

LATIN-AMERICA PERSPECTIVES FOR SUSTAINABLE LIVESTOCK PRODUCTION: THE BRAZILIAN CASE

**FIRST RESPONSIBLE LIVESTOCK MEETING
BRASÍLIA, MAY 2011**

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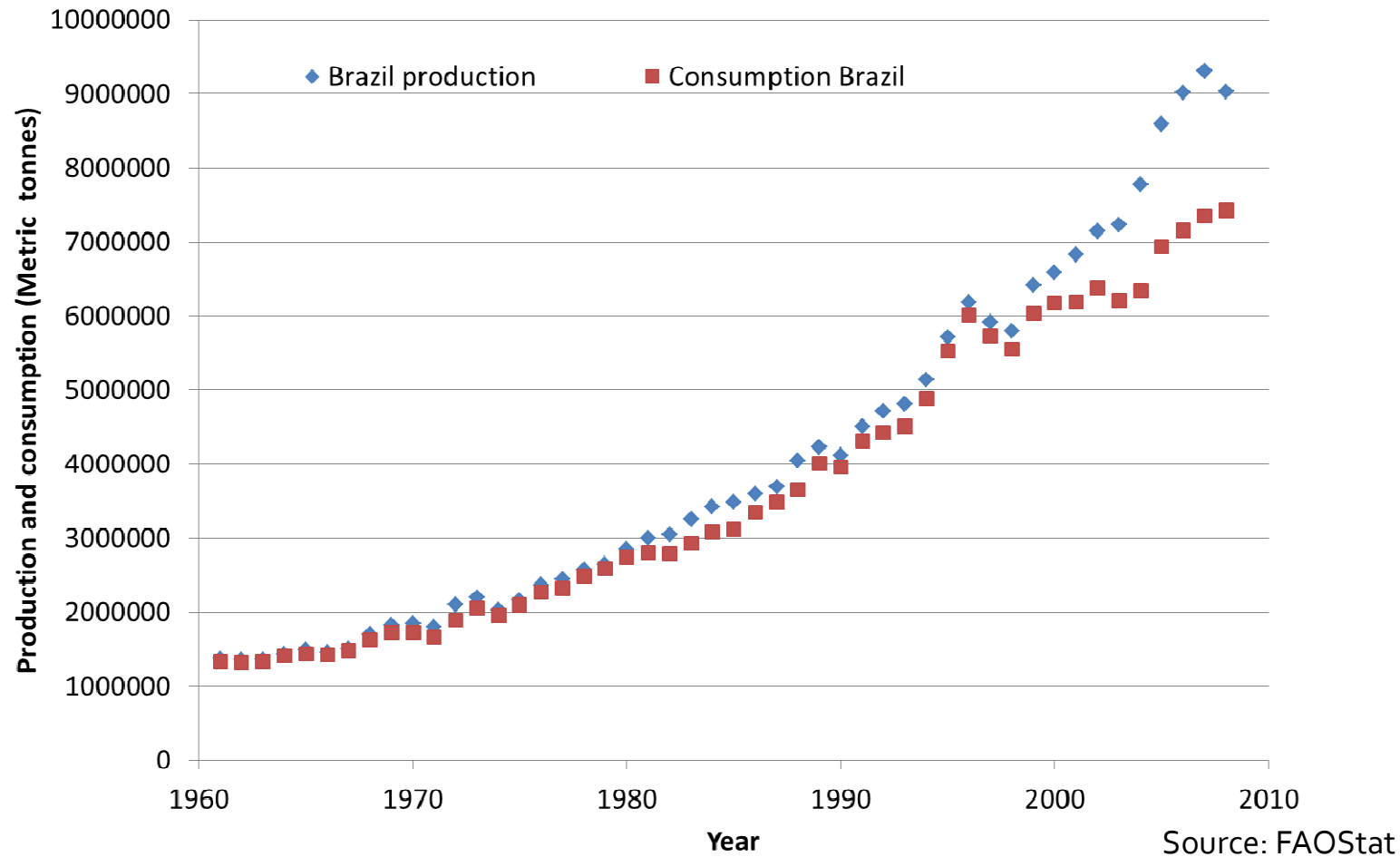
Global Perspective

- New challenges livestock systems:
 - Reconciling fast increase in food, fiber and biofuel demand with sustainable, low carbon, agricultural production
- In Latin America this challenge is particularly important for beef production
 - > 2/3 of agricultural land use
 - > 80% of cattle numbers and GHG enteric emissions

Traditional Brachiaria (Urochloa) x Nelore low input system



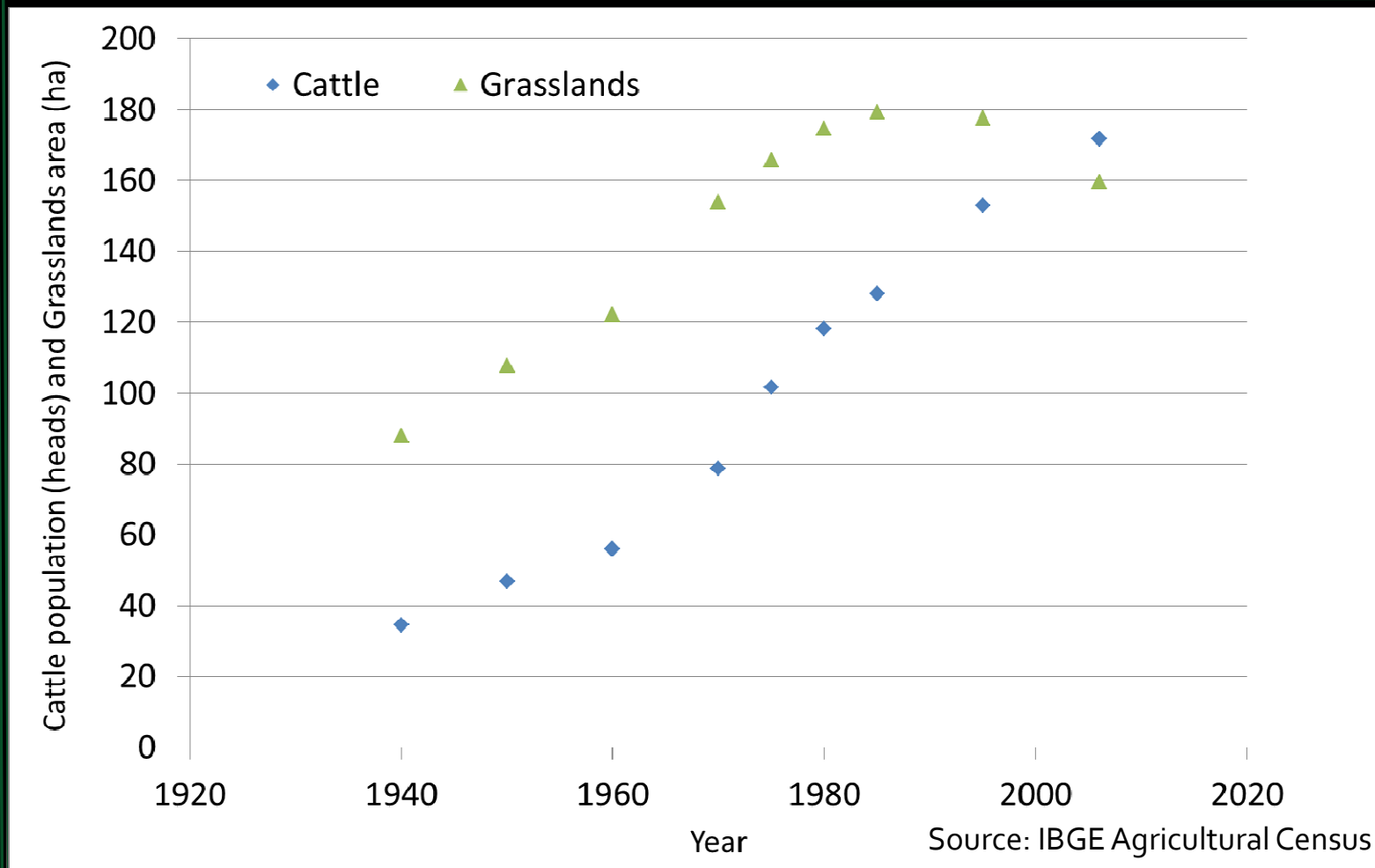
Brazilian Beef Exports



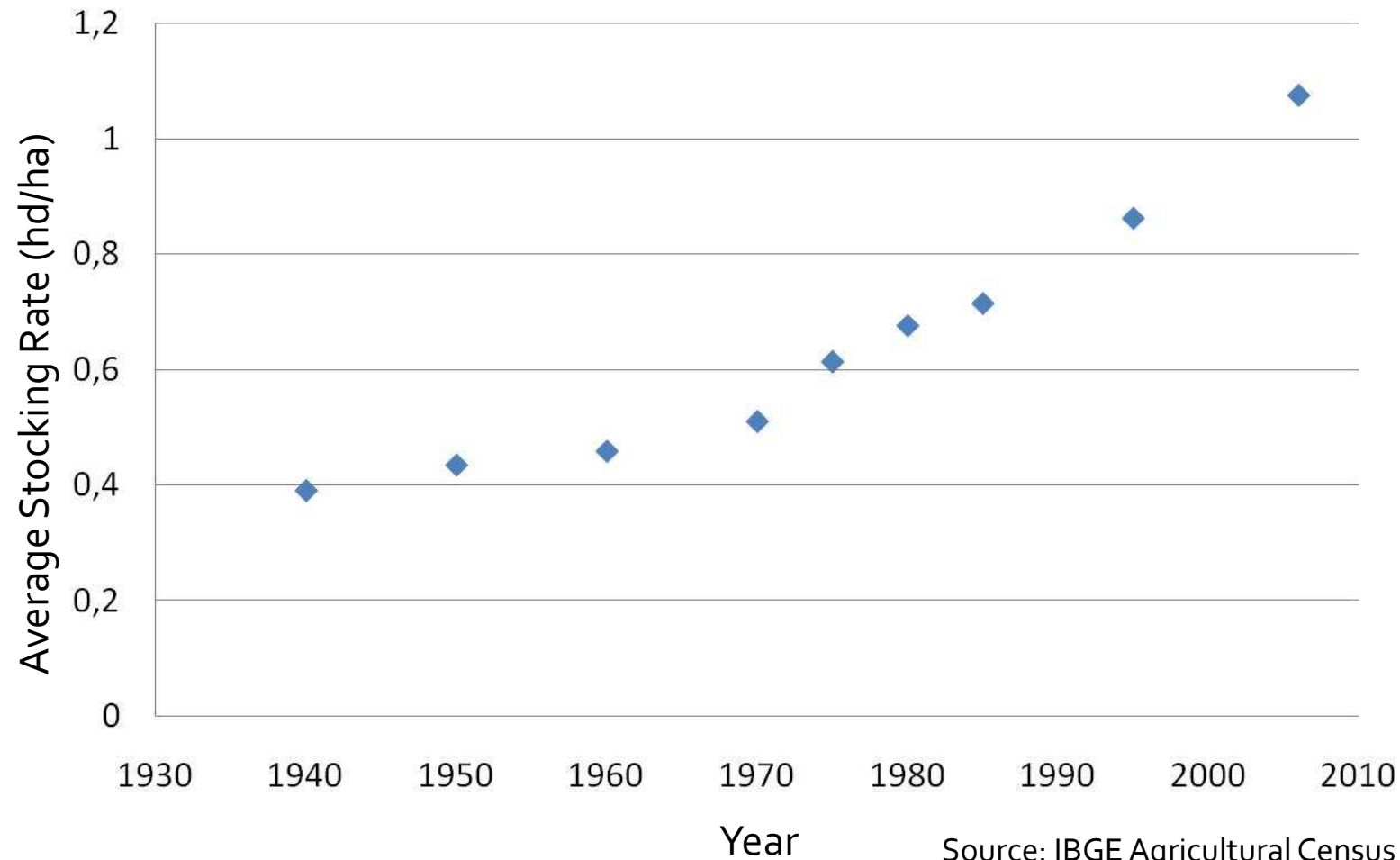
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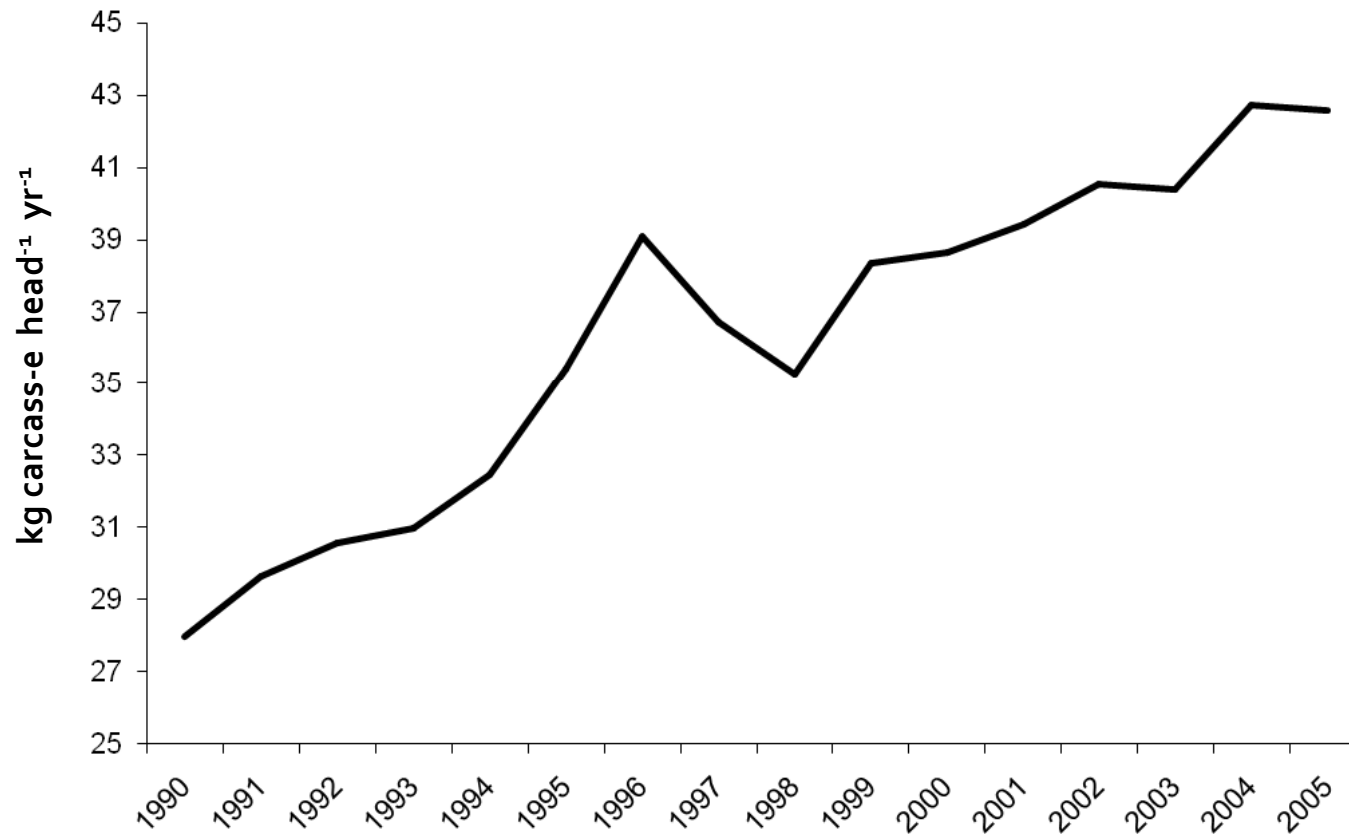
Brazilian Beef Production: Cattle population x Grassland area



Brazilian Beef Production: Stocking Rate



Brazilian Beef Production: Animal Performance

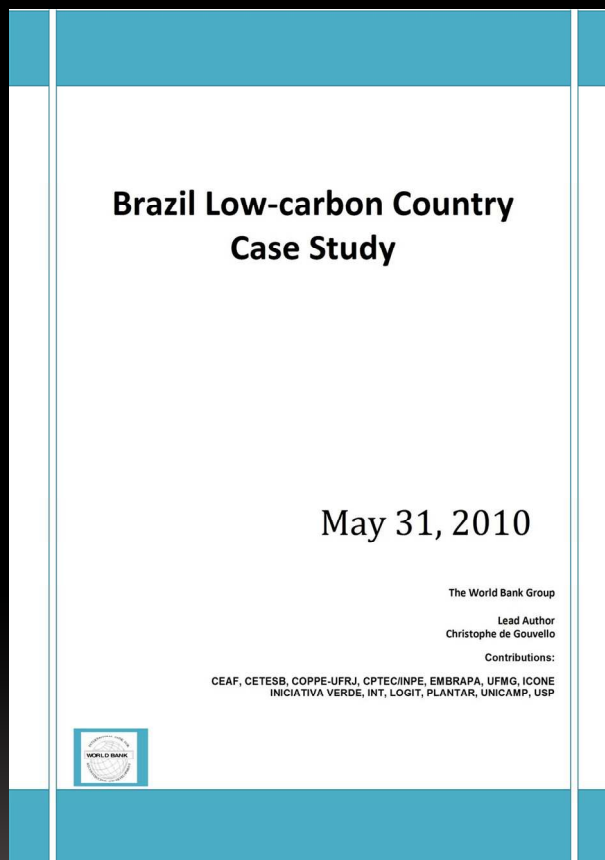


Source: derived from CNPC data

Increasing adoption of more productive systems, lowering GHG emissions



Projections for the Brazilian cattle production (based on Low Carbon Brazil Case Study - World Bank 2010)



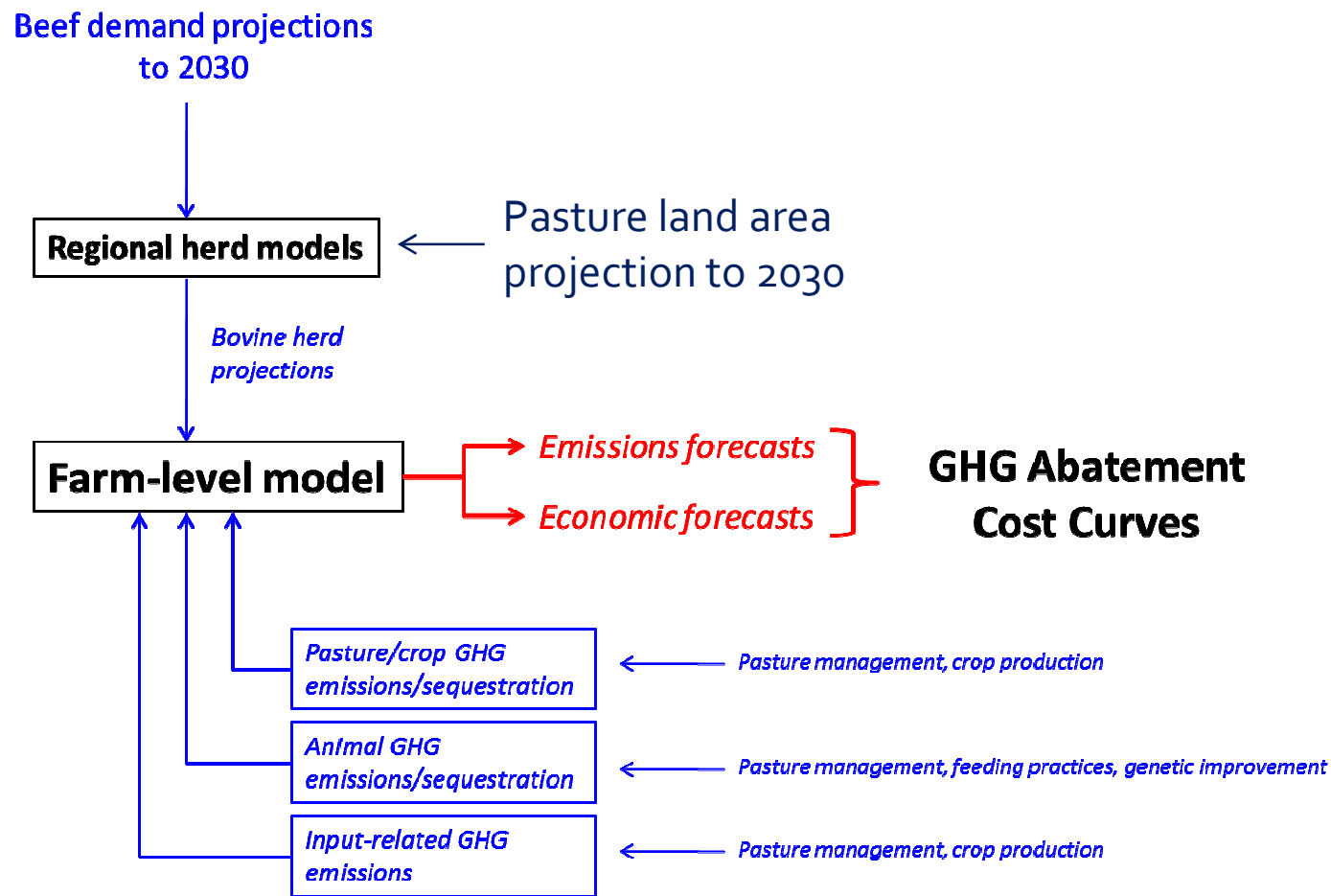
http://siteresources.worldbank.org/BRAZILEXTN/Resources/Brazil_LowcarbonStudy.pdf



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Low Carbon Brazil Case Study World Bank (2010)

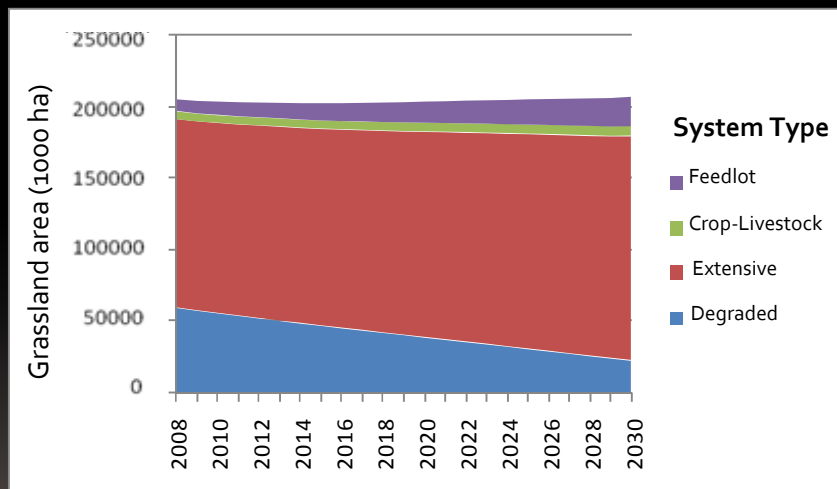


Low Carbon Brazil Case Study

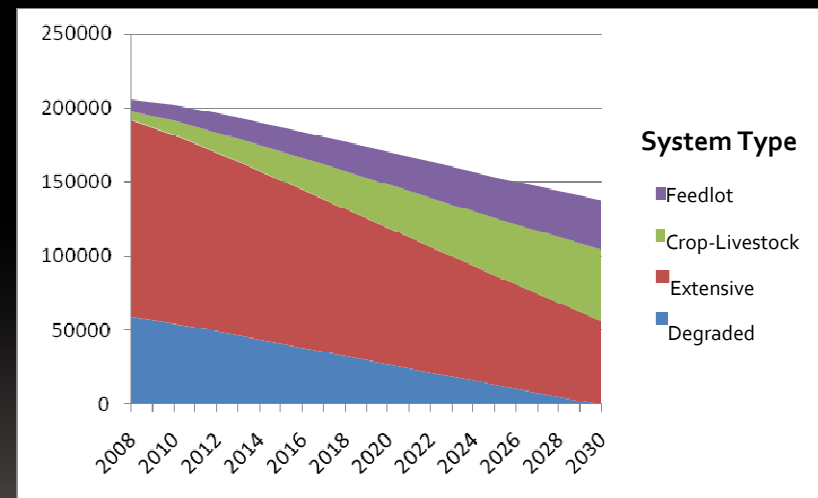
World Bank (2010)

Results:

Baseline Scenario

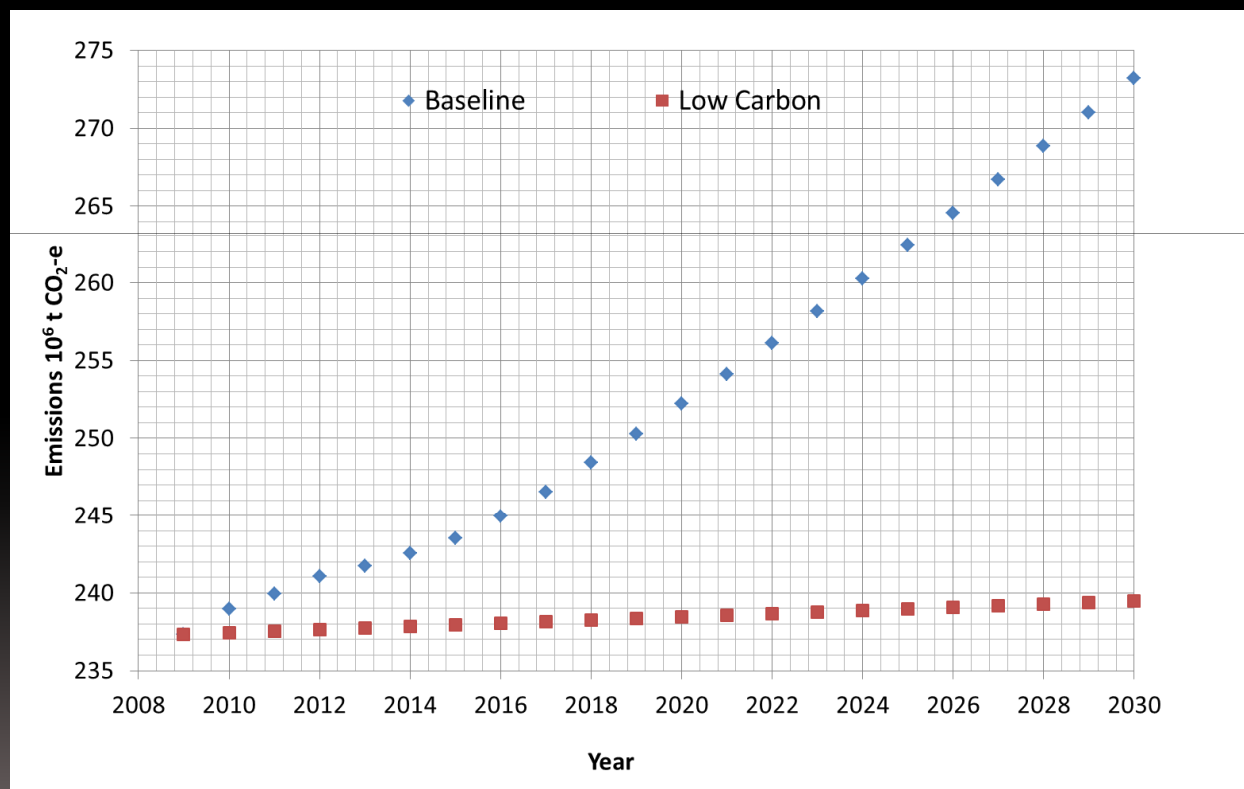


Low Carbon Scenario



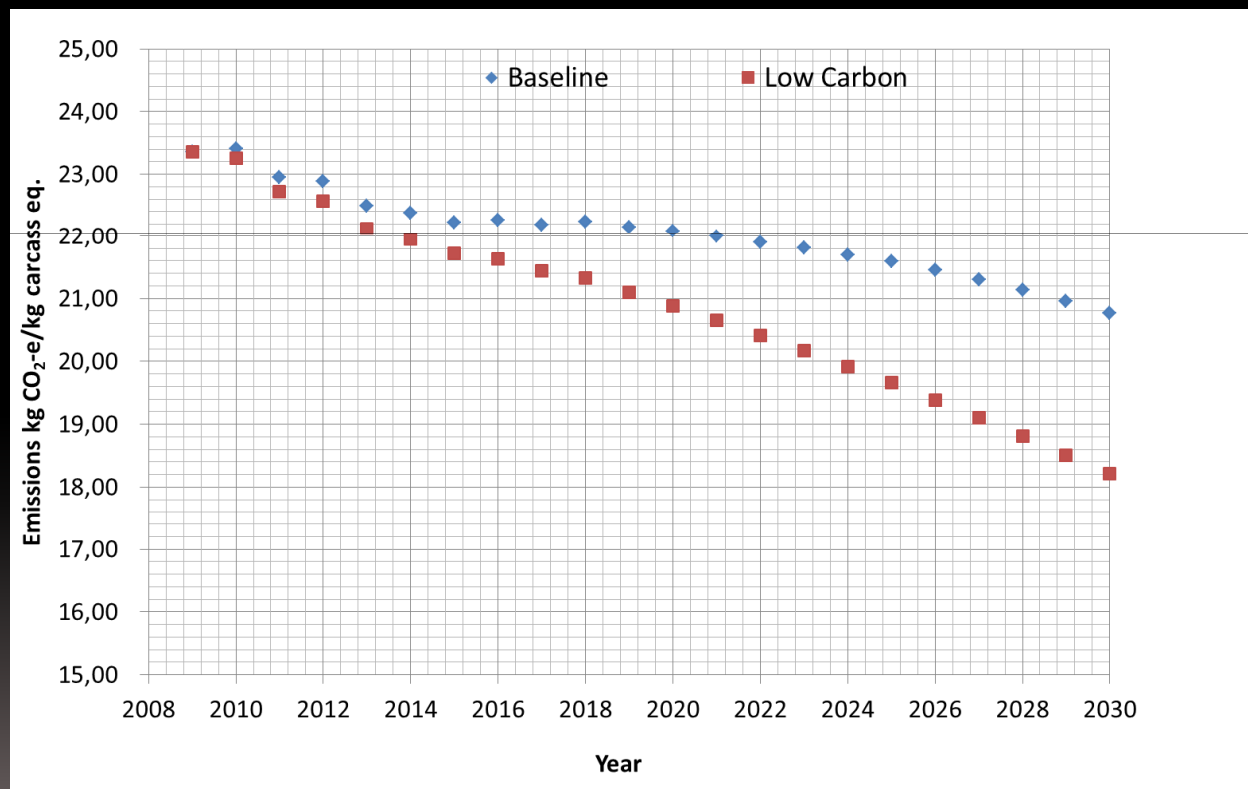
Low Carbon Brazil Case Study World Bank (2010)

Results:

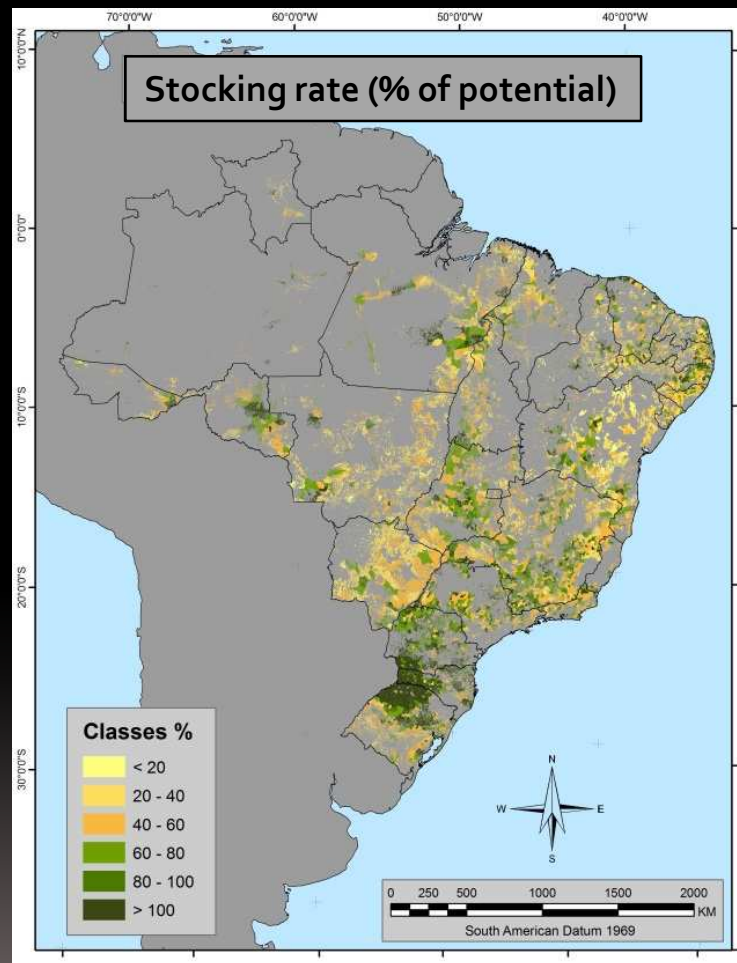


Low Carbon Brazil Case Study World Bank (2010)

Results:



Where can we improve?



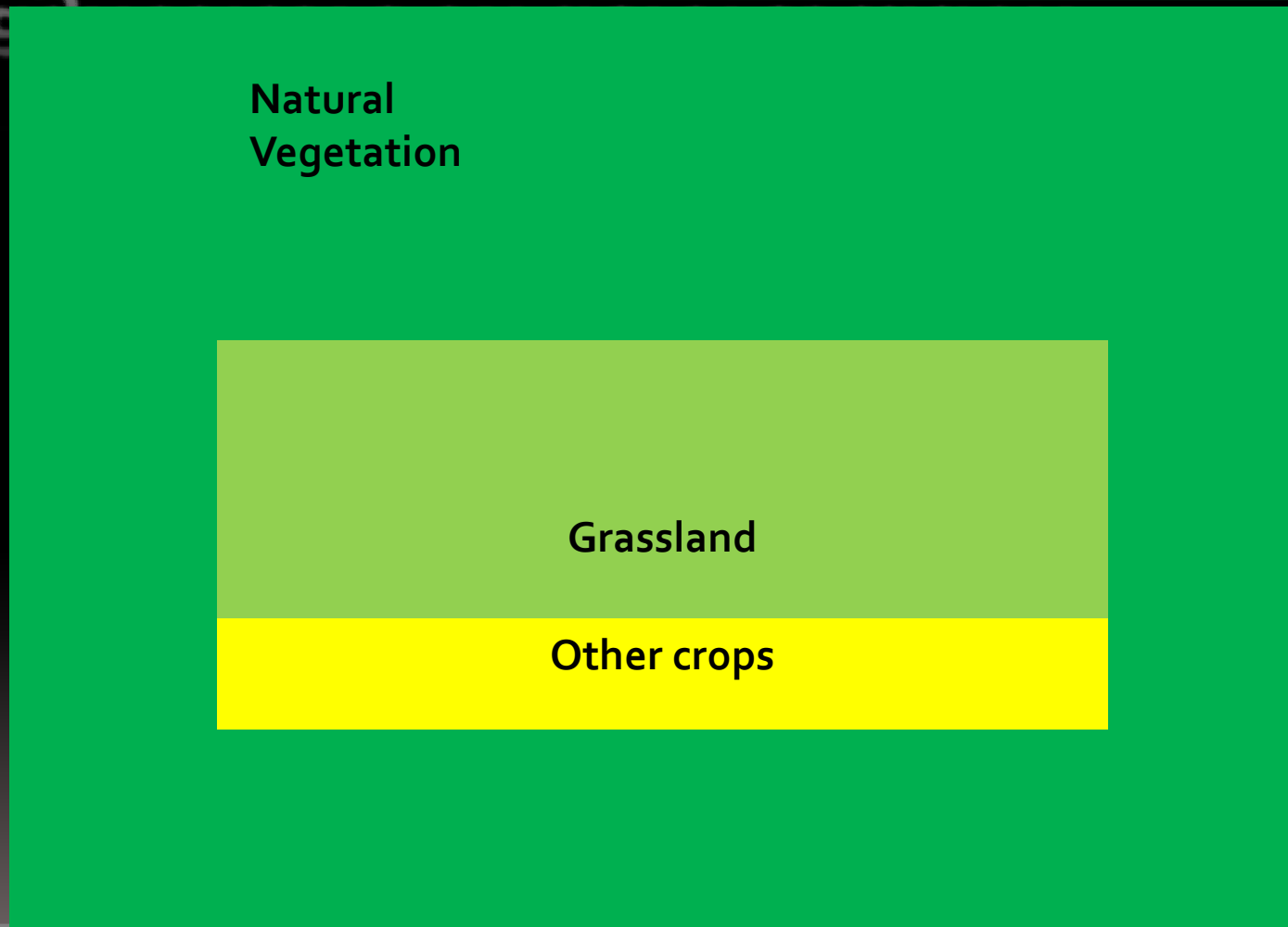
Brazilian livestock mitigation of GHG emissions

EMISSIONS

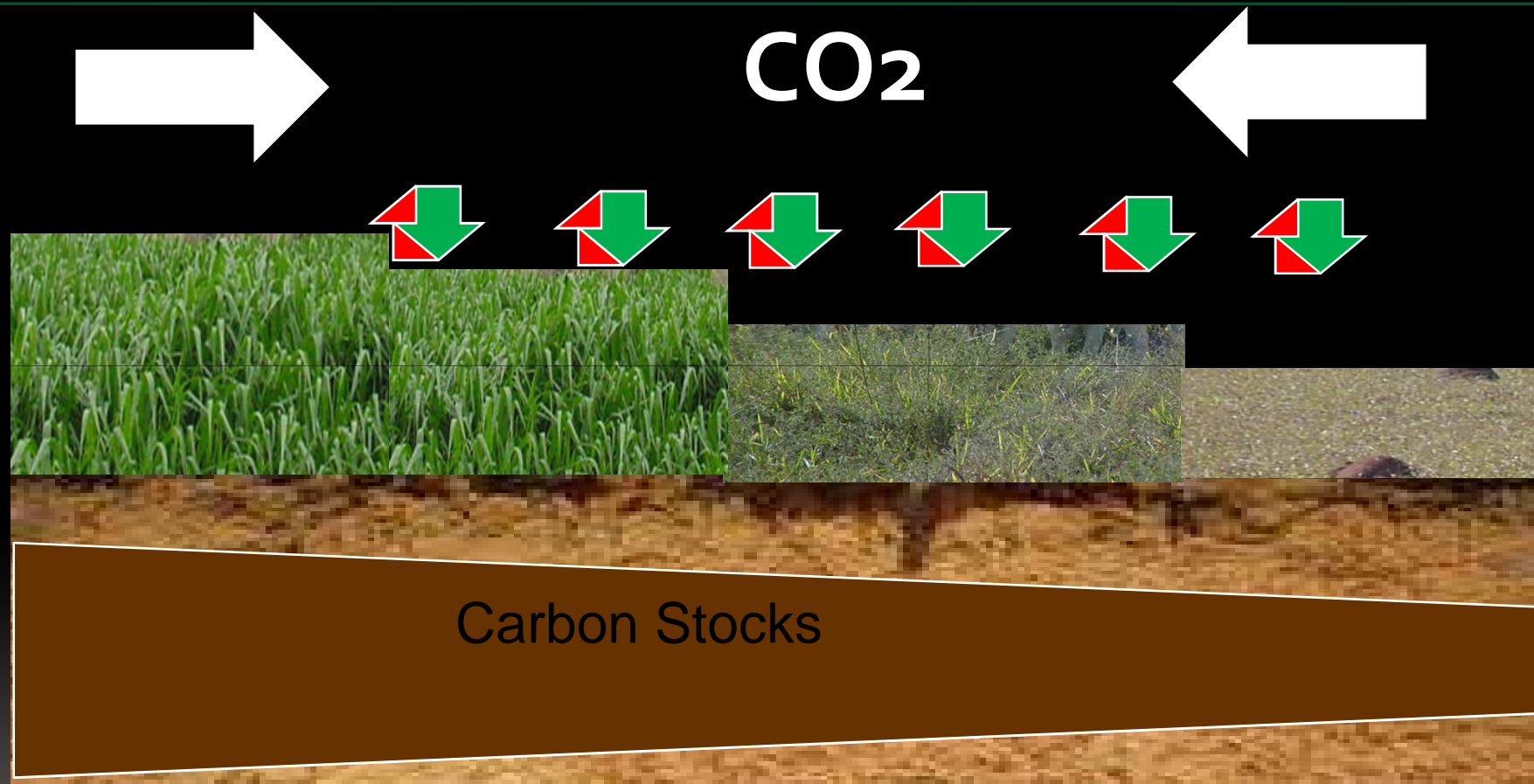
Due to intense land use and technological changes, Latin-american countries may have the opportunity to mitigate emissions by:

1. Buffering agricultural expansion and avoiding deforestation
2. Increasing soil carbon stocks
3. Reducing enteric methane emissions

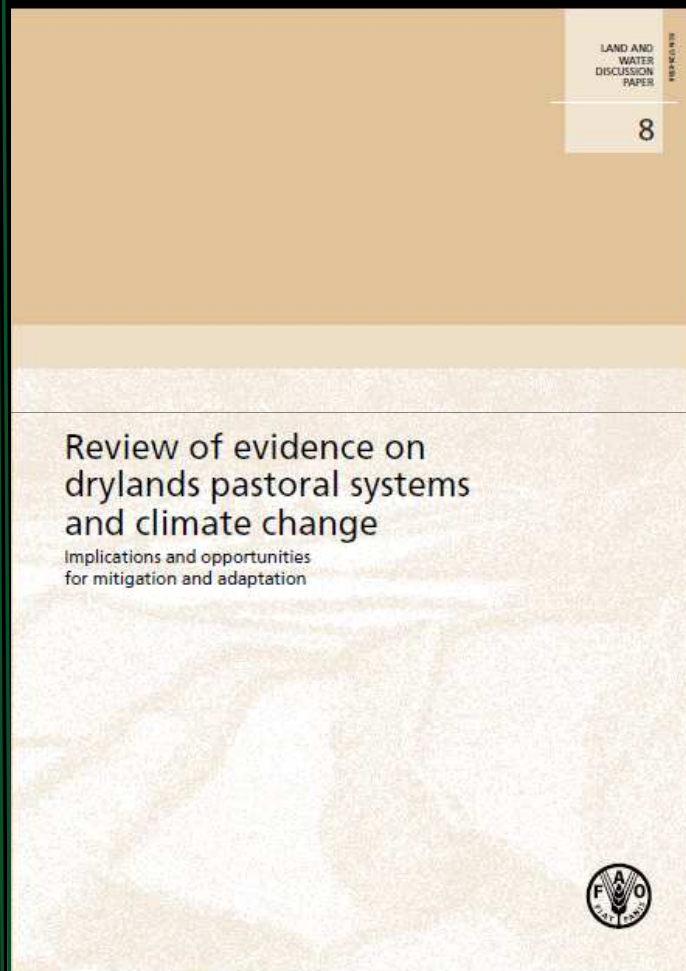
Buffering the effect of expansion of agriculture on deforestation



Soil C dynamics



GHG balance in grazing livestock



“Grasslands, by their extensive nature, hold enormous potential to serve as one of the greatest terrestrial sinks for carbon”

FAO (2009)

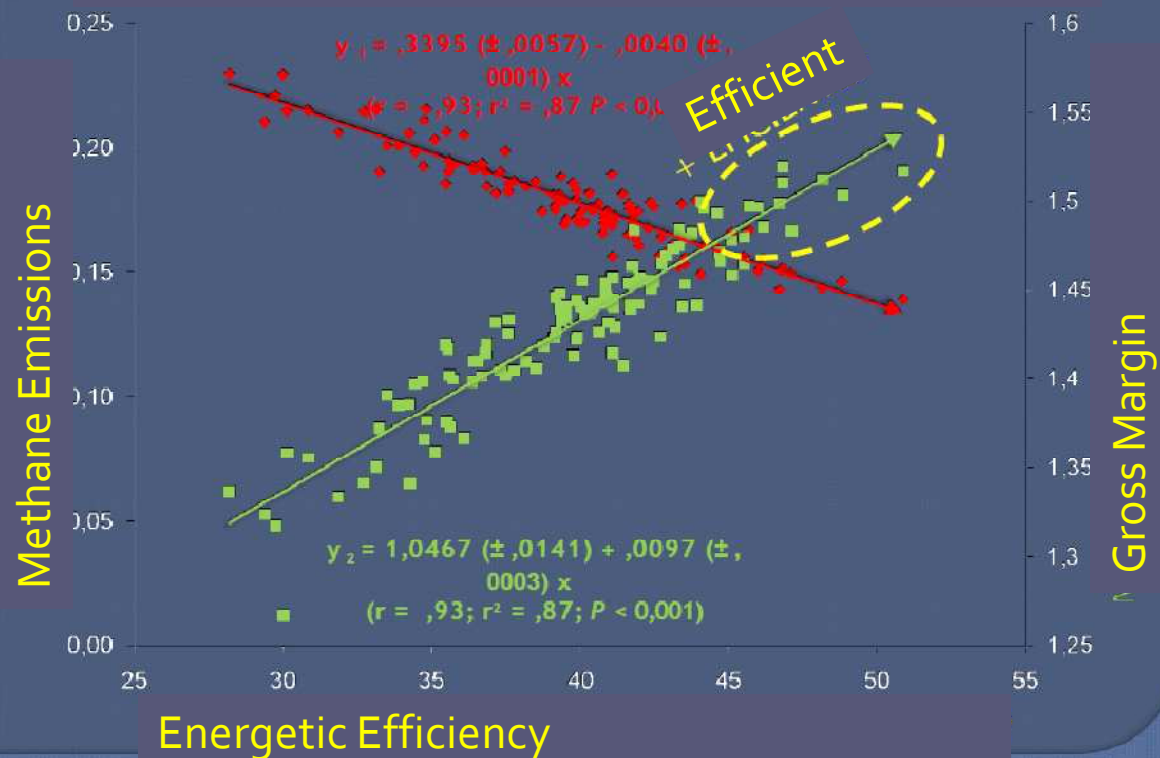
Reduce enteric methane emissions: Changes in the Production System

Changes in the Production System

Production System	Emissions per head (kg/yr)			Emissions/production (kg CO ₂ -e/kg carcass)
	CH ₄	N ₂ O	CO ₂ -e	
Degraded grasslands	56,38	0,20	1,25	29,65
Extensive pasture	51,71	0,22	1,15	-26% 21,89
Crop-livestock finishing	51,73	0,21	1,15	-37% 18,76
Feedlot finishing	51,53	0,21	1,15	-40% 17,64

Reduced enteric methane emissions by genetic improvement

Differences among cow-calf pairs in relation to economic and environmental efficiency



Public Policies to Encourage Sustainable Livestock Production

LIVESTOCK PRODUCTION

- Low Carbon Agriculture Program (Programa ABC)
(Ministry of Agriculture Livestock and Food Supply)
- Targets to 2020:
 - Pasture reclaiming 15 million ha
 - Increasing crop-livestock systems by 4 million ha
 - GHG reduction > 120 MMTCO₂-e/yr in 2020

Public Policies to Encourage Sustainable Livestock Production

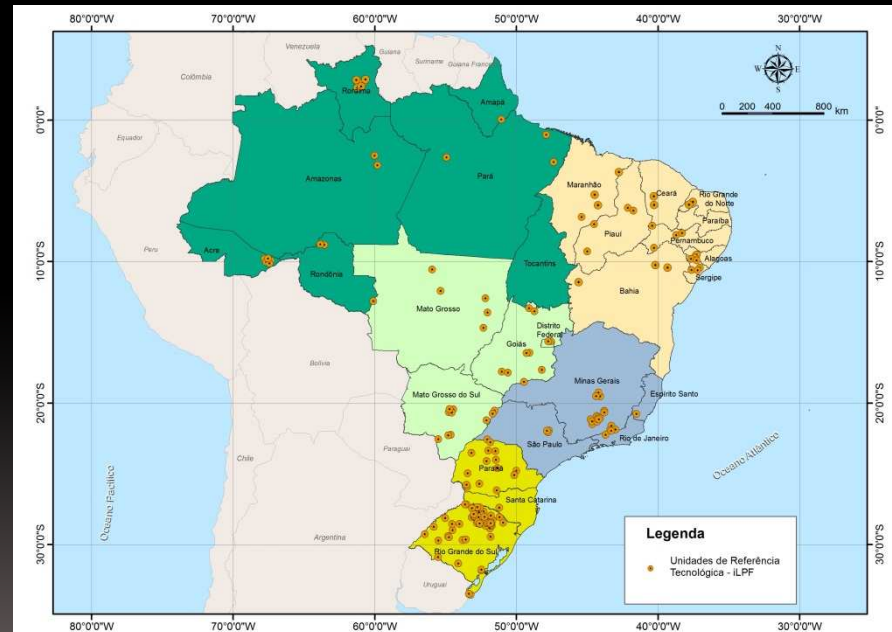
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Public Policies to Encourage Sustainable Livestock Production

LIVESTOCK PRODUCTION

- Monitoring program of crop-livestock soil carbon stocks (Starting 2011)



Brazilian efforts to mitigate GHG emission in agriculture and deforestation are recognised globally

Rank Tendency	Country	Score**	Partial Score		
			Trend	Level	Policy
1*	-	-			
2*	-	-			
3*	-	-			
4 ↗	Brazil	68.0			
5 ↘	Sweden	67.4			
6 ↗	United Kingdom	65.3			
7 ↘	Germany	65.3			
8 ↘	France	63.5			
9 ↘	India	63.1			
10 ↗	Norway	61.8			

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EVERYONE'S COMMITMENT AND RESPONSIBILITY

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News

Brazil is at the top of a ranking of countries that are most active against climate change

Brazil is at the top of a ranking of countries that are most active against climate change. It is the first time in which an emerging country figures as the first one in the list, which was published last Monday (14 Dec) by the NGO Germanwatch and the Climate Action Network (CAN). The fifth Climate Change Performance Index (CCPI) assessed ongoing measures in 57 countries and compared them with what is being done in other nations, and with what the organization considers necessary measures to avoid a 2°C increase in global temperature.

Scoring 68 points, Brazil surpassed developed countries such as Sweden, Germany and Norway, and joined a group whose performance in actions under the climate agenda is classified as 'good'. Other countries that accompany Brazil in this group are Sweden (67.4), United Kingdom and Germany (65.3), India (63.1), Norway (61.8) and Mexico (61.2).

According to the ranking coordinators, Brazil has reached this position because of domestic efforts already in place. There were significant achievements in the legal framework on climate protection.

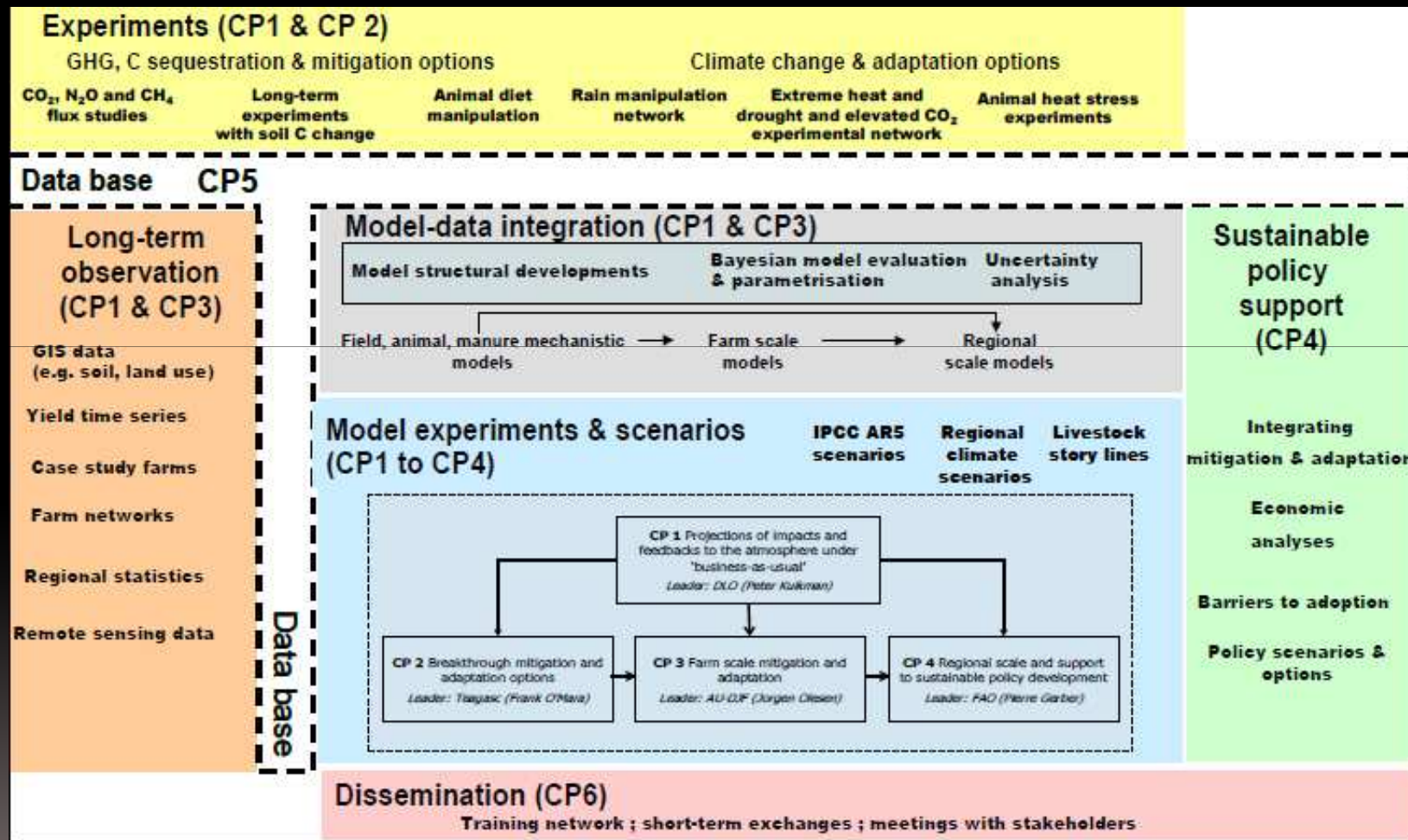
Continued efforts

Research Projects: PECUS



- Started May 2011
- Over 300 researchers and graduate students
- Budget of > US\$ 5 million
- One of the largest research projects on sustainable livestock production in the world

Research Projects: Animal Change



Concluding Remarks

- With the current projections (until 2030), it is possible to reconcile increasing food demand and mitigation of GHG for the Brazilian case
- Land use change analysis show livestock systems improvement can be one of the most promising alternatives for GHG mitigation by reducing direct emissions, buffering cropping expansion (avoiding deforestation) and by increasing soil carbon stocks

Concluding Remarks

- Even at “business as usual” cenarios there is a trend to improve efficiency and to reduce GHG emissions per unit of product in Brazil (probably applicable for Latin America)
- National level public policies are being implemented to drive mitigation of GHG emissions
- There is a coordinated effort to improve identification and analysis of mitigation and adaptation options for livestock production in national and international networks

Brazil is one of the leading nations in actions to mitigate climate change

mitigate climate change

