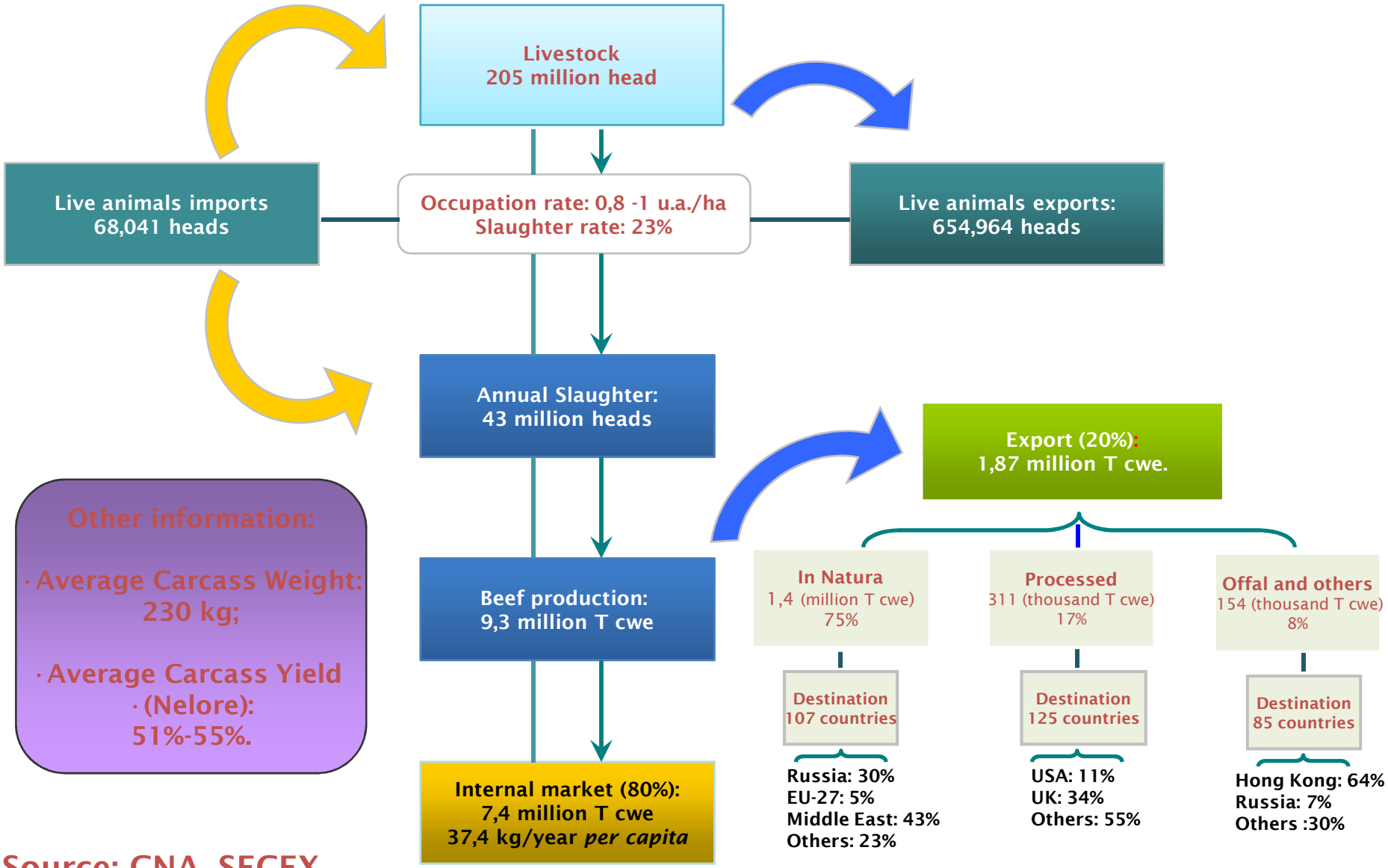
Brazilian Beef

A Roadmap to Sustainability

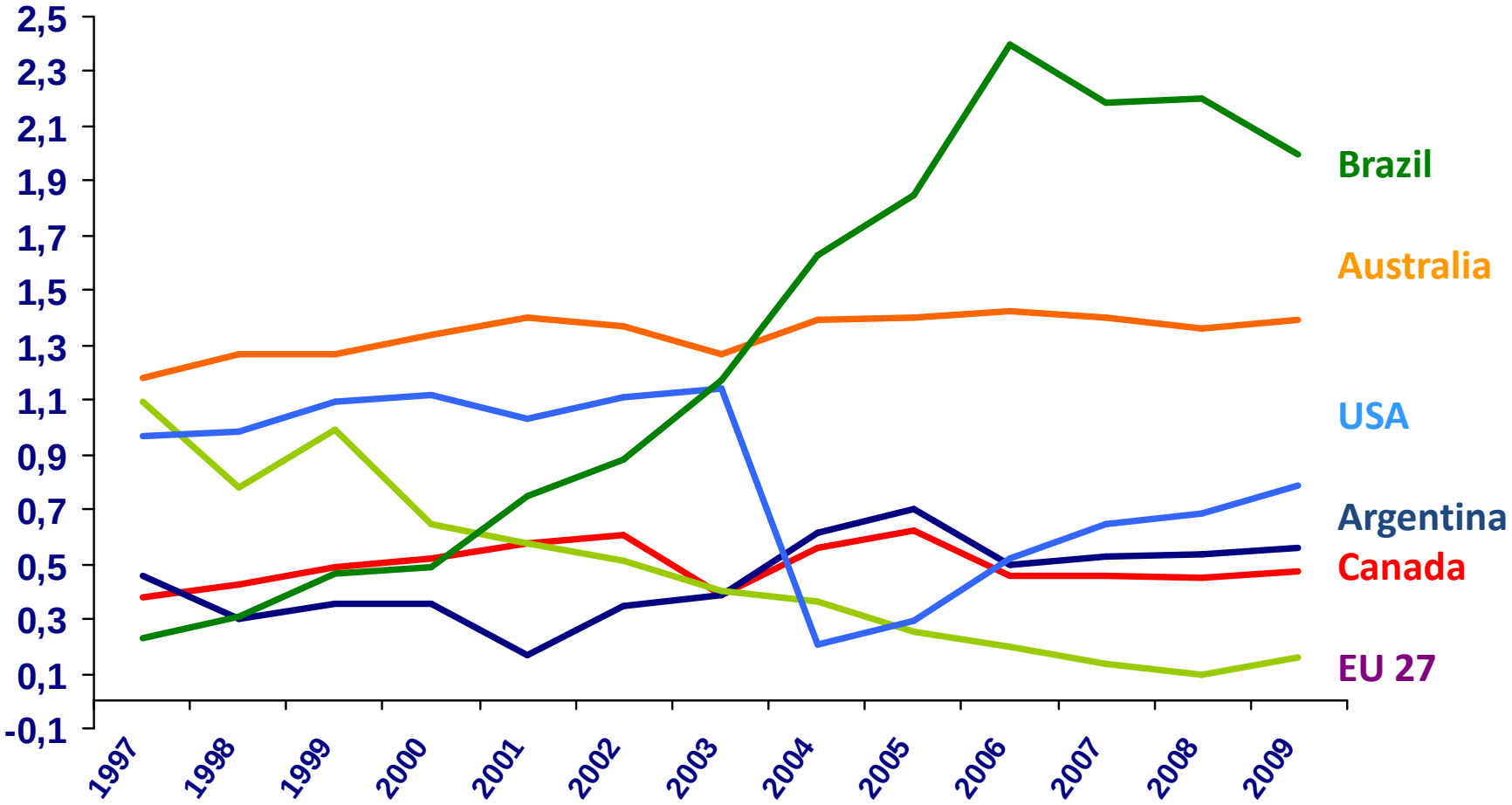
Brazilian Beef Profile (2010)



Source: CNA, SECEX.

World's Beef Exports Evolution

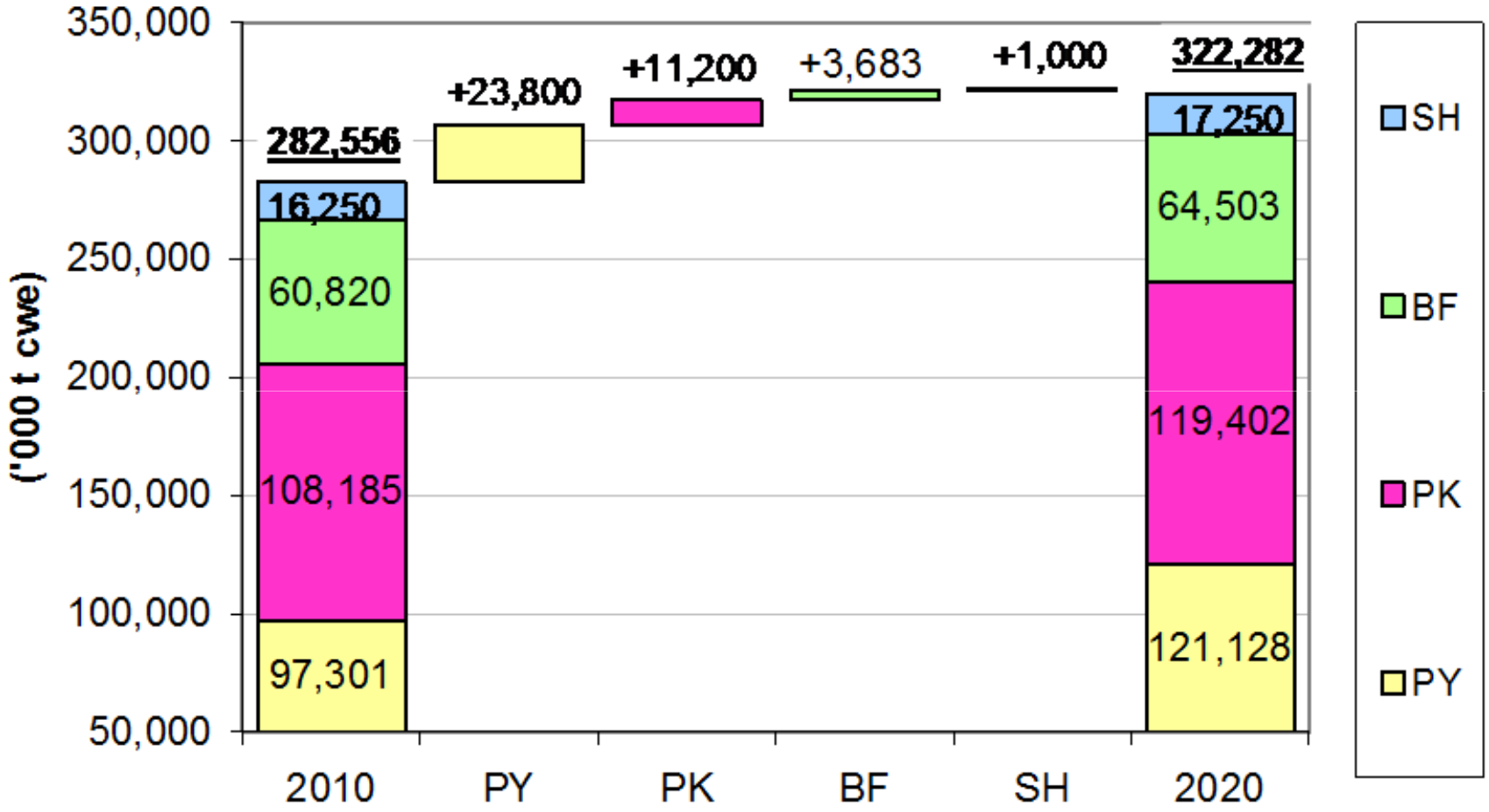
x1.000 T cwe



Source: USDA

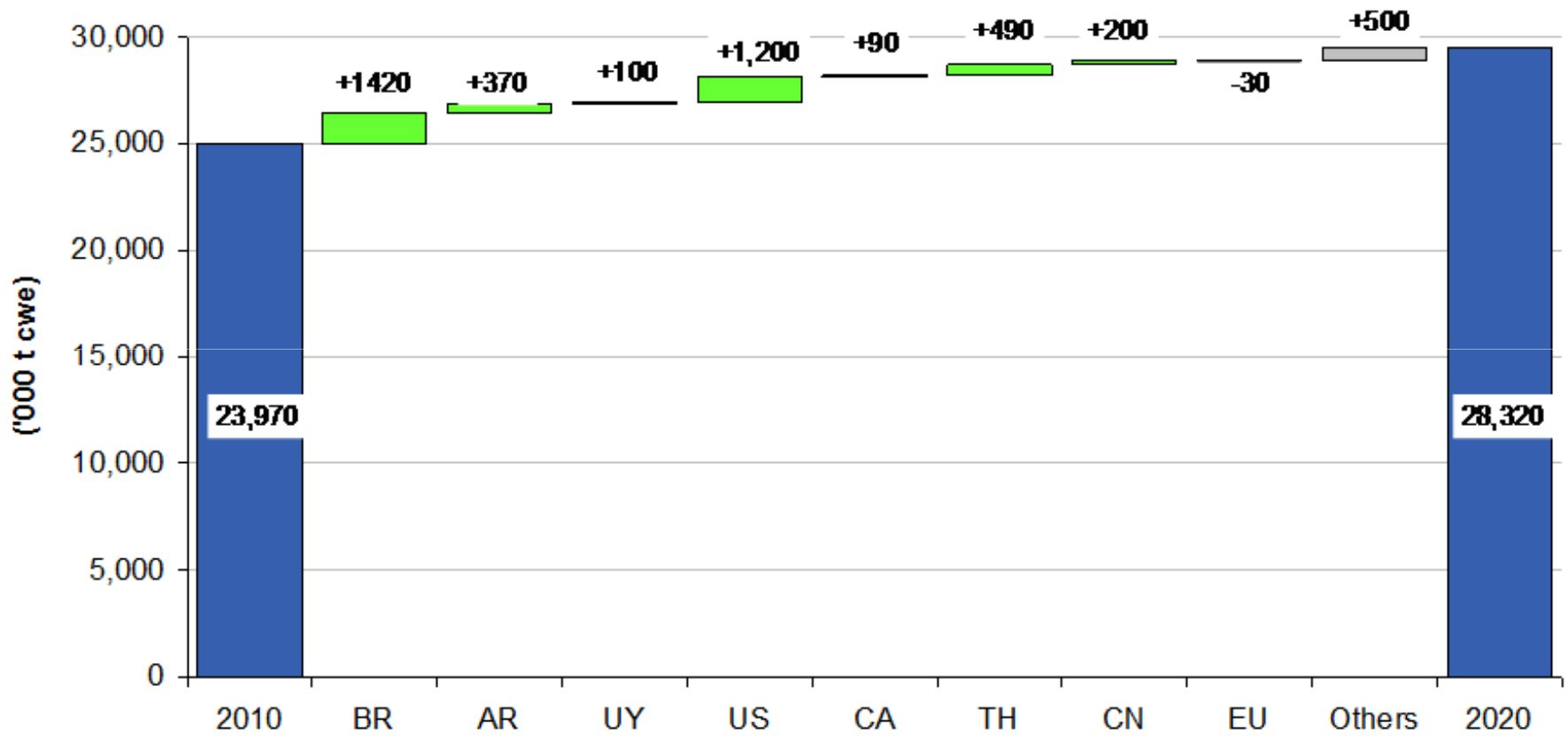

ABIEC

World's Meat Consumption Growth by Species



Source: GIRA Long Term Meat Studies

World's Meat Exports
Growth by Region



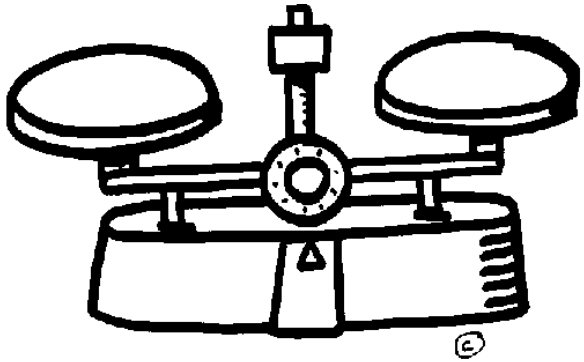
Source: GIRA Long Term Meat Studies





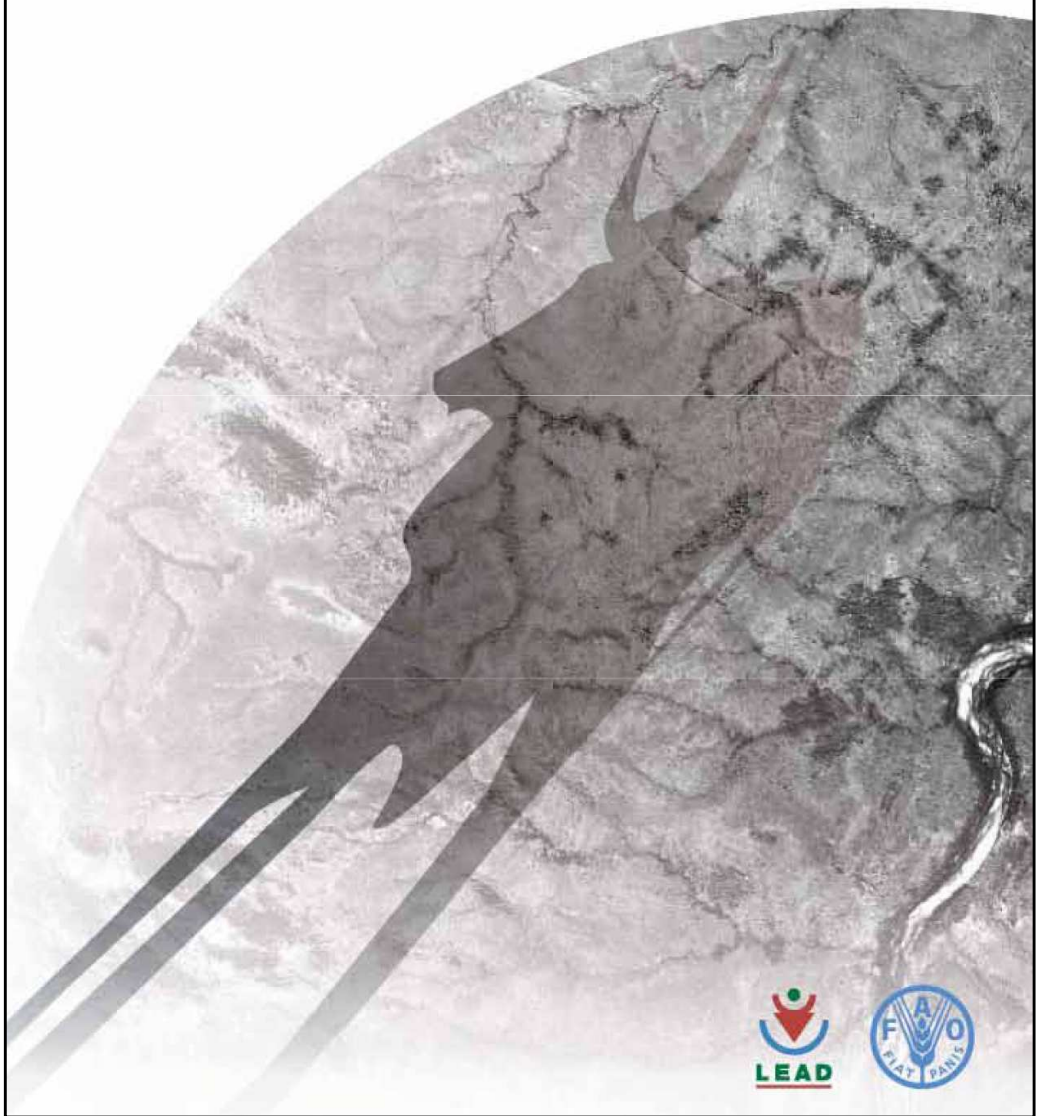






livestock's long shadow

environmental issues and options



CHAPTER ONE

Clearing the Air: Livestock's Contribution to Climate Change

Maurice E. Pitesky,* Kimberly R. Stackhouse,†
and Frank M. Mitloehner†,1

Contents

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Advances in Agronomy, Volume 103
ISSN 0065-2113, DOI: 10.1016/S0065-2113(09)03001-6


AQUECIMENTO GLOBAL
ESTÁ EM NÍVEL CRÍTICO
O animal de corte CAUSA MAIS EFEITO ESTUFA que todos os TRANSPORTES DO MUNDO INTEIRO!
Salve o planeta
Diminuindo o GÁS POTENTE METANO jogado na atmosfera pelo animal, que é 100X mais tóxico que CO²
Suprema Mestra - Ching Hai
Seja Vegetariano!
www.SupremeMasterTV.com
Utilidade Pública (Mais informações falar com os operadores)
DDL-8427

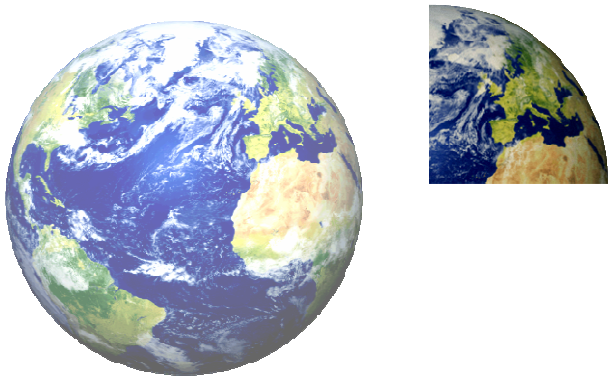
Impacts that are acceptable with 6.8 billion

Will not be with 9.1 billion people

Bryan Weech

WWF

World Meat Congress 2010



Food and Agriculture Organization of the United Nations

for a world without hunger

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FAO Home

Forestry

Non-wood forest products

Edible forest insects

A common food

Which insects?

Good food

Livelihood opportunities

Edible insects and the environment

FAO's role in the development of edible insect programmes

Opportunities for the poor

©FAO/Annie Monnard

Harvesting from nature can be done by farmers but very often it is an activity by villagers or by special collectors. For example in the case of the mopane caterpillar in southern Africa, collectors (very often women) travel long distances to collect in the wild (in Zimbabwe for example they obtain contracts from large farms in order to harvest). The mopane caterpillar is one of the best known and most economically important forestry resource products of the mopane woodlands in southern Zimbabwe, Botswana and the northern Transvaal. It has been estimated that annually 9.5 billion mopane larvae are harvested in South Africa's 20,000 km^2 of mopane forests worth US$ 85 million, of which approximately 40% goes to producers who are primarily poor rural women. Increased supplies of mopane caterpillars in both rural and urban areas therefore have the potential to address food security problems both by increasing incomes for poor mopane harvesters or producers (providing financial capital for food purchases) and by increasing the availability of a high-protein and popular food.

In Laos it was also found that most villagers engage in collecting for home consumption and/or for the market. As such it provides both income

TALKS

Marcel Dicke: Why not eat insects?

TEDGlobal 2010, Filmed Jul 2010; Posted Dec 2010

About this talk

Open interactive transcript »

Marcel Dicke makes an appetizing case for adding insects to everyone's diet. His message to squeamish chefs and foodies: delicacies like locusts and caterpillars compete with meat in flavor, nutrition and eco-friendliness.

About Marcel Dicke

Marcel Dicke wants us to reconsider our relationship with insects, promoting bugs as a tasty -- and ecologically sound -- alternative to meat in an increasingly hungry world. Full bio and more links

Thanks to our sponsor

Eco-Friendly Protein: Edible Bugs

By Ecoist in Animals & Habitats, Food & Health, Nature & Ecosystems


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- 30 Most Destructive & Deadly Natural Disasters
- 52 Natural Phenomena & Formations [+Images]
- 70 Delicious Green Foods, Vegan Meals & Recipes
- 70 Wildest Exotic Plants & Dangerous Flowers
- 74 of the World's Most Weird & Strange Animals

26/Apr

Dieta de insetos pode resolver crise mundial de alimentos

Enquanto um boi, por exemplo, necessita de 10 quilos de comida para cada quilo de carne que produz, os insetos geram a mesma quantidade de proteína comendo sete vezes menos.

Nos restaurantes brasileiros, encontrar um gafanhoto no prato certamente seria motivo de escândalo, mas um cientista holandês ligado à ONU, a Organização das Nações Unidas, afirma que chegou a hora de ver os insetos como fonte de proteína, capaz de ajudar a acabar com a fome no mundo.

O que parece uma praga de gafanhotos pode ser apenas sua próxima refeição. Estamos em uma fazenda no interior da Holanda onde não se criam vacas nem galinhas. O negócio no local é inseto: larvas de borboletas, de besouros, além de grilos e gafanhotos.

últimas edições

abr 2011

D	S	T	Q	Q	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

programa na TV

Primeira Página

Últimas Edições

Quadros

- Detetive Virtual
- Diabetes - O Inimigo Silencioso
- Inmetro
- Medida certa
- Meu Primeiro Emprego

as mais lidas

1. Veja as fotos de Isabella, filha do craque Kaká
2. Empresa promete altos salários para aplicar golpe
3. Metrô de SP é o mais lotado do mundo, diz pesquisa
4. Robert Pattinson estrela novo filme ao lado de elefanta
5. Zeca e Renata seguem a dieta no almoço de domingo


70
23°C

Intensity is key

Henning Steinfeld

FAO

World Meat Congress 2010

We need to use less . . .

. . . to produce more from less.

Bryan Weech

WWF

World Meat Congress 2010

BRAZILIAN ANIMAL SCIENCE INSTITUTIONS

Escola Superior de Agricultura “Luiz de Queiroz”	1901
Instituto de Zootecnia de Nova Odessa	1905
Escola Superior de Agricultura de Lavras	1908
ABCZ Zebu Herd Book	1915
Universidade Federal Rural do Rio de Janeiro	1910
FCAV UNESP Jaboticabal	1966
Embrapa	1973

Productivity

	Meat Production Million ton			Pasture area Million ha		
	1975	2007	Increase	1975	2007	Increase
BRAZIL	2,16	7,05	+ 227%	165,63	171,85	+ 4%
WORLD	43,73	59,85	+ 37%	3.193,32	3.378,17	+ 6%

Source: FAO

Global Beef Roundtable To Build Credible Standards

- Science/data based—new research to fill in the gaps
- Multi-stakeholder
- Consensus on key impacts
- Agreement on methodologies and parameters
- Development of principles, criteria and indicators
- Global peer review process

Bryan Weech - WWF

World Meat Congress

Buenos Aires, June 2010

Global Conference on Sustainable Livestock

Denver, November 2010

A Global Agenda of Action in Support of Responsible Livestock

Responsibly shape the sector's role in future global food production
Broad base, voluntary, informal multi-stakeholder commitment
Guidance and recommendations to make livestock sustainable

Negotiation of livestock global governance?
Advocacy for responsible livestock practices?
Consumer driven scheme for independent certification?
All above?

FAO
Dialogue Groupe of COAG
The Hague, November 2010

First multi-stakeholder platform Meeting on responsible livestock
Brasília, May 2011

Beef LCA Working Group

WWF

Washington, June 2-3 2010

Benchmarking and Monitoring Environmental Performances of Livestock Food Chains

FAO

28-29 March 2011

ENVIRONMENTAL Science & Technology

Including Carbon Emissions from Deforestation in the Carbon Footprint of Brazilian Beef

Christel Cederberg,*[†] U. Martin Persson,[†,⊥] Kristian Neovius,[§] Sverker Molander,[⊥] and Roland Clift[∥]

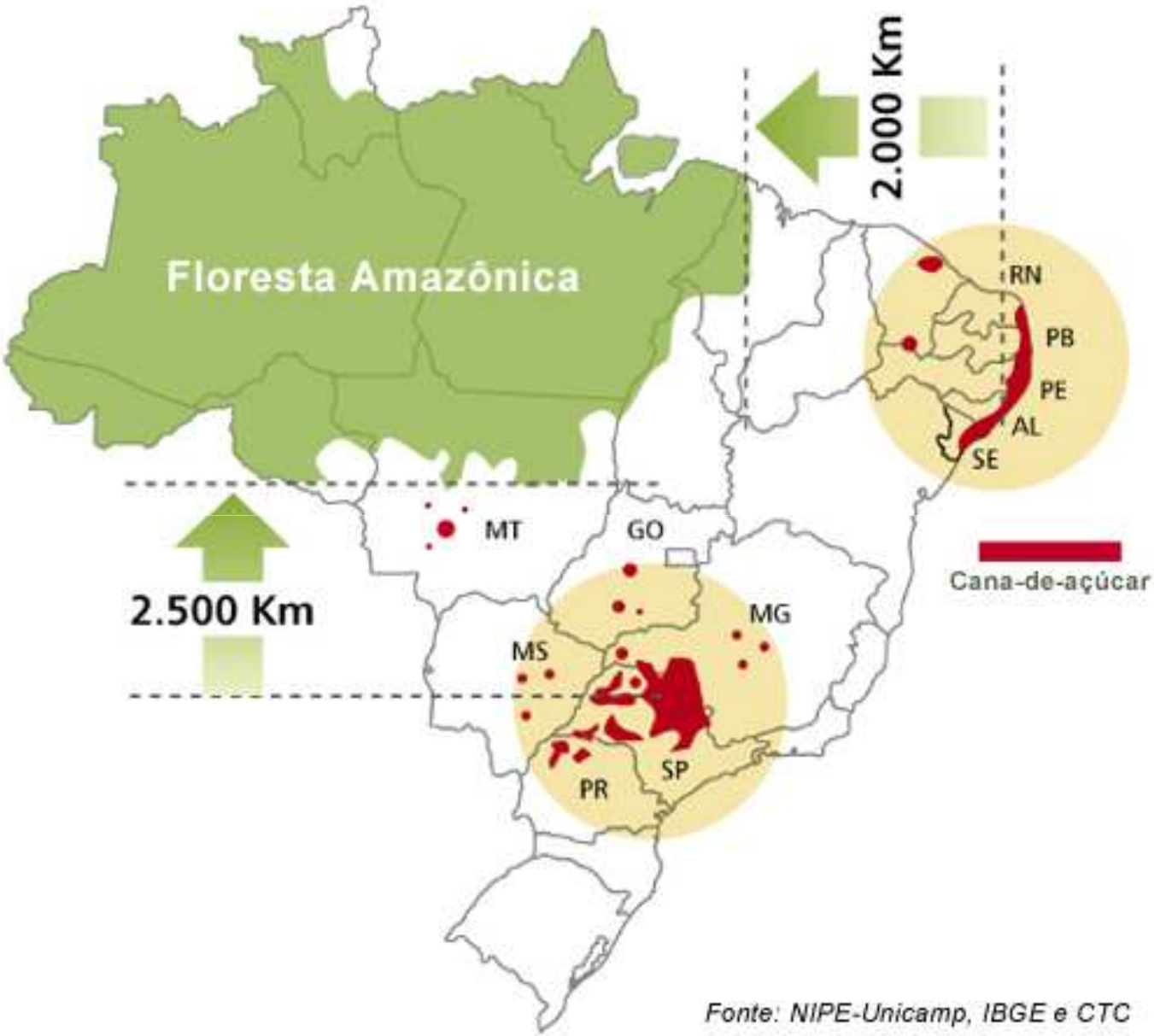
[†]SIK, the Swedish Institute of Food and Biotechnology, 402 29 Göteborg, Sweden
[‡]Center of Globalization and Development, Department of Economics, University of Gothenburg, 405 30 Göteborg, Sweden
[§]Department of Public Health Sciences, Karolinska Institute, 171 76 Stockholm, Sweden
[⊥]Department of Energy and Environment, Chalmers University of Technology, 412 96 Göteborg, Sweden
[∥]Centre for Environmental Strategy, University of Surrey, Guildford, Surrey GU2 7XH, U.K.

Supporting Information

JOINT RESEARCH CENTRE
Institute for Environment and Sustainability (IES)
Institute for the Protection and Security of the Citizen (IPSC)
Institute for Prospective Technological Studies (IPTS)

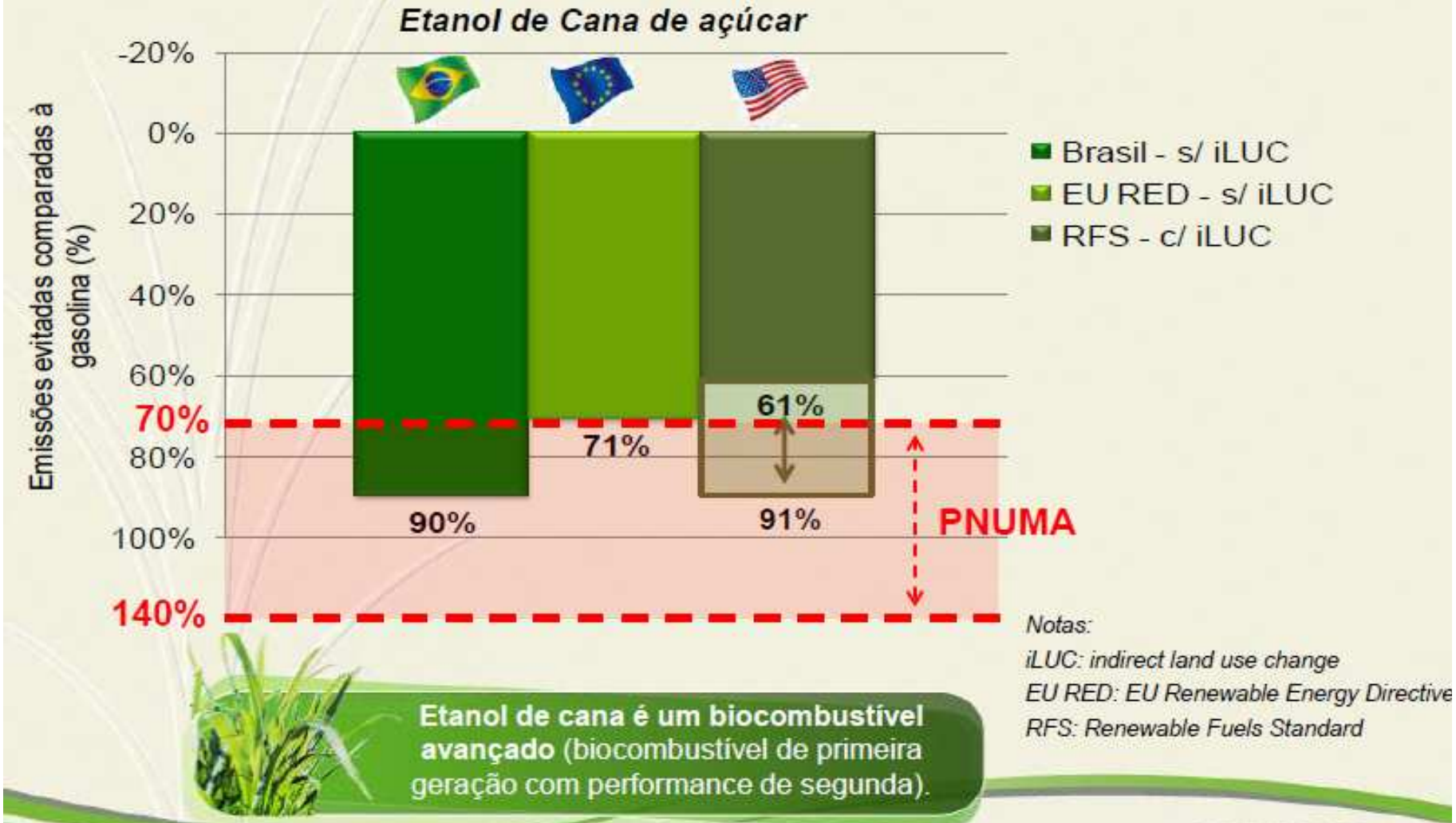
"Emissions from major imported animal products were calculated with a different methodology, and are, therefore, not directly comparable with other results of the study. Emissions of 33 kg CO2-eq/kg are estimated for sheep meat from New Zealand, ***80 or 48 kg CO2-eq/kg for beef from Brazil, considering or neglecting emissions from land use change****, respectively, and 1.2 kg CO2-eql/kg for chicken from Brazil. However, the estimate of land use change (LUC) related emissions is highly uncertain and must be used with extreme caution. The reason for the high GHG emissions from Brazilian beef – even without considering LUC emissions –is the low productivity of Brazilian beef compared with sheep in New Zealand causing both longer turnover times and also lower digestibility of the feed and thus higher CH4 emissions."*

Conclusions chapter
Report of Evaluation of Livestock Sectors Contribution to GHG Emissions
European Commission Joint Research Center


Floresta Amazônica
2.000 Km
2.500 Km
RN
PB
PE
AL
SE
MT
GO
MG
MS
SP
PR
Cana-de-açúcar
Fonte: NIPE-Unicamp, IBGE e CTC

REDUÇÕES DE GEE DO ETANOL DE CANA

(DIVERSAS METODOLOGIAS, COMPARADO À GASOLINA)



Notas:
iLUC: indirect land use change
EU RED: EU Renewable Energy Directive
RFS: Renewable Fuels Standard

Etanol de cana é um biocombustível avançado (biocombustível de primeira geração com performance de segunda).

UNICA

: Isaias Macedo e Joaquim Seabra (2008); RFS; CARB and European Directive

A GLOBAL BEEF LCA?

- Why are methane concentrations in the atmosphere decreasing?
- A bovine doesn´t produce only beef, it produces raw material for more than 50 different industrial chains, from leather shoes and clothes to gelatin, soap and shampoo, candles, biodiesel, medicines, pet food, fertilizers, strings, cosmetics, chewing gum, artcraft and many others. How will carbon footprint be distributed among all those products?
- How could we calculate bovine emissions if there is no scientific consensus about the real warming potential of methane?
- Data used by IPCC regarding Brazilian cattle such as N2O emissions are overestimated because based on European data for European cattle. Which numbers will be used on a LCA world model?
- Brazil has 172 million hectares of pasture. Is the carbon stock on the soil and the carbon absorption by the pasture being considered in the LCA?
- Brazilian regulations impose from 20% to 80% of preserved natural vegetation areas inside private holdings. Will that preserved area be accounted for in the LCA?
- Biodiesel produced from beef tallow accounts for about 17% of all biodiesel produced in Brazil, avoiding the burning of fossil fuels. Will that be accounted in the LCA?
- In some biomes, as the Pantanal, world's largest wetlands, natural methane emissions are reduced thanks to the presence of livestock. Will that be accounted for in the LCA?
- To produce 1kg of beef in Germany, a german farmer will need to import 8kg of grains from South America. The emission of the grains production and of the international transport of those grains would be included in the German beef LCA?

1600's
1700's

1910

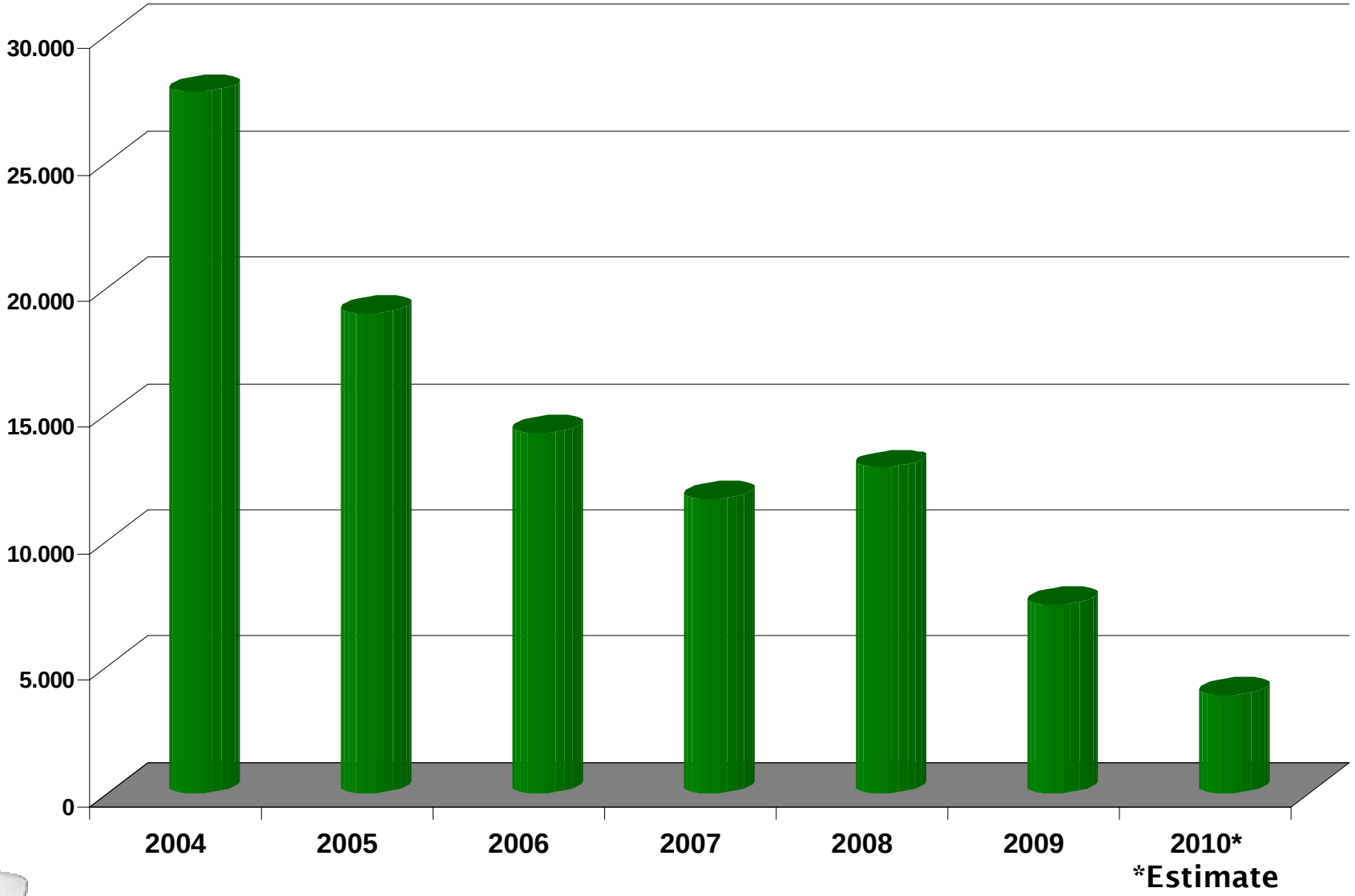
1800's

1960

1898

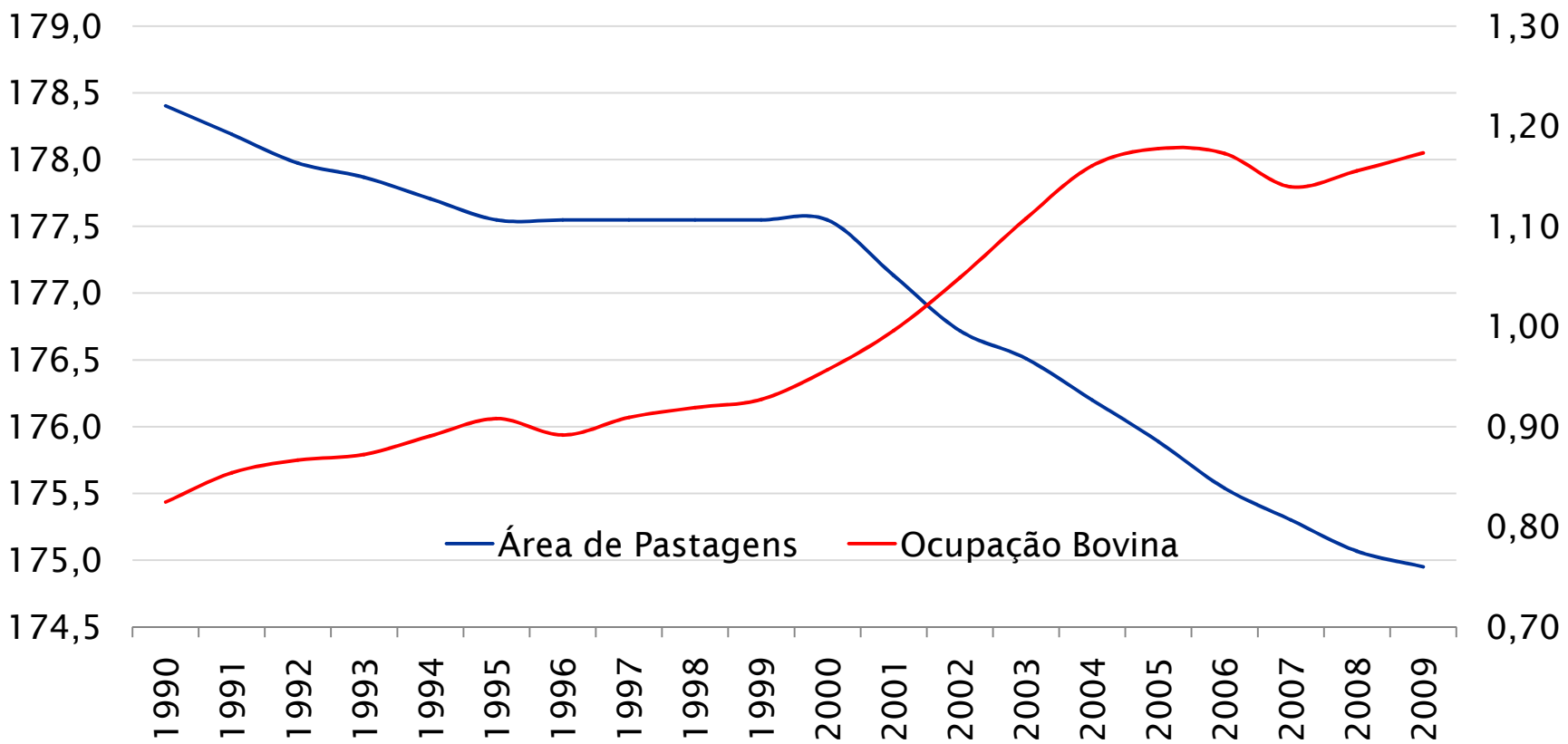
1973

DEFORESTATION RATES IN THE AMAZON REGION KM²/YEAR



Source: INPE

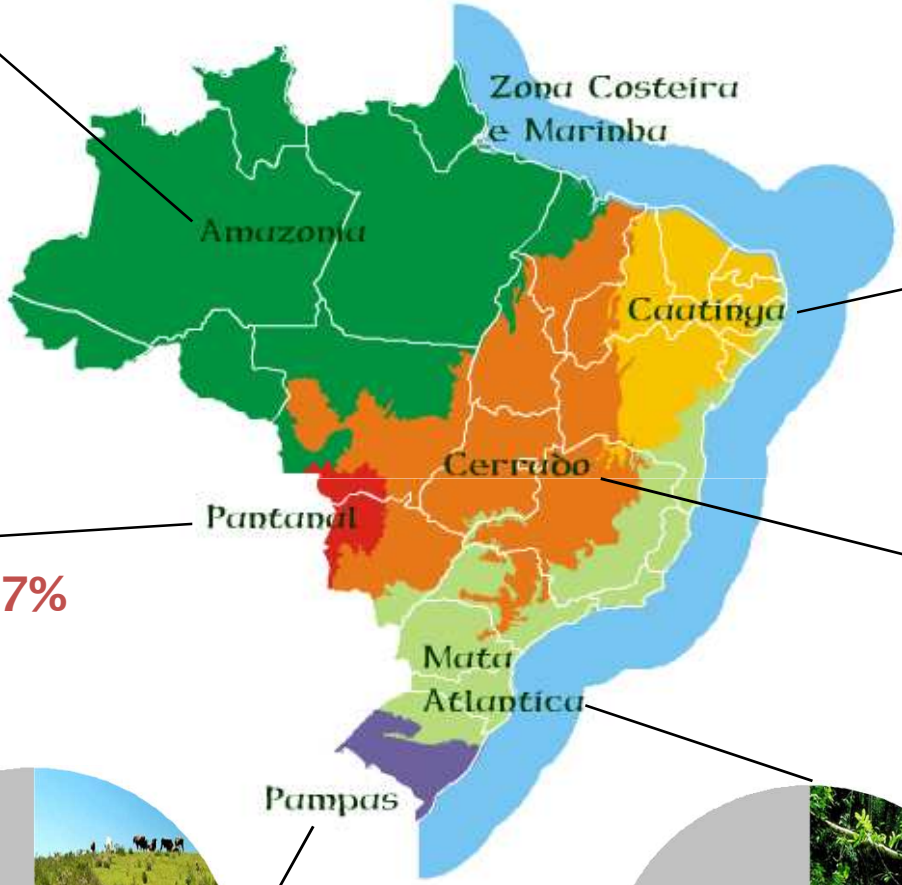
PASTURE AREA VS. LIVESTOCK OCCUPATION



Source: IBGE/Bigma Consultoria

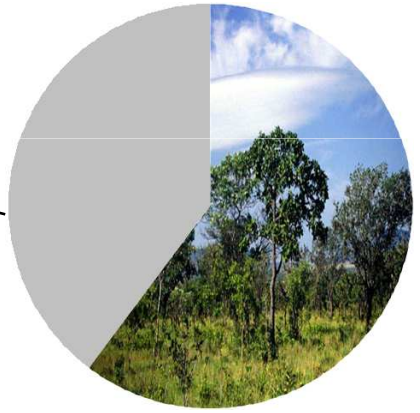
Original Biomes
Remaining Areas

85%



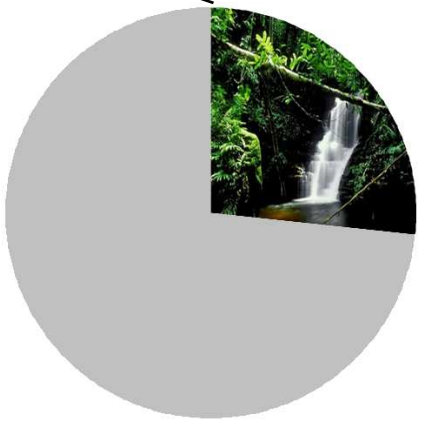
63%

87%



60%

41%

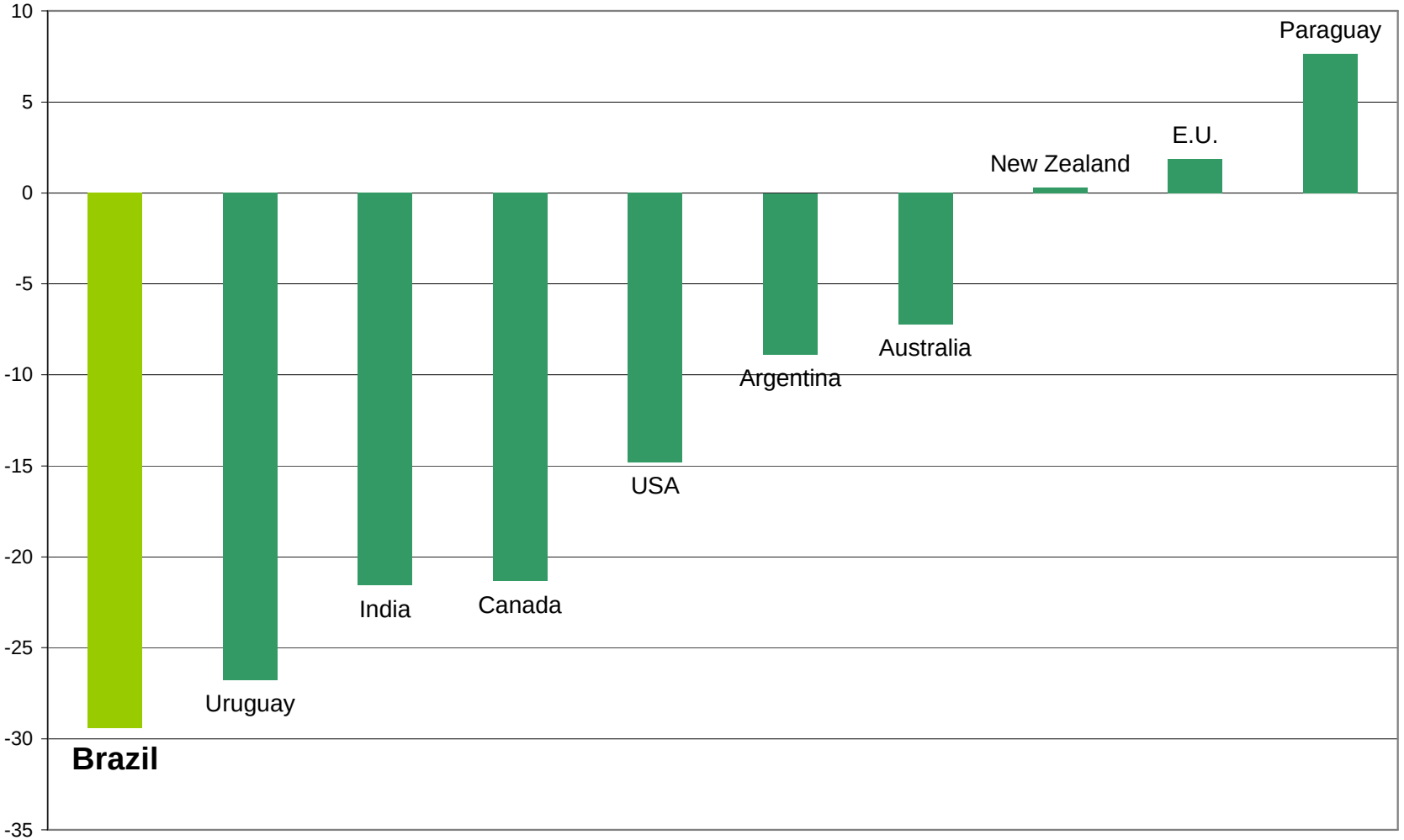


27%

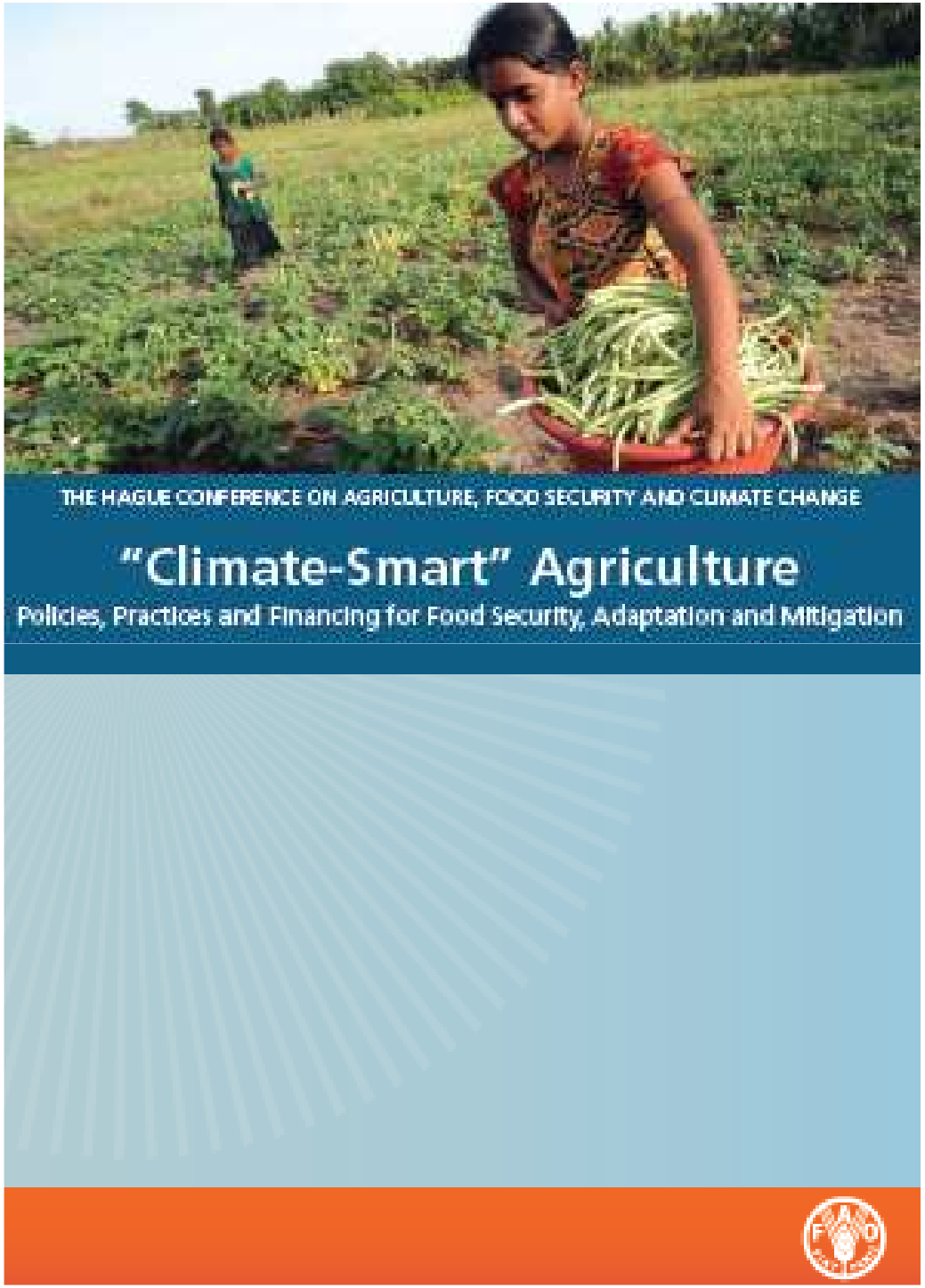
ABIEC

GREENHOUSE GASES EMISSIONS

Reduction on CH4 emissions between 1988 and 2007
% of emissions reduction of CH4/kg of beef



Source: Mazza, FMVZ/USP, 2009



CLIMAT SMART AGRICULTURE

MORE PRODUCTIVE

MORE RESILIENT TO CLIMATE CHANGE

MITIGATING EMISSIONS

CLIMATE SMART LIVESTOCK ?








Country	Pastures million ha	Pastures/ country area	Beef production kg/ha/year	Beef production kg/livestock
Argentina	99,85	36,49%	34,05	62,66
Australia	380,92	49,58%	5,51	76,86
Brazil	171,85	20,26%	49,04	42,64
Canada	15,45	1,70%	80,58	94,46
China	400,00	42,88%	14,41	54,52
USA	238,00	25,98%	49,95	125,78
N.Zealand	11,35	42,41%	54,96	64,23
Russia	92,10	5,62%	13,95	71,79
Uruguay	13,30	13,30%	40,90	45,52
World	3.384,09	26,01%	16,85	57,71

Source: FAO, USDA, CONAB, IBGE, Scot Consultoria

LAND USE AND LIVESTOCK
Possibilities

1. More efficient pasture usage:

- Occupation rate heads/ha

Pasture restoration and management

2. More efficient livestock usage:

- Slaughter rate
- Slaughter age
- Carcass weight
- Fertility rate
- Weight gain rate

Genetics and Nutrition

EFFICIENCY IS THE KEY

Market Access

Science &Technology

Juridical Security

Credit

Education

CHALLENGES MAY BE GLOBAL

SOLUTIONS ARE LOCAL

SBWG

Sustainable Beef Working Group

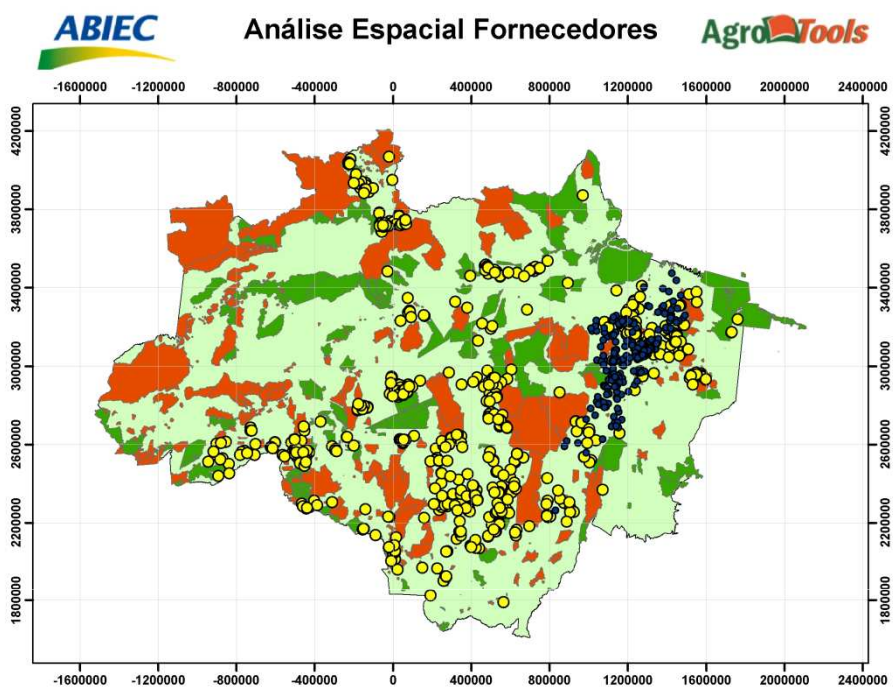
Multi-stakeholder discussion group on sustainable livestock

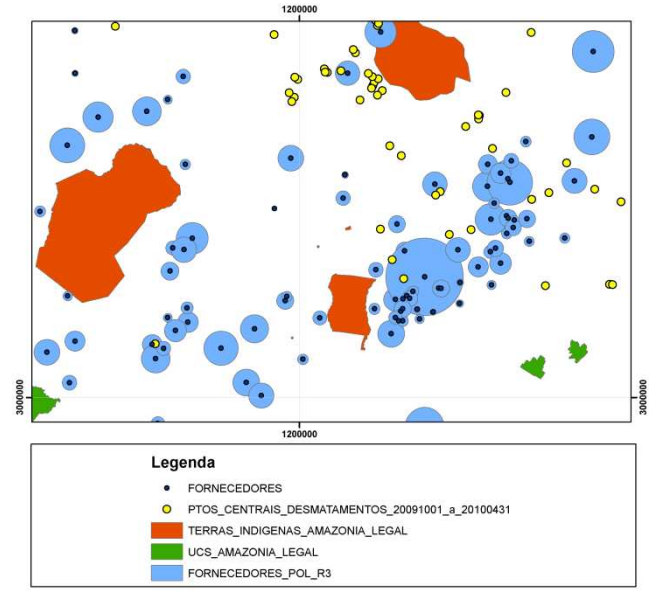
Producers *Industry* *Commerce* *Research*
Services *Banks* *Civil Society*

- FIND TECHNICAL SOLUTIONS
- FINANCING SOLUTIONS
- DISSEMINATING SOLUTIONS

BRAZILIAN BEEF INDUSTRY INITIATIVES

- Satellite monitoring of cattle suppliers i the Amazon
- Environmental and social criteria on cattle purchasing
- Quality programs for better farm practices
- Water treatment
- Waste management
- Industry certifications (ISO, BRC, HACCP…)
- Traceability initiatives





Thank you!

Fernando Sampaio
Sustainability Coordinator
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