



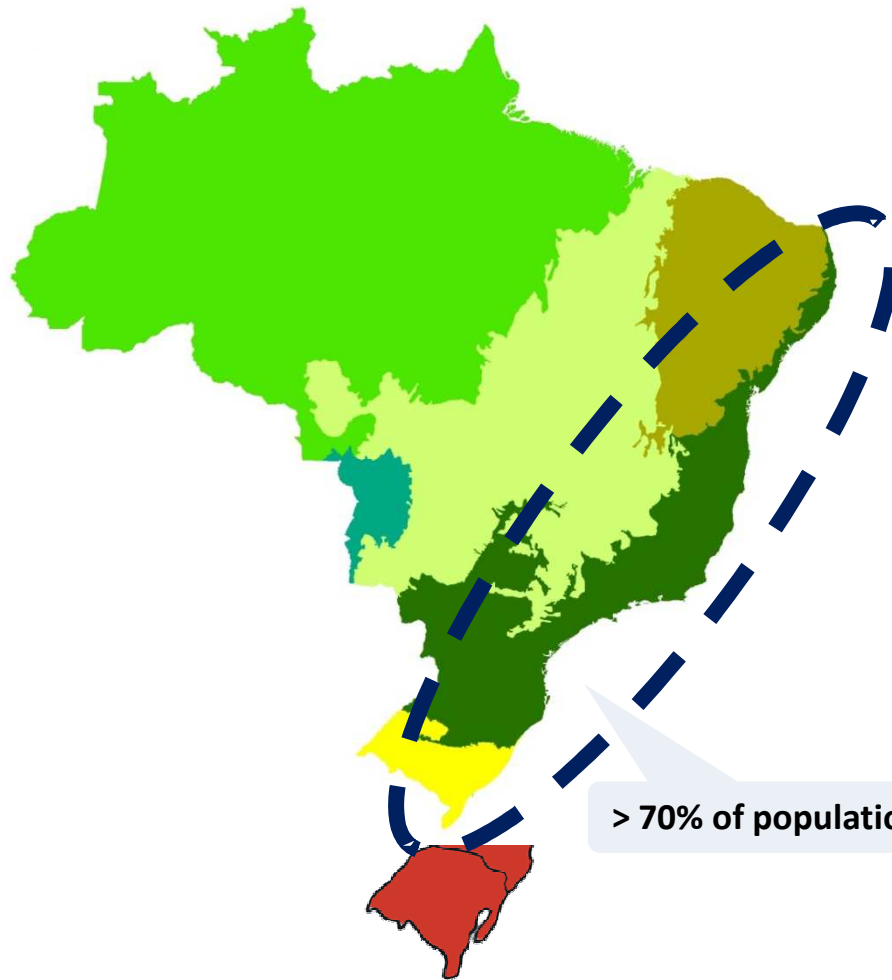
*Regional Training Workshop  
System of Environmental-Economic  
Accounting (SEEA) Experimental Ecosystem Accounting*

**Brazil**

*Santiago, Chile, April 2015*



# FACTS ABOUT BRAZIL



**Political system:** Presidential Federal Republic

**Area:** 851 million ha (5º)

**Population:** 191 million (5º)

**Municipalities:** 5,564

**GDP:** US\$ 2.5 trillion (6º)

**Forest area:** ~ 460 million ha (2º)

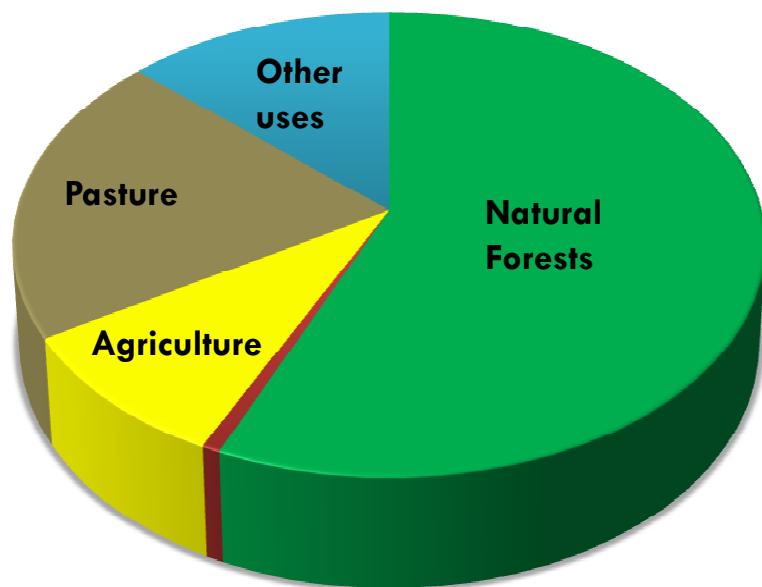
**Forest area *per capita*:** 2.4 ha

**Indigenous people:** 305 groups (900 k people)

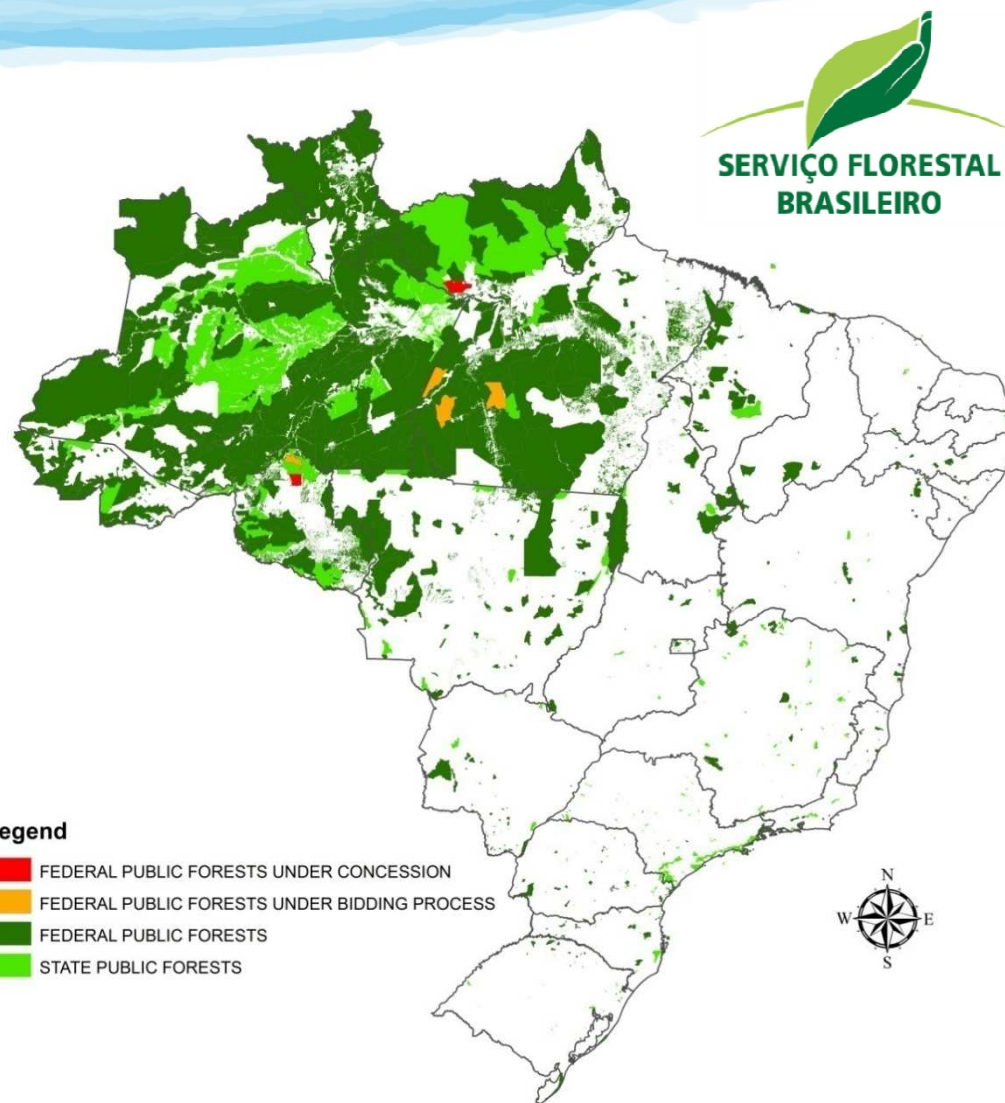


# LAND USE IN BRAZIL

Forests occupy more than 54% of the total area of the country.



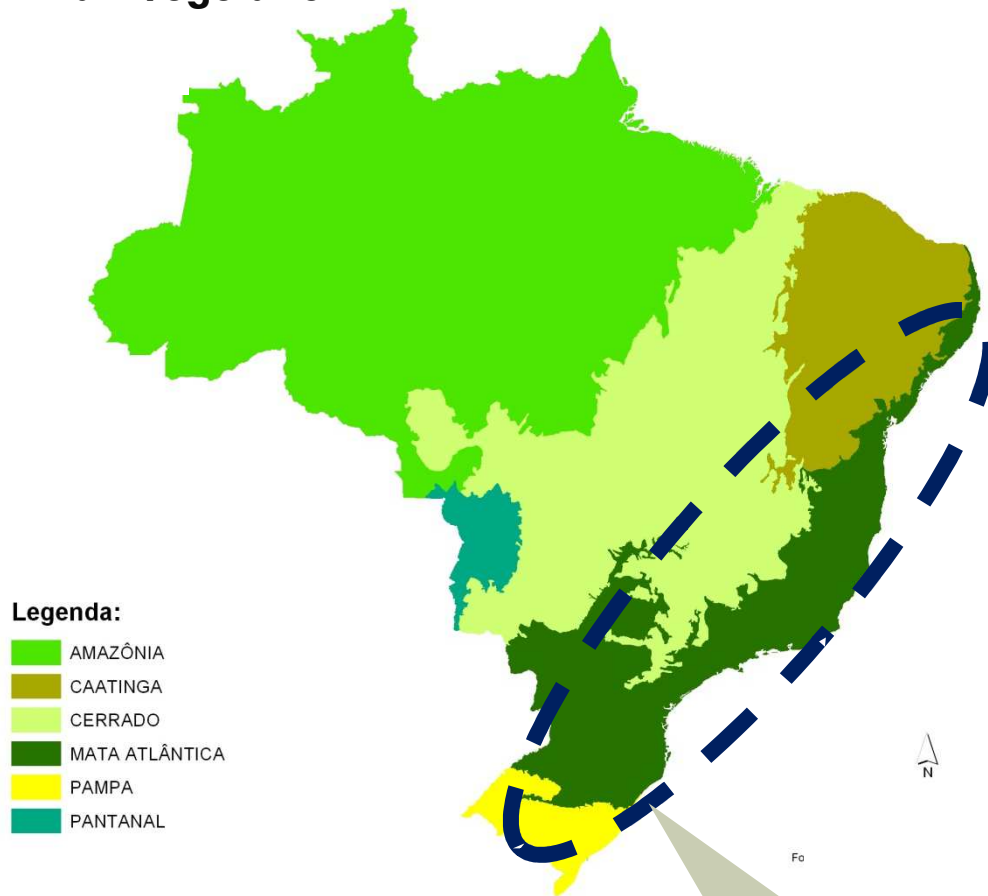
Plantation forests



**308 Million Ha of Public Forests**

# Brazilian Forests

## Brazilian Vegetation



Biomes	% of the country	% of the biome conserved
Amazonia	49	85%
Cerrado	24	45%
Caatinga	10	30%
Atlantic Forest	13	7%
Pantanal	1,7	90%
Southern Fields	2	10%

> 70% of population

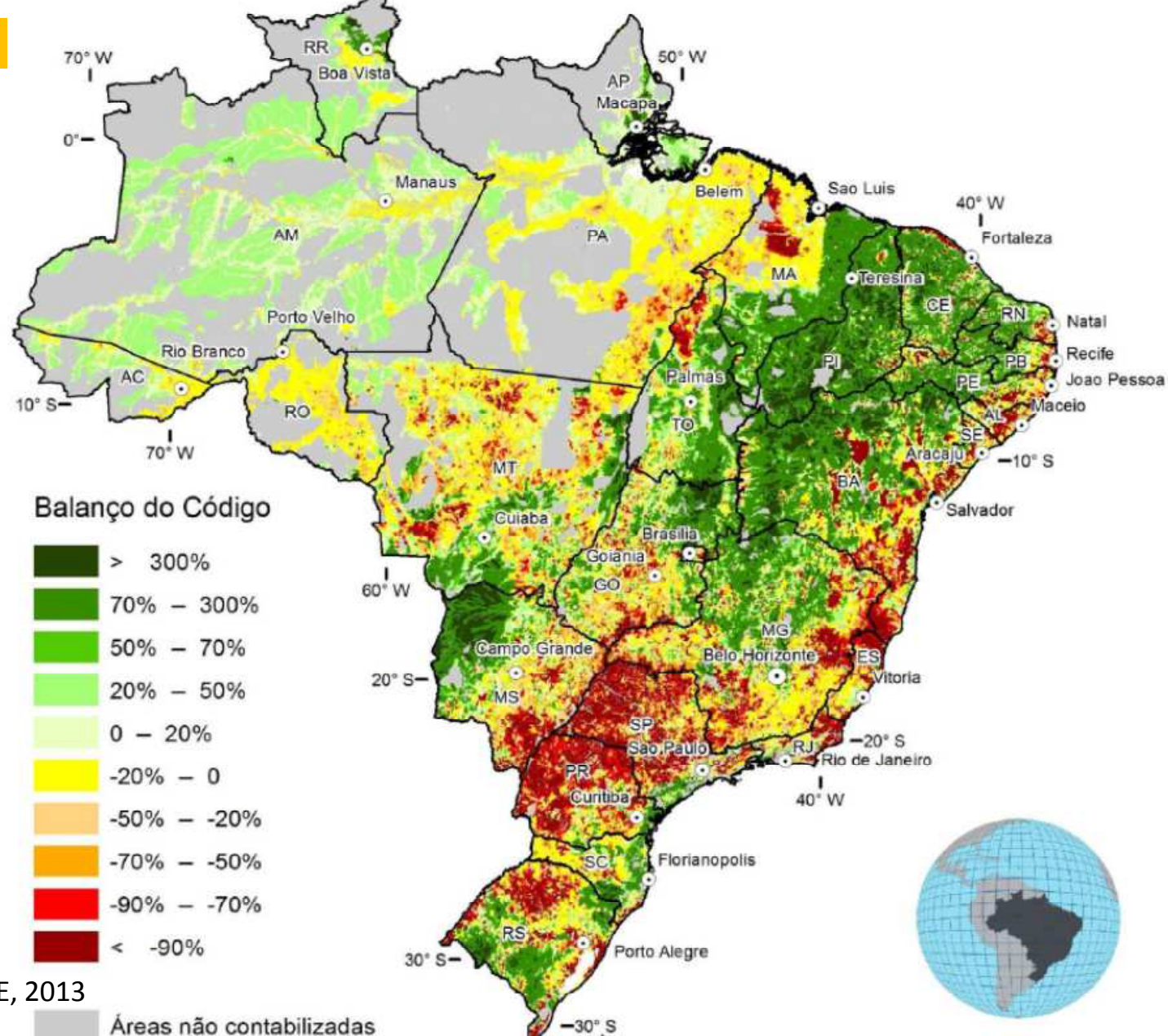


# Background: Brazil's Native Vegetation Protection Law

- Requires landowners to conserve native vegetation on their rural properties, setting aside a **Legal Reserve (LR)** that occupies **80%** of the property area in the Amazon and **20%** in other biogeographical regions
- Designates environmentally sensitive areas as **Areas of Permanent Preservation (APPs)**, aiming to conserve water resources and prevent soil erosion
- APPs include both **Riparian Areas** that protect riverside forest buffers, and **Hilltop Preservation Areas** at hilltops, high elevations, and steep slopes

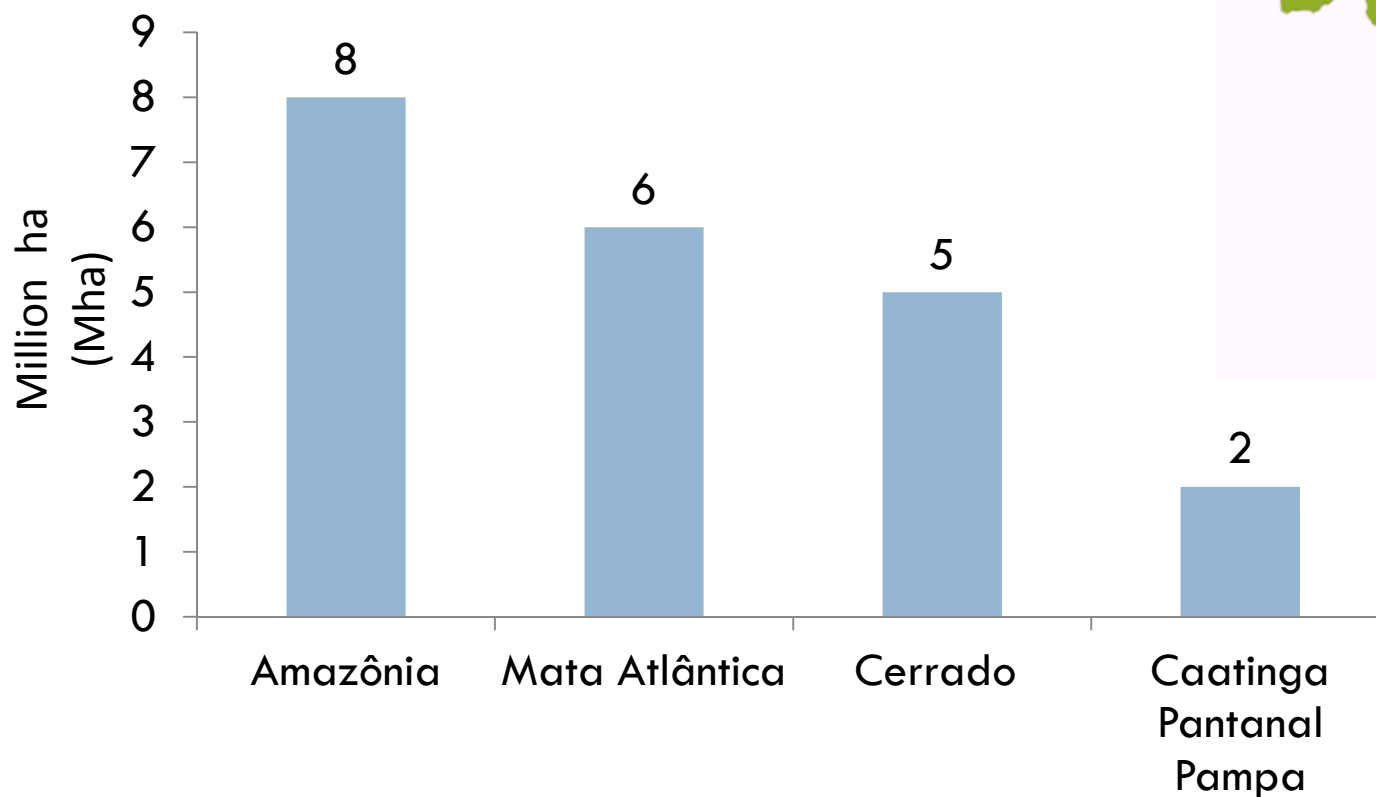


# Where native vegetation “deficits” are in Brazil



Source: SAE, 2013

# Restore demand in each biome (applying Forest Code 2012)



**Total = 21 Mha**

adapted from Soares-Filho, B. S., 2013.

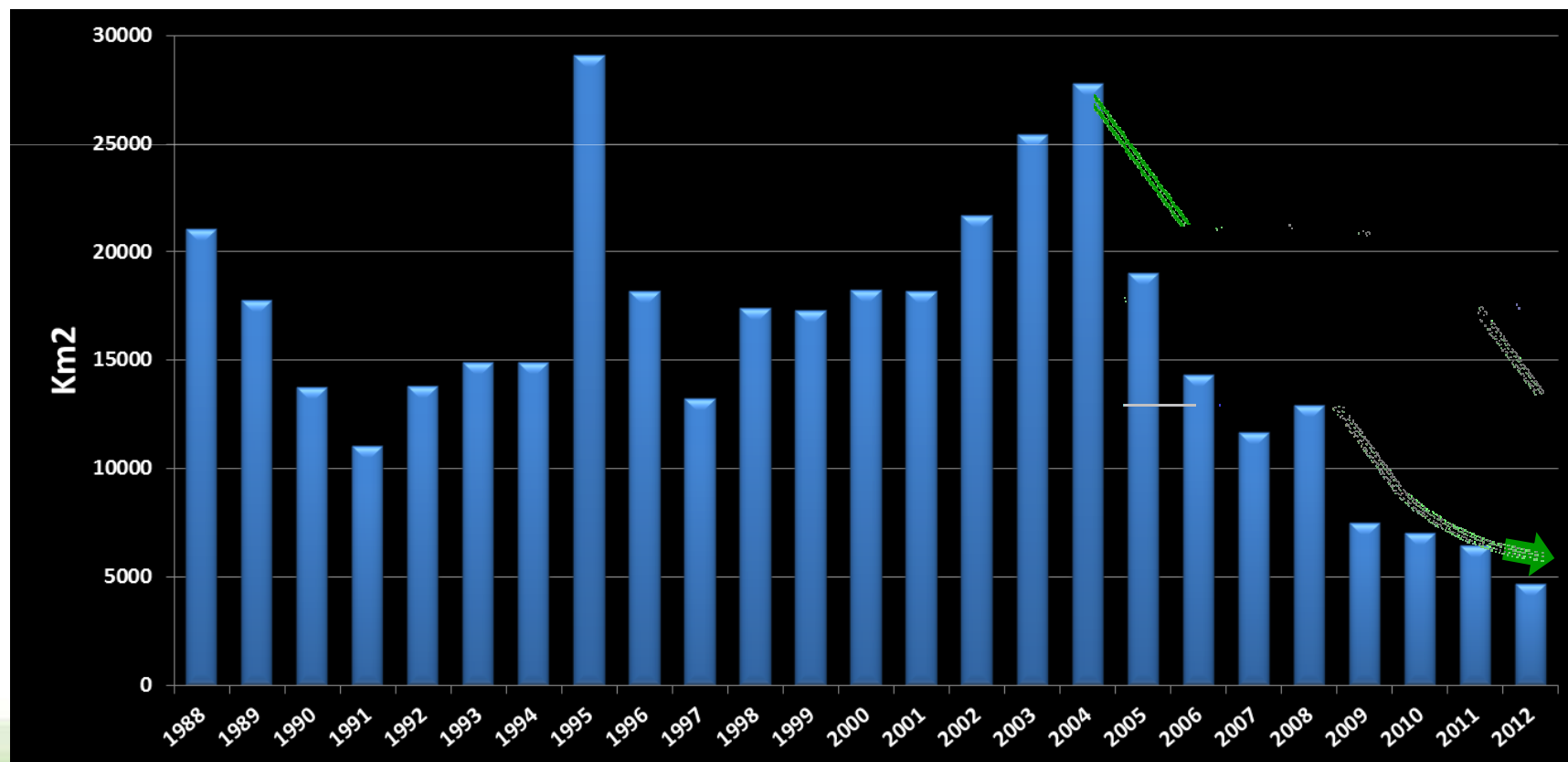
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# LAND USE X FORESTS



## Annual deforestation rate of the Amazon





# National Forest Inventory - NFI



Being implemented to provide relevant information concerning national forest resources and to support public policies aiming forest sustainable use and conservation.

## Data/information on:

- Forest area
- Tree species composition
- Forest structure and stock
- Forest dynamics
- Biomass and carbon stock
- Forest management
- Forest products
- Forest and people
- ....

## Five-year cycle:

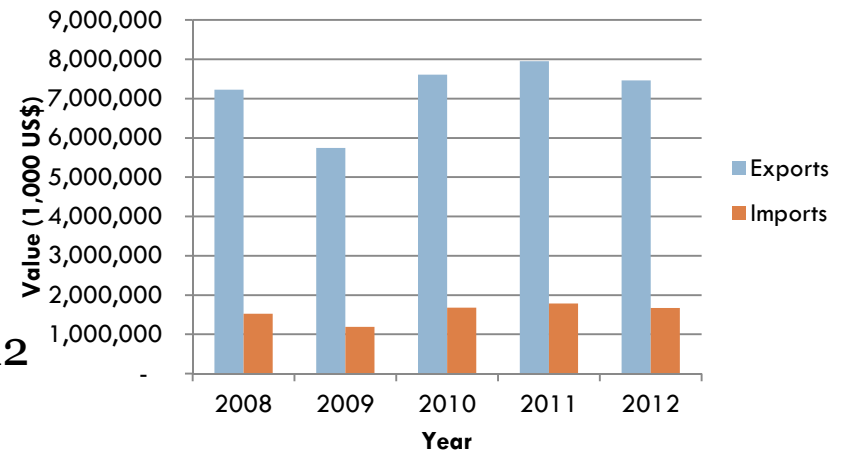
Monitoring, trend analysis and scenarios

Planning, decision making, country reports,

# Forest economy

- 3.5% of GNP
- 8.4% of exports
- 0.67 million (formal jobs)
- Forest production round wood (2011): 273.12 M m<sup>3</sup>
  - ▣ Planted forests: 77%
  - ▣ Natural forests: 13% (Amazon region: 12.9 M m<sup>3</sup>)
- 85% of round wood are consumed internally (Amazon)
- First importer market: Europe (60% of total export volume)

**Forest Products: Exports x Imports**



**Forest Products Export Destinations**

	<i>Country</i>	<i>Million US\$</i>
1	United States	1,788
2	China	1,363
3	Holland	1,050
4	Italy	524
5	Argentina	456
6	United Kingdom	405
7	Belgic	383
8	France	314
9	Japan	241
10	Germany	175

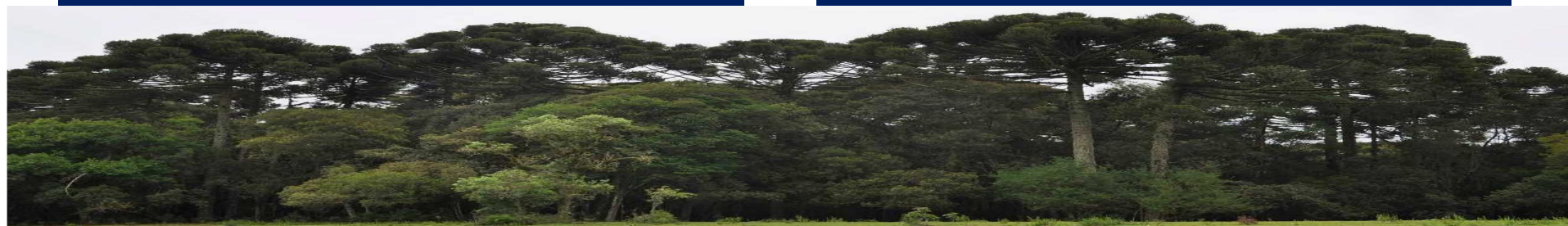
# Polycymix:economic instruments in Brazil

## IN PLACE / ONGOING

1. Environmental compensation schemes (infrastructure projects)
2. Environmental funds (Fundo Amazônia & FUNBIO)
3. State and Municipal PES Laws and schemes
4. Green procurement
5. Forest allowance programs (Bolsa Floresta and Bolsa Verde)
6. National Accountability of Natural Capital (SEEA-UN)

## PERSPECTIVES / ON STUDY

1. Federal PES Law
2. Green Infrastructure Bonds
3. Tradable conservation certificates (Native Veg Protection Law)
4. Paying for ES of Protected Areas for providing hydroenergy and water supply.
5. Amazon Ecosystem Services Valuation Study – World Bank



# SEEA-EEA in Brazil

- ❑ Brazil hasn't started to implement SEEA-EEA yet;
- ❑ There are several initiatives concerning forest stock inventory (NFI) and biodiversity conservation;
- ❑ Focal points that can be contacted concerning pilot project areas to test the tools and models for ecosystem conditions and related services:
  - ❑ Marcus V. Alves, Director of the Brazilian Forest Service ([marcus.alves@florestal.gov.br](mailto:marcus.alves@florestal.gov.br))
  - ❑ Carlos Alberto Scaramuzza, Director of Biodiversity Conservation Department ([carlos.scaramuzza@mma.gov.br](mailto:carlos.scaramuzza@mma.gov.br))

# Opportunities for the use of SEEA-EEA information

SEEA-EEA will subsidize governmental agendas such as:

## ❖ **New Forest Law**

- ❖ Opportunity of using the SEEA-EEA to analyze the costs and benefits of ecosystem restoration and different land uses;
- ❖ Payment for ecosystem services.
- ❖ Development of National Plan for Recovery of Native Vegetation (Planaveg)

## ❖ **Law for National System of Protected Areas:**

- ❖ Paying for ecosystem services for providing hydroenergy and water supply.

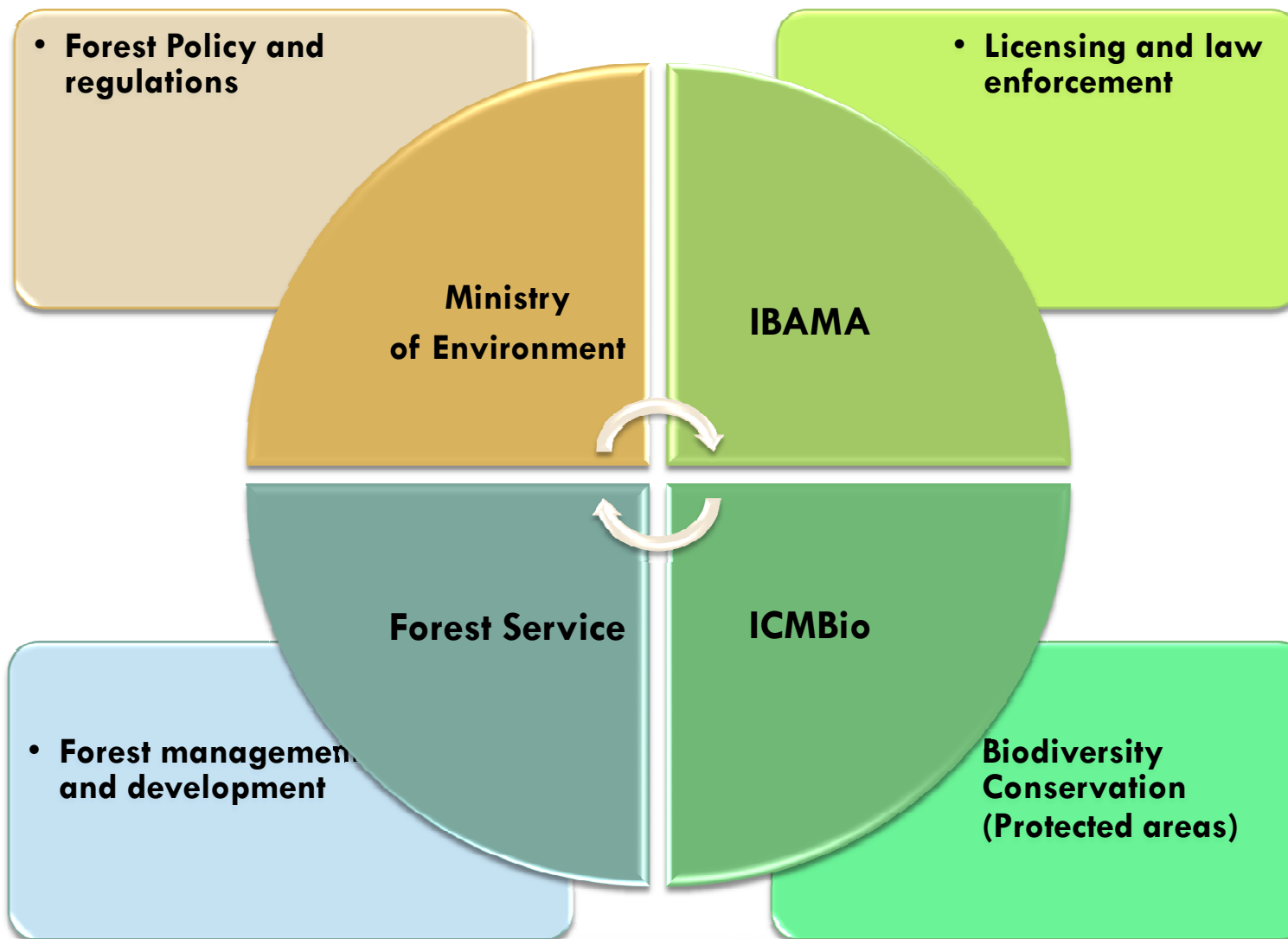


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# INSTITUTIONAL FRAMEWORK





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graph TD; A[Biodiversity Conservation Department] --- B[Carlos Alberto de Mattos Scaramuzza]; A --- C[Councils]; C --- D[CONACER & CONABIO]; A --- E[Species Conservation]; A --- F[Ecosystems Conservation]; E --- G[Ministerio do Meio Ambiente]; F --- H[Economics of Ecosystems - TEEB related agenda];
```

**Biodiversity Conservation Department**

Carlos Alberto de Mattos Scaramuzza

**Councils**

CONACER & CONABIO

**Species Conservation**

Ministerio do Meio Ambiente

**Ecosystems Conservation**

Economics of Ecosystems – TEEB related agenda

# Components and goals

## Brazilian Natural Capital Initiative

### EEB for National Policymakers

demonstrate the value of ecosystems and biodiversity to selected sectors of the economy, and recommend a set of federal policy actions

### EEB for Regional and Local Policy Makers

assess the risks and costs of biodiversity loss and opportunities associated with its conservation and sustainable use, for selected Brazilian companies

### EEB for business sector

provide practical guidance on how to deal with the challenge of biodiversity loss in the local and regional levels



# EEB for National Policy Makers – Selected themes

## Map of Ecosystems

- Initially for water: **map of indicators of availability and quality of water**, using as a starting point map of watersheds from ANA
- Generate **reference scenarios and trends of ecosystem services** in order to serve as a guide for future **studies and public policy guidance**.
- **First: Select a pilot region and set priorities for topics to be included in the mapping of SE** at national and regional level, according to demands to policymaking.
- Partnership with IBGE



# Regional and Local TEEB Project

Biodiversity conservation through integration of ecosystem services into public programmes and economic activities

## New component proposal – Environmental Economic Accounting

Em nome do



Ministério Federal do Meio Ambiente,  
da Proteção da Natureza  
e da Segurança Nuclear

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH



Confederação Nacional da Indústria

CNI. A FORÇA DO BRASIL INDÚSTRIA

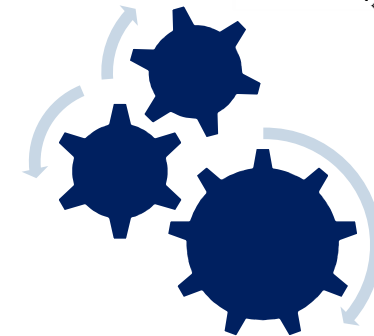
da República Federal da Alemanha

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## Regional and Local TEEB Project

- IKI: International Climate Initiative - BMUB
- Ministry of Environment – CNI – GIZ
- **Budget: 6 Mi EUR (3.5 Mi EUR BMUB + 2.5 Mi EUR Brazilian counterpart)**
- **Main goal:** Public and private key actors integrate the socioeconomic and cultural value of ecosystems into decision making.



# Highlights of Regional and Local TEEB Project (2014-2015)

## ❖ Development of pilot studies at regional level (states) for:

- Implementation of economic instruments for the conservation of BSE
- Mapping and evaluation of BSE (relation with risk management and climate change; connection with environmental damage valuation)
- Incorporation of biodiversity and ES at land planning and management instruments (EEZ, RBMP, others)

## ❖ Definition of an engagement strategy for business and financial sectors

## ❖ Development of a communication strategy for the project



# Environmental Economic Accounting and Secretariat of Biodiversity and Forests



- Department of Biodiversity Conservation: TEEB agenda – inclusion of natural capital into decision-making processes
- **Environmental Economic Accounts:** provide a systematic tool to measure state and changes of natural capital
- Importance of finalizing an environmental economic account for disclosure / discussion of results
- **Water: the ideal account to start:** very tangible, can induce the debate. Can help to leverage the development of other accounts (eg forests , ecosystems)

# Environmental Economic Accounting and Secretariat of Biodiversity and Forests



- **IBGE** is member of the Working Group of Brazilian TEEB for Policy Makers and presented to SBF the importance of the issue.
- **Since 2012:** Dialogue with IBGE of status and challenges of the EEA-Water
- **In 2014:** conjunction with IBGE, ANA e SRHU to propose a new componente for the Regional and Local TEEB Project – provide technical cooperation resources to contribute to the process of finalizing the water accounts.
  - Overcome technical and methodological **bottlenecks**
  - Need for **exchange of experiences**
  - **Communication strategy**
- Dialogue with Brazilian Forest Service to support the start of **forest accounts**.

# Environmental Economic Accounting component



- SBF facilitates the component activities – focal point TEEB project
- Key actors ( SRHU , ANA , IBGE and SFB) formulate and implement work plans related to the implementation of environmental economic accounts of water and forests
- Mobilizing key actors to participate in the implementation of project component:



## Expected results



1. **Water accounts: stock and flow (physical and monetary)** for n regions.
2. **Forest accounts:** reach the current status of water accounts - **finish physical accounts**
3. **Ecosystem accounts:** discuss and propose a “roadmap” for the process of the ecosystem accounts.



***Thanks!***



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