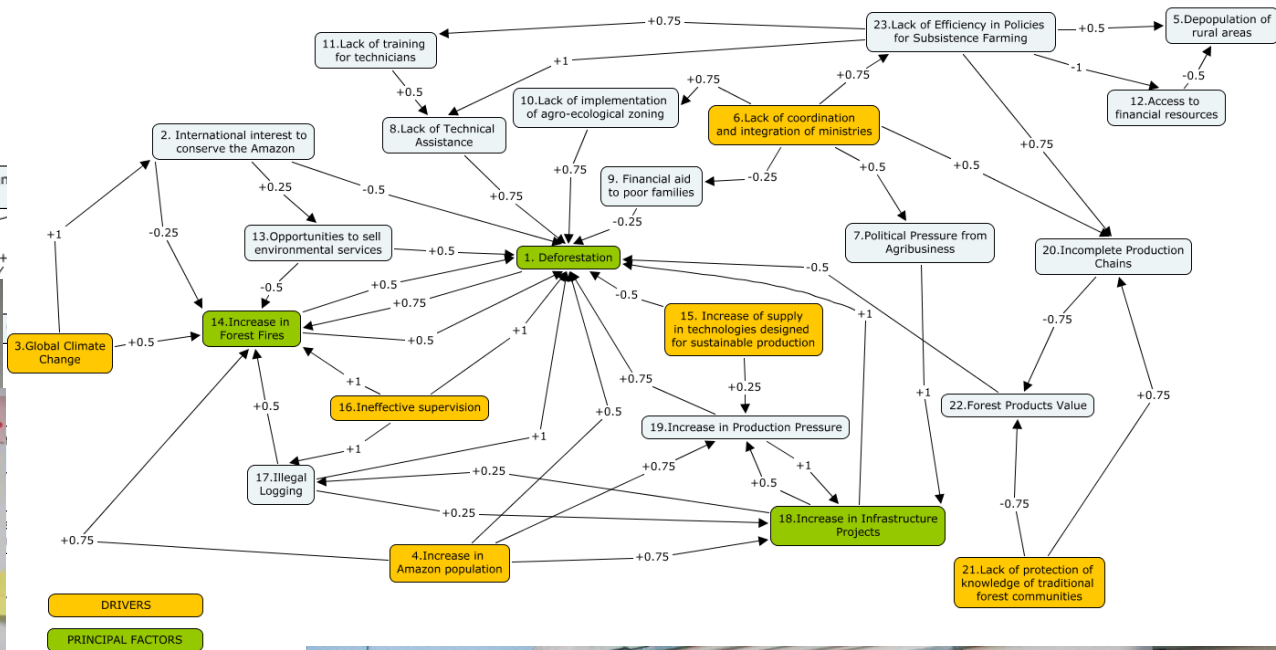
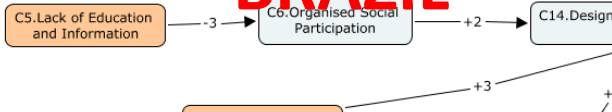


Only a few areas in Brasil today have high HDI and high carbon density



3. Local level Stakeholder workshops

MEXICO
BRAZIL



3. Local level → Key findings

Brazil

Core Problems: **1. Deforestation**, 2. Biodiversity Loss

Drivers: **1. agricultural production pressure**

Bolivia

Core Problems : **1. Deforestation**, 2. Pollution

Drivers: **1. agricultural expansion**

Mexico

Core Problems: **1. Deforestation**, 2. Agric. Expansion

Drivers: **1. Lack of education**, **2. low farm income**, **3. Bad design and no implementation of policies**

OPTIONS FOR IMPROVEMENT (from Case Study Sites)

1. Develop Technical Capacity

2. Governmental Coordination

3. Investment in Health and Education

4. Programmes for Integration of Agricultural and Forestry

5. Programmes to develop Environmental Awareness

6. Support for Social Participation in Policy Development



CONCLUSIONS

- Different patterns of deforestation across nations
 - Stakeholder perceptions of present situation are alike
 - Visions of a sustainable future diverge
-BUT:
- Economic Development, Agricultural & Biodiversity Conservation policies **need to be Integrated and Coordinated**



MANAGEMENT & POLICY

TERRY PARR

CEH



Local: What are the Best Management Options for Mitigation and Adaptation?



Option A: Mix cropping



Option B: Teak plantation



Option C: Soya plantation



Option D: Nature reserve

OPTamos – Tool for decision making in a complex world



Free online access:

<http://robin-decisionssupport.aau.at/aaahp/authenticated/home.xhtml>

EU biodiversity strategy

2050 VISION

2020 headline target

halt biodiversity loss – restore ecosystem services – global contribution

SIX TARGETS

1

Enhance
implementation
of nature
legislation

2

Restore
ecosystems
establish Green
Infrastructure

3

Sustainable
agriculture
and
forestry

4

Sustainable
fisheries

5

Combat
Alien
Invasive
Species

6

Contribute to
averting global
biodiversity
loss

ACTIONS

What can the EU do ?

Implement The European Biodiversity Strategy (2020)

Target 2:

- Share knowledge about Ecosystem Services management

Targets 3,4:

- Reduce the Ecological Footprint by less dependency on Latin American plantations
- targeted aid: fair prices for certified products

Target 6: to help avert global biodiversity loss by:

- reducing indirect drivers of biodiversity loss
- mobilising additional resources for global biodiversity conservation



UN Sustainable Development Goal

“...endeavour to decouple economic growth from environmental degradation...”

.... is biodiversity part of the solution?

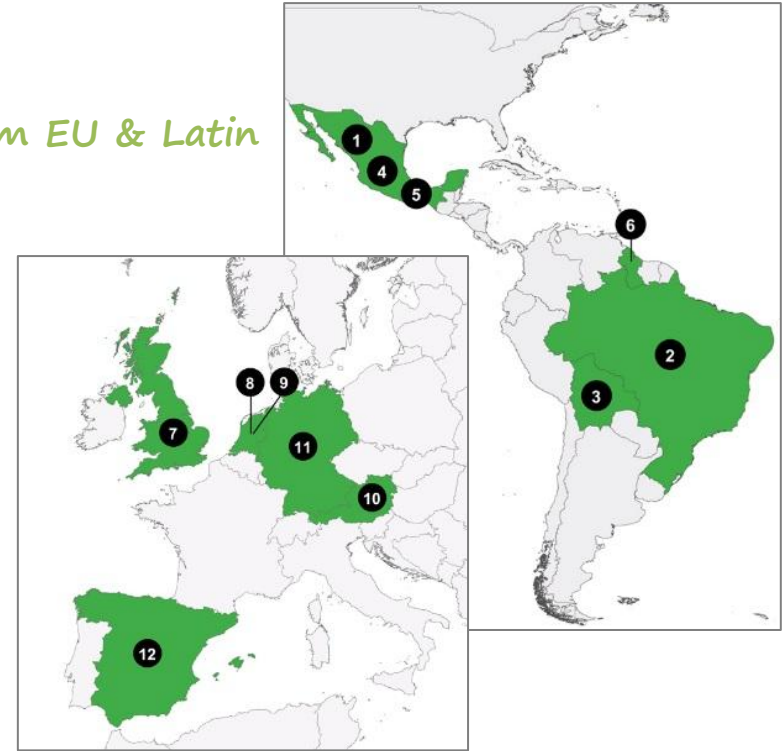




ROBIN

Role of Biodiversity in Climate Change Mitigation

An inter-disciplinary collaboration of 12 partners from EU & Latin America



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