



**SLAUGHTERING
THE AMAZON**

GREENPEACE

www.greenpeace.org

‘Just as no country can solve climate change alone, harnessing the wealth of a forest spread over eight countries requires international co-operation. For that reason, in 2008 Brazil launched the Amazon Fund. Over \$20 billion will be raised to finance conservation and sustainable development. These resources will be used to curb illegal logging, but also to develop alternative livelihoods. Norway has already pledged \$1.1 billion over ten years for the fund. We hope others will follow.’

Brazil’s President Luiz Inácio Lula da Silva, The Guardian, 28 March 2008

‘Supporting competitive Brazilian companies in the international market is a primary objective of the Brazilian government, and for more than sixteen years BNDES has been participating in the successful effort of maintaining a market-based, competitive environment for Brazilian exporters.’

Brazilian National Development Bank website, ‘Exports’

IN BRIEF

SLAUGHTERING THE AMAZON

GLOBAL ACTION TO TACKLE CLIMATE CHANGE

Brazil is the world's fourth largest producer of greenhouse gas (GHG) emissions.¹ The majority of emissions come from the clearance and burning of the Amazon rainforest. Globally, tropical forest destruction is responsible for around 20% of GHG emissions.² Ending deforestation is an essential part of a global strategy to tackle climate change and to preserve biodiversity.

The major challenge, as identified by the World Bank, is to target the main economic drivers of deforestation at the 'agricultural frontiers, such as the Amazon'.³

World governments, multilateral funding agencies such as the World Bank and global corporations all have a role to play.

The Copenhagen Climate Summit, to be held in Denmark in December 2009, is the key opportunity for governments to agree measures to drastically reduce GHG emissions. Any effective deal must include actions and funding to tackle deforestation.

THE CATTLE SECTOR IN THE AMAZON IS THE SINGLE LARGEST DRIVER OF GLOBAL DEFORESTATION

EFFORTS TO HALT GLOBAL DEFORESTATION EMISSIONS MUST TACKLE THE BRAZILIAN CATTLE SECTOR IN THE AMAZON

The cattle sector in the Brazilian Amazon is the largest driver of deforestation in the world,⁴ responsible for one in every eight hectares destroyed globally.⁵ Efforts to halt global deforestation emissions must tackle this sector.

ZERO DEFORESTATION IS A SOCIAL AND ECOLOGICAL IMPERATIVE.

The world's forests maintain ecological systems that are essential for life. The cultural survival of many forest dwelling peoples and communities depends on the ongoing health of their forests. Forests also play a critical role in the preservation of biodiversity – over half of the world's land-based plant and animal species are found in forests.⁶

ZERO DEFORESTATION IS A CLIMATE IMPERATIVE.

Forests play a vital role in stabilising the world's climate by storing large amounts of carbon that would otherwise contribute to climate change.

The Amazon is estimated to store 80-120 billion tonnes of carbon.⁷ If destroyed, some fifty times the annual GHG emissions of the USA could be emitted.⁸

DESTRUCTION OF THE AMAZON, THE WORLD'S MOST IMPORTANT FOREST CARBON STORE, IS BEING DRIVEN BY THE CATTLE SECTOR.

The Brazilian Amazon has the greatest annual average deforestation by area of anywhere in the world.⁹

The cattle sector is the key driver of deforestation in the Brazilian Amazon.¹⁰ According to the Brazilian government: 'Cattle are responsible for about 80% of all deforestation' in the Amazon region.¹¹ In recent years, on average one hectare of Amazon rainforest has been lost to cattle ranchers every 18 seconds.¹²

The cattle sector in the Brazilian Amazon is responsible for 14% of the world's annual deforestation.¹³ This makes it the world's largest driver of deforestation, responsible for more forest loss than the total deforestation in any country outside Brazil except Indonesia.¹⁴

THE BRAZILIAN GOVERNMENT FORECASTS DOMINATION OF THE GLOBAL BEEF TRADE

Brazil has the world's largest commercial cattle herd¹⁵ and is the world's largest beef exporter.¹⁶ With China, it shares the position of top exporter of tanned leather.¹⁷ The Brazilian government forecasts a doubling of Brazil's share of global trade in beef products by 2018.¹⁸

The Brazilian cattle sector has seen rapid export-oriented growth over the last decade.¹⁹ Exports of beef and veal from Brazil increased almost six-fold in volume between 1998 and 2008.²⁰ By 2008, nearly one in every three tonnes of beef traded internationally came out of Brazil.²¹ The total value of the cattle trade for Brazil was \$6.9 billion²² in 2008, with leather representing more than a quarter of that value.²³

By 2018, the government foresees Brazil supplying almost two out of every three tonnes of beef traded internationally.²⁴



THE BRAZILIAN GOVERNMENT IS BANKROLLING THE EXPANSION OF THE CATTLE SECTOR IN THE AMAZON

To aid Brazil's domination of the global market for agricultural commodities including beef, the Brazilian government is investing in all parts of the supply chain, from farm-level production to the international market.

BRAZIL IS OFFERING CREDIT WORTH \$41 BILLION TO FARMERS TO BOOST PRODUCTION.

In July 2008, Brazil's President Lula announced the 2008/2009 Agricultural and Livestock Plan, which made available \$41 billion in credit lines to boost agricultural and livestock production. 85% of this credit was designated for corporate agriculture.²⁵

CATTLE EXPANSION IS CONCENTRATED IN THE AMAZON REGION, WHERE LACK OF GOVERNANCE MEANS LAND AND LABOUR ARE CHEAP.

Successive reports by the World Bank, the Brazilian government and research institutes, and analysis by Greenpeace consistently conclude that cattle ranching occupies about 80% of all deforested land in the Amazon region.²⁶

The largest economic incentive for the expansion of Brazil's cattle sector into the Amazon is lack of governance:²⁷ contributing factors include corruption, disorganisation, limited capacity and lack of coordination between government departments.

Analysis by Greenpeace of 2006–2007 satellite data and forest clearance permits reveals that more than 90% of current Amazon deforestation was illegal.²⁸

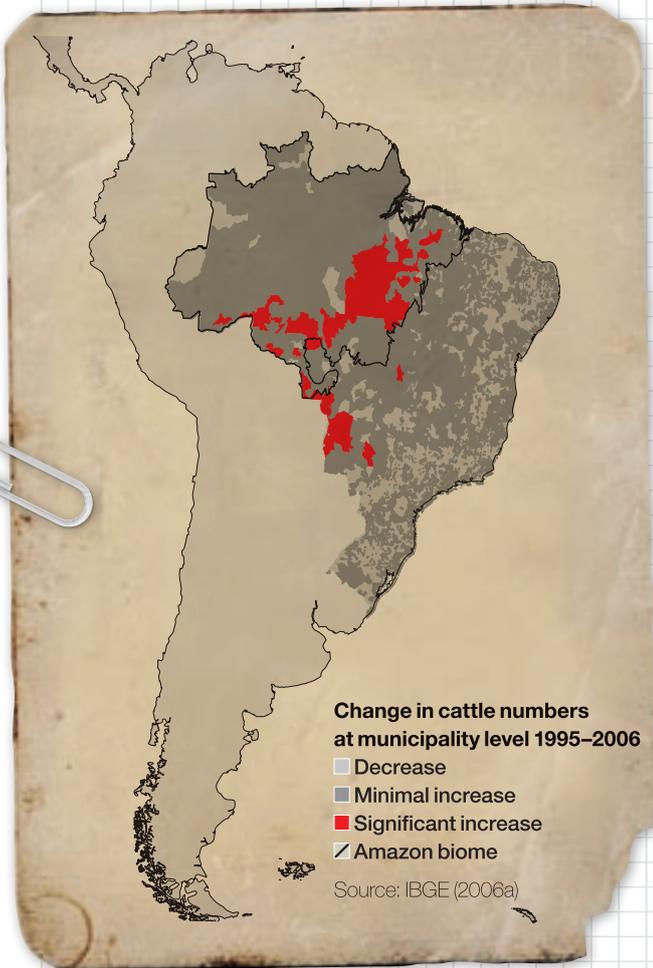
GOVERNMENT LAWS ARE SET TO INCREASE THE AVAILABILITY OF LAND – LEGALISING INCREASED DEFORESTATION.

Land grabbing in the Amazon is rampant. Land titles in the Amazon region are in disarray, with the legal status of roughly half the area uncertain.²⁹

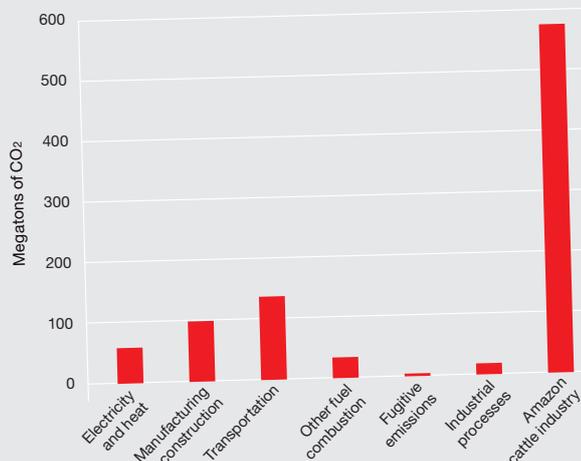
Rather than fixing the problem, a bill before the Brazilian Congress would reward land grabbers by giving them property rights for illegally occupied land.³⁰

A second bill³¹ before the Brazilian Congress proposes to more than double the percentage of forest that can be cleared legally within a property.

If passed, the effect of both these bills would be to legalise increased deforestation.



BRAZILIAN CO₂ EMISSIONS BY SECTOR 2005



Source: WRI CAIT v6.0
Source for cattle industry - see text and notes



THE BRAZILIAN GOVERNMENT PART-OWNS THE GLOBAL CORPORATIONS EXPANDING IN THE AMAZON

THE BRAZILIAN GOVERNMENT HAS SHARES IN GLOBAL BEEF AND LEATHER PRODUCERS

Through the Brazilian National Development Bank (BNDES), the finance arm of the Brazilian Ministry of Development, Industry and Foreign Trade, the Brazilian government has formed strategic alliances with the handful of global players in the cattle sector.

Between 2007 and 2009, these players – who account for up to 50% of Brazil's beef exports market – received \$2.65 billion from the BNDES,³² in exchange for Brazilian government shares in the companies.

The three processors receiving the lion's share of Brazilian government investment – Bertin, JBS and Marfrig – include one of the world's largest leather traders,³³ the world's largest beef trader (controlling at least 10% of global beef production),³⁴ and the world's fourth-largest beef trader, respectively.³⁵

Expansion by these groups is effectively a 'joint venture' with the Brazilian government.

These companies see the financial crisis as an opportunity to build global market share. Without Brazilian government money, the ability of these players to continue building a global trade empire founded on the export of cattle products from the Amazon would have been reduced.

To bolster Brazil's share of global trade,³⁶ the government is providing capital for expansion of cattle processing infrastructure in the Amazon region.³⁷

In a loan assessment for Bertin, the International Finance Corporation (IFC), the private lending arm of the World Bank, warned of the risks of fuelling deforestation by expanding slaughterhouse capacity in the region. A World Bank auditor concluded: *'[Bertin's Marabá slaughterhouse expansion] project poses a grave risk to the environment and to the Bank's reputation.'* Nevertheless, the IFC invested \$90 million in Bertin in one of the most high-risk regions of the Amazon.³⁸

GREENPEACE EXPOSES THE BLIND CONSUMPTION OF THE PRODUCTS OF AMAZON CRIME

BRAZILIAN GOVERNMENT 'JOINT VENTURES' ARE MARKETING SLAVERY AND FOREST DESTRUCTION

Greenpeace has tracked the trade in cattle products back from the export-oriented processing facilities of Bertin, JBS and Marfrig in the south of Brazil to three frontiers of deforestation in the Amazon.

While the Blue Chip companies behind reputable global brands appear to believe that Amazon sources are excluded from their products,³⁹ Greenpeace investigations expose for the first time how their blind consumption of raw materials fuels deforestation and climate change.

Greenpeace undercover investigations have unpicked the complex global trade in beef products from part-Brazilian-government-owned corporations – Bertin, JBS and Marfrig. Greenpeace has identified hundreds of ranches within the Amazon rainforest supplying cattle to slaughterhouses in the Amazon region belonging to these companies. Where Greenpeace was able to obtain mapped boundaries for ranches, satellite analysis reveals that significant supplies of cattle come from ranches active in recent and illegal deforestation. Trade data also reveal trade with ranches using modern-day slavery. Additionally, one Bertin slaughterhouse receives supplies of cattle from an illegal ranch occupying Indian Lands.

These slaughterhouses in the Amazon region then ship beef or hides to company facilities thousands of kilometres away in the south for further processing before export. In a number of cases, additional processing takes place in import countries before the final product reaches the market. In effect, criminal or 'dirty' supplies of cattle are 'laundered' through the supply chain to an unwitting global market.



THE 'LAUNDRY LIST': GLOBAL BRANDS ARE SILENT PARTNERS TO CRIME

Our evidence links an Amazon-contaminated supply chain to suppliers to many reputable global brands and retailers, including a long list of international Blue Chip companies: Adidas, BMW, Carrefour, Ford, Honda, Gucci, IKEA, Kraft, Nike, Tesco, Toyota, Wal-Mart. The public sector is also exposed; our findings link the chain to suppliers to the UK National Health Service (NHS),⁴⁰ and to a supplier in the Middle East whose customers include the British, Dutch, Italian, Spanish and US military forces.⁴¹

THE TOUR DU MONDE – AMAZON CATTLE PRODUCTS GET AROUND THE WORLD IN 80 WAYS

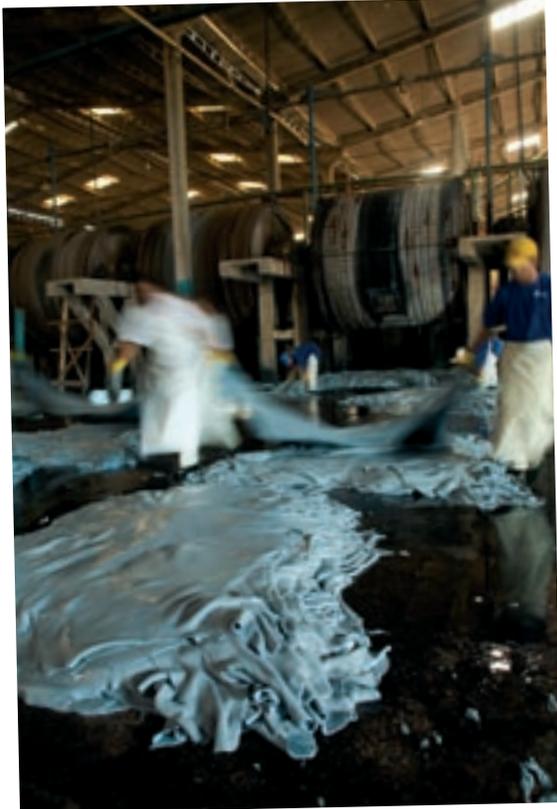
Our undercover investigations have taken us on a tour of the world:

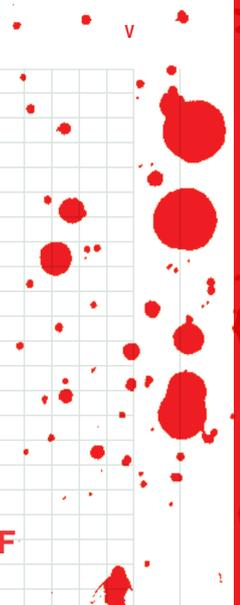
China: Globally, about half of leather production is for shoes.⁴² China is the world's largest producer and exporter of shoes, producing nearly 60% of the world's total output in 2006.⁴³ Bertin is a major exporter of leather to China. Greenpeace undercover investigations reveal manufacturers producing trainers for Nike and Adidas/Reebok being supplied by leather finishers that are direct customers of Bertin.

USA: Furniture and vehicle upholstery is the second-largest use of leather.⁴⁴ Production of leather vehicle interiors is outsourced to leather processors such as US-based Eagle Ottawa. Eagle Ottawa accounts for 20% of all leather used globally for vehicle upholstery.⁴⁵ Bertin is an exclusive supplier to Eagle Ottawa,⁴⁶ which absorbs 30% of Bertin's leather exports.⁴⁷ Eagle Ottawa supplies BMW, Ford, Honda, Toyota and many others.⁴⁸

Italy: Italy is the centre of high-quality leather production for the fashion market. Italy is the world's second largest leather shoe exporter in terms of value.⁴⁹ Handbag lines are the star of Italy's leather export industry, accounting for nearly two thirds of the trade value of Italian leather goods.⁵⁰ The two leading Italian leather processors, Rino Mastrotto Group (RMG) and Gruppo Mastrotto (GM), receive regular supplies of leather from Bertin.⁵¹ Customers of these processors include Boss, Geox, Gucci, Hilfiger, Louis Vuitton and Prada.⁵²

JBS has a 50% stake in the beef production and beef by-products division of Gruppo Cremonini. Among other customers, Cremonini is an exclusive supplier to the Italian Railway and supplies the French





railway companies SNCF and Thalys International.⁵³ JBS and Marfrig supply Cremonini in Italy.⁵⁴

UK: The convenience food market and the food service industry are changing what we eat, where we eat and how we shop. The UK ready-meal market is ‘the most advanced in Europe’.⁵⁵ ‘Sales of ready meals, both frozen and chilled, represent 7% of all main meal occasions in the UK.’⁵⁶ The UK imports 40% of its processed beef (prepared, cooked or tinned) from Brazil.⁵⁷ Nearly 90% of this comes from Bertin, JBS or Marfrig.⁵⁸

Brazil: Brazil is an emerging market. According to Unilever, ‘Consumer spending is growing faster in [developing and emerging] markets than in developed markets.’⁵⁹

In Brazil, three supermarket giants – Carrefour, Walmart and Cia Brasileira de Distribuição⁶⁰ (known as Grupo Pão de Açúcar and affiliated to the French Casino group) – control nearly 40% of the sector.⁶¹ Bertin, JBS and Marfrig supply various fresh and processed products to Brazil and other emerging markets.

Unilever is the biggest ‘staples’ player in developing and emerging markets, including Brazil,⁶² where sales of health and beauty and cleaning products are rising. Many of these products contain by-products of cattle processing, such as glycerine. According to Bertin, the global personal hygiene market is worth \$269 billion, and Brazil has the third-biggest share in this market.⁶³ Unilever, Colgate Palmolive and Johnson & Johnson are all listed as key customers of Bertin Hygiene and Beauty products in Brazil.⁶⁴

IN CONCLUSION: WHAT KIND OF WORLD LEADER IS BRAZIL?

PART OF THE PROBLEM OR PART OF THE SOLUTION?

Brazil presents itself as a global leader on action to cut deforestation. At the 2008 international climate summit in Poznań, the Brazilian government announced its National Climate Change Plan, including a pledge to pursue 72% cuts in the rate of deforestation by 2018. These cuts, which it claims will prevent the emission of 4.8Gt CO₂,⁶⁵ are to be achieved largely by tackling illegal deforestation.⁶⁶

However, the Brazilian government is a funder and shareholder in the major players in the cattle sector in the Amazon⁶⁷ – the single largest driver of global deforestation. The Brazilian government has \$2.65 billion in shares in global beef and leather processors who profit from the cheap supply of cattle reared on areas of the Amazon that have been illegally destroyed. Projected growth in exports over the next decade is set to create further pressure on the region.

Additionally, legislation before the Brazilian Congress seeks to grant land grabbers legal property rights⁶⁸ and to more than double the percentage of forest that can be cleared legally within a property.⁶⁹ Rather than cutting deforestation rates, this will lead to increased legal deforestation.

Brazil is not alone in driving Amazon deforestation. Nor can it take sole responsibility for fixing the problem.

The World Bank identifies the economic drivers of deforestation at the ‘agricultural frontiers, such as the Amazon’ as the major challenge in terms of action on climate.⁷⁰

Given the global trade in agricultural commodities driving deforestation, considerable responsibility for action lies with the Blue Chip corporations behind reputable global brands, whose blind consumption of raw materials in their supply chains fuels deforestation.

Further responsibility for supporting a shift away from high carbon activities lies with multilateral institutions such as the World Bank itself, whose private lending arm, the IFC, has financed expansion by Bertin at the ‘agricultural frontier’ of the Amazon rainforest.

FUNDING FOREST PROTECTION IS KEY TO MEETING THE CLIMATE CHALLENGE

Brazil is clear that its ability to reach its target on reducing deforestation depends on the provision of international funding from rich countries. To this end, the government established an Amazon Fund, to which Brazil's Minister of Environment Carlos Minc has said that he is hoping for contributions of \$21 billion by 2021.⁷¹

Yet in May 2009, only \$110 million had been made available – part of a \$1 billion package the government of Norway announced in 2008, to be paid by instalments until 2015. As of the end of March 2009, Germany is the only other donor committed to the fund, announcing a contribution of €18 million (\$24.7 million).⁷²

The devastating example of the destruction of the Amazon rainforest outlined in this report is just one of the tragic realities facing forests worldwide. While the cattle sector in the Amazon is the single largest driver of deforestation in the world, other industries in other regions of the world must be tackled.

As the Carbon Disclosure Project (CDP) – a partnership of many of the Blue Chip companies identified in this report – has concluded: 'It is only through collaborative global action which takes the long-term view'⁷³ that the climate challenge will be met.

Currently, industries in Europe and the USA are issued permits giving them allowances for a set amount of emissions, eg from manufacturing or fossil fuel energy generation.

Following the principle that the polluter pays, Greenpeace proposes that companies should pay for a portion of their GHG emissions permits. Revenues generated would go to a Forests for Climate fund to provide financing for developing countries to protect forests.⁷⁴ This fund would provide economic incentives to tackle deforestation and put a value on standing forests. It would reward countries with verified reductions in deforestation rates. The fund would be targeted at forest areas with high biodiversity values and at creating and preserving sustainable livelihoods for forest communities as a long-term means of forest protection. As the fund would be open to all countries with vulnerable forests, it would prevent leakage – the shifting of deforestation by global industries from one forest region of the world to another.

Part of the global deal to protect the climate must be to get an agreement to provide long-term funding for the protection of the world's rainforests. The Copenhagen Climate Summit in December 2009 is a critical opportunity to agree measures and mechanisms including funding to combat global deforestation.

If this effort fails, the next crisis will not be a temporary economic downturn but an irreversible climate catastrophe.



PROTECT THE CLIMATE: DEFEND THE AMAZON

CLEAN UP THE CATTLE TRADE

Stop trading with ranchers or companies engaged in Amazon deforestation.

Stop funding companies implicated in forest destruction.

STOP DEFORESTATION

Support an immediate moratorium on further Amazon deforestation.

Support measures to achieve Zero Deforestation in the Brazilian Amazon by 2015 and globally by 2020.

PROTECT THE CLIMATE

Support a strong climate protocol in Copenhagen in 2009, including a mechanism to fund forest protection.

'We have put men on the moon, we have created the industrial and the technological age, we have built awesome engineering projects and we have the capacity to develop the solutions to stop dangerous climate change. It is only through collaborative global action which takes the long term view, rather than focusing on short term gain, that we will be able to solve this challenge – but solve it we must and we must work to solve it today.'

The Carbon Disclosure Project

Companies belonging to the Carbon Disclosure Project mentioned in this report include:





PREFACE

TIME FOR COLLABORATIVE ACTION TO TACKLE THE CLIMATE CRUNCH

THE CLIMATE IMPERATIVE

In March 2009, the International Scientific Congress on Climate Change released six key messages for the UN Climate Change Conference (COP15) to be held in December 2009 in Copenhagen, Denmark.⁷⁵

1. Climate trends are following worst-case scenarios: 'The worst-case IPCC scenario trajectories (or even worse) are being realised.' In other words, our current business-as-usual emissions trajectory is already having a profound impact on the climate.
2. Social disruption is likely even given low-level climate change: 'Temperature rises above 2°C will be very difficult for contemporary societies to cope with.' In other words, unless we keep global temperatures down, we risk serious international conflict and social disruption.
3. Long-term strategy is critical: 'Weaker targets for 2020 increase the risk of crossing tipping points and make the task of meeting 2050 targets more difficult. Delay in initiating effective mitigation actions increases significantly the long-term social and economic costs of both adaptation and mitigation.' In other words, governments need to act collectively and with long-term vision, rather than short-term self-interest.
4. Social justice must inform strategy: the poor of today and future generations are most vulnerable – climate action must ensure social justice, rather than protecting the narrow interests of today's rich.
5. Inaction is inexcusable: 'There is no excuse for inaction. We already have many tools and approaches – economic, technological, behavioural, management – to deal effectively with the climate change challenge. But they must be vigorously and widely implemented to achieve the societal transformation required to decarbonise economies.'
6. Meeting the challenge: 'To achieve the societal transformation required to meet the climate change challenge, we must ... [remove] implicit and explicit subsidies [for high-carbon activities], reducing the influence of vested interests that increase emissions and reduce resilience; enabling the shifts from ineffective governance and weak institutions to innovative leadership in government.'

VITAL STATISTICS

The reality of climate change is following worst-case scenarios. An increase in global temperature of even 1.5°C could lead to irreversible impacts and 2°C risks triggering catastrophic climate change.

The best opportunity to avoid catastrophic climate change is at the United Nations Framework Convention on Climate Change (UNFCCC) Summit in Copenhagen, Denmark in December 2009. Greenpeace calls on world governments to agree essential measures to cut greenhouse gas (GHG) emissions:

2015 – YEAR BY WHICH GLOBAL EMISSIONS MUST PEAK

Global GHG emissions must peak by 2015 then decline rapidly, reaching as close to zero as possible by mid-century.

40%+ – CUTS IN GHG EMISSIONS BY DEVELOPED COUNTRIES BY 2020

Developed countries, collectively, must reduce GHG emissions by at least 40% by 2020 (compared to 1990 levels).

15–30% – REDUCTION IN PROJECTED GHG EMISSIONS GROWTH BY DEVELOPING COUNTRIES BY 2020

Developing countries must reduce their projected GHG emissions growth by 15–30% by 2020, putting in place cost-free measures to improve efficiency.

\$140 BILLION – FUNDING PER YEAR FROM DEVELOPED COUNTRIES FOR DEVELOPING COUNTRIES FROM TODAY

Developed countries need to commit to massive funding to enable developing countries to speed up the switch to clean technology, end tropical forest destruction, and adapt to unavoidable climate change impacts on a wide scale.

ZERO DEFORESTATION – A GLOBAL CLIMATE IMPERATIVE BY 2020

Ending deforestation and associated GHG emissions in all developing countries by 2020, and achieving zero deforestation by 2015 in key areas, such as the Amazon, the Congo Basin, and the Paradise forests of Southeast Asia is imperative. Priority forests for protection should be those with high ecological or biodiversity values and those that are important for the livelihoods of indigenous peoples and forest communities.



COPENHAGEN 2009: MAKE OR BREAK FOR THE CLIMATE?

The reality of climate change is outstripping scientific research findings. The threat of irreversible impacts is far more immediate than previously imagined.

Even a small increase in global temperature could lead to irreversible impacts and trigger runaway climate change.⁷⁶ We need a global plan that ensures GHG emissions peak within the next few years and then decline rapidly, reaching close to zero by mid-century.

In December 2009, world governments will meet for crucial climate negotiations in Copenhagen, Denmark. The Copenhagen Climate Summit is the key political opportunity for world governments to take responsibility for tackling climate change. They must commit to drastic GHG emissions reductions under the next phase of the Kyoto Protocol, which comes into effect in 2012.

Any effective deal to save the climate must include measures to combat deforestation. Tropical forest destruction is responsible for about 20% of global GHG emissions, more than the world's entire transport sector.⁷⁷

BRAZILIAN GOVERNMENT: MAKE OR BREAK FOR THE AMAZON?

As the country with the world's largest area of tropical forest⁷⁸ and an acknowledged leader among developing nations, Brazil has a crucial role to play in the fight against deforestation and climate change.

Brazil has the world's fastest rate of deforestation by area,⁷⁹ making it the world's fourth largest producer of GHG emissions.⁸⁰

At the 2008 international climate summit in Poznań, Poland, the Brazilian government presented its National Climate Change Plan, including a pledge to drastically reduce the rate of Amazon deforestation by 2018.⁸¹ Brazil is clear that its ability to reach its target on reducing deforestation will be dependent on the provision of international funding from rich countries. To this end, the government has set intermediate targets to measure progress toward this goal.⁸² Additionally, the government has established an Amazon Fund to assist improved forest protection through international funds.⁸³

However, in direct contradiction to this, the Brazilian government is a funder and shareholder in the major players in the cattle sector in the Amazon⁸⁴. Through the associated deforestation emissions, the cattle sector in the Amazon is Brazil's highest-carbon industry.⁸⁵

The Brazilian government also forecasts a doubling of Brazil's share of global trade in beef products by 2018.⁸⁶ Such expansion will endanger both the remaining Amazon forest and the world's hopes of averting catastrophic climate change.

This report, the culmination of a three-year investigation, exposes how Brazilian government policy is funding the cattle sector in the Brazilian Amazon – the world's leading driver of global deforestation. The report also documents how blind consumption of cattle products by the Blue Chip⁸⁷ corporations behind reputable global brands is fuelling Amazon deforestation and climate change.

ACRONYMS

ACRONYMS AND TERMS

Ministries and government departments referred to in the text and notes are assumed to be Brazilian unless stated otherwise.

Currency conversion rates as of 14 May 2009:

all \$ are US

Brazilian Real (R\$) 2.06 = \$1

British Pound Sterling (£) 0.66 = \$1

Euro (€) 0.73 = \$1

AID – Area of Direct Influence

BNDES – Banco Nacional de Desenvolvimento Econômico e Social (National Social and Economic Development Bank)

ESIA – Environmental and Social Impact Assessment

FAO – Food and Agriculture Organization of the United Nations

FUNAI – Fundação Nacional do Índio – National Foundation for Indians

IBAMA – Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Institute of Environment and Renewable Natural Resources)

IBGE – Instituto Brasileiro de Geografia e Estatística (Brazilian Institute for Geography and Statistics)

IEA – International Energy Agency

IFC – International Finance Corporation

INCRA – Instituto Nacional de Colonização e Reforma Agrária (Agency for Land Reform)

INPE – Instituto Nacional de Pesquisas Espaciais (National Institute for Space Research)

IPCC – Intergovernmental Panel on Climate Change

MAPA – Ministério da Agricultura, Pecuária e Abastecimento (Ministry of Agriculture, Livestock and Food)

MCT – Ministério da Ciência e Tecnologia (Ministry of Science and Technology)

MMA – Ministério Meio Ambiente (Ministry of the Environment)

SECEX – Secretaria de Comércio Exterior

UN – United Nations

USDA FAS – United States Department of Agriculture Foreign Agricultural Service

BRAZILIAN STATE ABBREVIATIONS:

Acre – AC

Alagoas – AL

Amapá – AP

Amazonas – AM

Bahia – BA

Ceará – CE

Goiás – GO

Espírito Santo – ES

Maranhão – MA

Mato Grosso – MT

Mato Grosso do Sul – MS

Minas Gerais – MG

Pará – PA

Paráíba – PB

Paraná – PR

Pernambuco – PE

Piauí – PI

Rio de Janeiro – RJ

Rio Grande do Norte – RN

Rio Grande do Sul – RS

Rondônia – RO

São Paulo – SP

Santa Catarina – SC

Sergipe – SE

Tocantins – TO

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Casino (Bertin)

LIDL (Marfrig)

Makro (JBS/Marfrig)

Metro (Marfrig)

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Unilever (Bertin)

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Johnson & Johnson (Bertin)

CATERING/ FOOD SERVICE

Cremonini/ Inalca / Marr
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GREENPEACE IN THE AMAZON

'Supporting competitive Brazilian companies in the international market is a primary objective of the Brazilian government, and for more than sixteen years BNDES has been participating in the successful effort of maintaining a market-based, competitive environment for Brazilian exporters.'

Brazilian National Development Bank website, 'Exports'

'Agriculture is a major sector of the Brazilian economy and is critical for economic growth and foreign exchange earnings [...] In the past, [Brazil's] potential agricultural expansion was grossly underestimated. There are few natural limits to future food, fibre, and biofuel production in Brazil due to the availability of huge areas of unutilised arable land.'

US Department of Agriculture
'Agricultural economy and policy report: Brazil' February 2009

'The Amazon rainforest contains about one tenth of the total carbon stored in land ecosystems and recycles a large fraction of the rainfall that falls upon it. So any major change to its vegetation, brought about by events like deforestation or drought, has an impact on the global climate system.'

Met Office Hadley Centre 2008



SECTION ONE:

THE BRAZILIAN GOVERNMENT IS BANKROLLING THE EXPANSION OF THE CATTLE SECTOR IN THE AMAZON



At the 2008 international climate summit in Poznań, Poland, the Brazilian government announced its intention to achieve 72% cuts in the rate of deforestation by 2018.⁸⁸

Over the next decade, progress toward this goal is to be measured against a series of intermediate targets for progressive deforestation cuts.

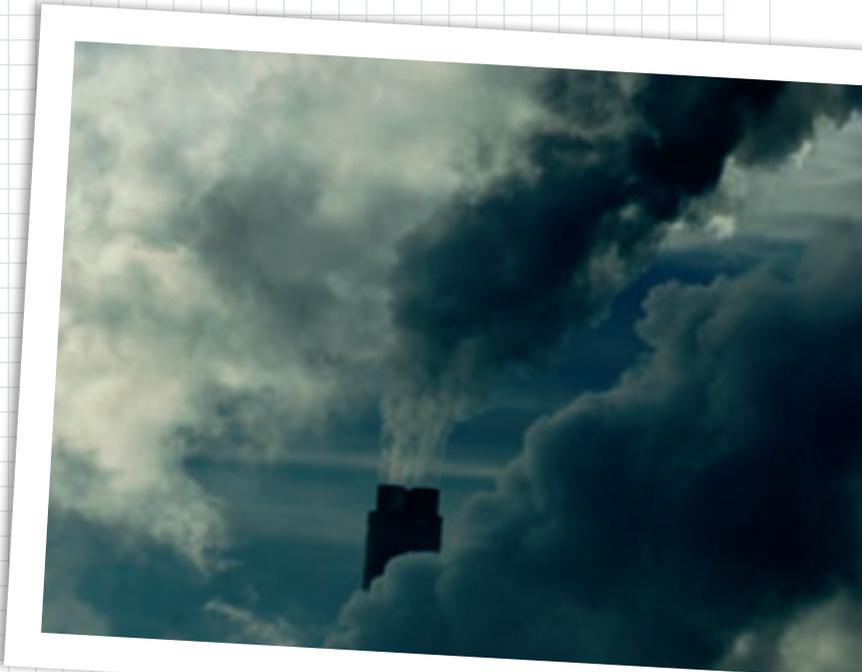
At the same time, the Brazilian government continues its investment in the cattle sector. Already the world's largest beef exporter, the government aims to double Brazil's share of global trade in beef products by 2018.⁸⁹

The cattle sector is the key driver of deforestation in the Brazilian Amazon.⁹⁰ According to the Brazilian government:⁹¹ 'Cattle are responsible for about 80% of all deforestation' in the Amazon region. In recent years, on average one hectare of Amazon rainforest has been lost to cattle ranchers every 18 seconds.⁹²

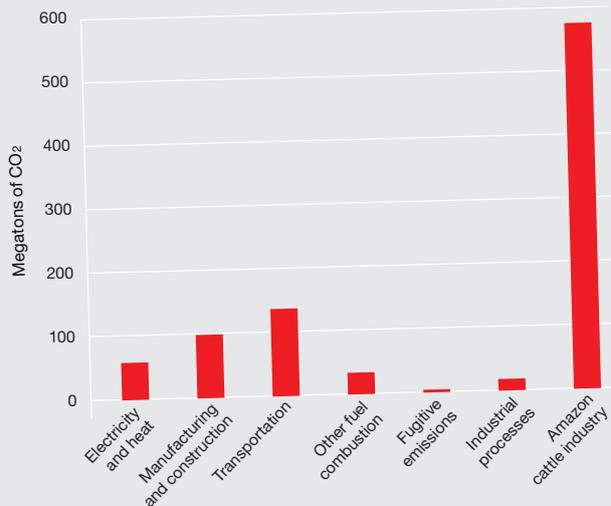
The cattle sector in the Brazilian Amazon is responsible for 14% of the world's annual deforestation.⁹³ This makes it the world's largest driver of deforestation, responsible for more forest loss than the total deforestation in any other country except Indonesia.⁹⁴

Through associated deforestation, the cattle sector is Brazil's highest carbon industry, responsible for emissions equivalent to almost one and a half times Brazil's entire fossil fuel CO₂ emissions.⁹⁵

This section looks at the Brazilian government's vested interest in a sector profiting from continued (often illegal) deforestation.



BRAZILIAN CO₂ EMISSIONS BY SECTOR 2005



Source: WRI CAIT v6.0
Source for cattle industry - see text and notes

TABLE 1: BRAZILIAN GOVERNMENT AGRICULTURAL PRODUCTION AND EXPORT FORECASTS TO 2018

Agricultural food commodity	Export world rank 2008 ¹	2017/2018 forecast growth in production volume (% change over 2007/2008) ²	2017/2018 forecast growth in export volume (% change over 2007/2008) ³	Share of global trade 2008/2018 ⁴ (%)	
Beef	1	45	38	31	61
Poultry meat ⁵	1	51	75	45	90
Sugar ⁶	1	40	50	58	74
Ethanol ⁷	1	158	55	n/d	n/d
Soya oil	2	33	38	63	74
Corn	2	22	88	13	21
Soya beans	2	30	38	36	40
Pork	3	33	70	10	21

Sources: ¹USDA FAS (2009b), ²MAPA (2009), ³MAPA (2009), ⁴MAPA (2009) Table 24 p28, ⁵Broiler meat, ⁶Centrifugal sugar production, ⁷Valdes (2007) and MAPA (2009) – production and export figures for ethanol relate to 2008-2018 growth.



EMPIRE BUILDING THROUGH THE CATTLE SECTOR

BRAZILIAN GOVERNMENT INVESTING ITS FUTURE IN INDUSTRIES THAT THRIVE ON POOR GOVERNANCE

As part of its drive to dominate global trade in agricultural commodities, the Brazilian government has a long history of investment in the agribusiness sector.⁹⁶ Economic policy has spurred agricultural commodity production, construction and modernisation of processing facilities,⁹⁷ and global investment by Brazilian companies in the commodity value chain.

By 2008, the agribusiness sector (including production agriculture, processing and distribution) accounted for 25% of Brazil's gross domestic product (GDP). Agricultural shipments, worth a record \$71.8 billion, accounted for 36% of the country's total exports in 2008.⁹⁸

According to the US Department of Agriculture, over the last few years Brazil has dramatically increased financial support to its agricultural sector.⁹⁹ In July 2008, Brazil's President announced the 2008/2009 Agricultural and Livestock Plan, which took effect in October 2008. The 2008/2009 plan makes available R\$65 billion (then \$41 billion) credit, with the intent of further boosting farm production. Of this amount, R\$55 billion was designated for corporate agriculture.¹⁰⁰

Through the Brazilian National Development Bank (BNDES), the finance arm of the Ministry of Development, Industry and Foreign Trade (MDIC), the Brazilian government supports the expansion of global beef and leather exporters into the Amazon region through strategic alliances.

The key objective of the BNDES is to improve 'the competitiveness of the Brazilian economy'¹⁰¹ through growth in exports.¹⁰² BNDES offers extremely advantageous credit lines for exports and corporate investments, acts as loan guarantor for Brazilian companies, and gains corporate shares¹⁰³ in exchange for investing capital.

BNDES credit is the dominant source of financing for the agribusiness sector.¹⁰⁴

The cattle processing sector has been a significant beneficiary. Indeed, through the BNDES, the Brazilian



government has formed strategic alliances with global beef exporters Bertin, JBS and Marfrig. By providing capital for infrastructural expansion in exchange for stakes in the companies, the government has in effect entered into 'joint ventures' with those companies.

The clear message coming from climate scientists is that economic growth based on high carbon activities is no longer acceptable: 'To achieve the societal transformation required to meet the climate change challenge, we must ... [reduce] the influence of vested interests that increase emissions and reduce resilience; enabling the shifts from ineffective governance and weak institutions to innovative leadership in government.'¹⁰⁵

Through 'joint ventures', BNDES and the Brazilian government stand to profit from poor governance and increased carbon emissions in the Amazon via direct returns on investment and increased foreign exchange earnings for the country.

This exemplifies the conflict of interest for the Brazilian government's intentions to reduce deforestation.



BRAZILIAN GOVERNMENT FORECASTS BRAZILIAN DOMINATION OF THE GLOBAL BEEF TRADE

Brazil's economy is founded on export-led growth of the agriculture sector.¹⁰⁶

By 2008, the agribusiness sector (including production agriculture, processing and distribution) accounted for 25% of Brazil's gross domestic product (GDP). Agricultural shipments, worth a record \$72 billion, accounted for 36% of the country's total exports in 2008.¹⁰⁷

Today, Brazil is a leader in global production and exports of agricultural commodities including beef, coffee, cotton, maize, orange juice, pork, poultry, soya, sugar, tobacco¹⁰⁸ and derivative commodities including processed meat,¹⁰⁹ leather¹¹⁰ and biofuels.¹¹¹

The Brazilian government,¹¹² the agribusiness sector¹¹³ and international competitors¹¹⁴ see little limit to Brazil's potential for further agricultural expansion. In fact, Brazil sees its domination of global trade of agricultural commodities increasing.¹¹⁵

In February 2009, the Brazilian Ministry of Agriculture, Livestock and Supply published its 'Brazilian agribusiness forecasts 2008/2009 and 2018/2019'.¹¹⁶ Government officials consider the forecasts to be conservative as they incorporated the effects of the present world financial crisis.¹¹⁷

In the absence of effective governance, Brazil's policies to promote agricultural growth conflict with its policies to cut GHG emissions through drastic reductions in deforestation rates.

Brazil's Ministry of Science and Technology estimates that deforestation and land-use change historically made up 75% of all Brazilian GHG emissions.¹¹⁸ Brazil ranks as the world's fourth-largest emitter of GHG emissions when deforestation emissions are included.¹¹⁹ Using government baseline calculations for 1996-2005, the average annual Amazon deforestation rate was more than 19.5 million hectares with average annual emissions of 716Mt CO₂,¹²⁰ equivalent to the combined annual coal consumption emissions of Germany, the United Kingdom, Spain, Italy, France, The Netherlands and Belgium.¹²¹

By July 2008, more than 70 million hectares of the Brazilian Amazon (nearly 20% of its original area) had been destroyed.¹²² Cattle ranching is the main driver of deforestation in the Amazon, responsible for 80% of all deforested area in the region.¹²³

This makes the cattle sector Brazil's highest carbon industry.¹²⁴

The government foresees a doubling in Brazil's market share of world meat and poultry exports.¹²⁵ Beef exports are expected to increase 93%, boosting Brazil's beef market share of world exports to 61%.¹²⁶

According to the Agriculture Ministry, deforestation is not necessary to achieve this growth in production.¹²⁷ Yet there is a clear correlation between increasing deforestation and cattle expansion. For example, clearing forest for grazing can be significantly cheaper than restoring degraded land or even maintaining existing pasture.¹²⁸ Dominant players in the beef and leather processing industry (in which the Brazilian government has shares) also see few limits to their ability to expand production.¹²⁹ Their raw material – cattle – increasingly comes from ranches engaged in illegal deforestation.

An audit for the World Bank's private lending arm, the International Finance Corporation (IFC), found that illegal land tenure, illegal deforestation and even forced labour are the norm in the Amazon region.¹³⁰ This translates into cheap land and cheap labour leading to high carbon emissions. Despite the known risks, the IFC and the Brazilian National Development Bank (BNDES) are funding expansion of cattle processing infrastructure in the Amazon region.

Indeed, it is precisely this cheap land and cheap labour arising from poor governance that give Brazil its competitive advantage over other countries as a cattle production hub. As an internal document from one of the leading players in Brazil's beef industry coyly admits, Brazil has an area almost the size of the EU 'available for cultivation' in areas that are not already 'occupied' or 'forestry reserves' – ie, the industry sees a lot of unprotected areas available for expansion.¹³¹ Thus, 'lower feeding, land and labour costs give Brazil a significant competitive advantage'.¹³²

The author of the Agriculture Ministry report also singles out beef production as an area in which Brazil has 'an extra advantage' over other countries: 'the cost of production'.¹³³

Consequently, the industry is situating cattle processing infrastructure such as slaughterhouses in areas with access to cheap raw material provision – the Amazon frontiers.¹³⁴ The BNDES and the IFC have provided capital for the construction of this infrastructure.¹³⁵

BRAZIL'S HIGH CARBON 'JOINT VENTURE' ENTERPRISE: THE EXPANSION OF THE CATTLE SECTOR AND AMAZON DEFORESTATION

'The Brazilian meat processors are very rapidly expanding ... globally.'

Benedict (2008)

'Several other beef processors are also attracting stockmarket capital and are acquisitive e.g. Marfrig's announced acquisition of Moy Park.'

Benedict (2008)

'This [\$90 million loan to Bertin] is a Category A project according to IFC's Procedure for Environmental and Social Review of Projects because significant impacts that are diverse, irreversible, or unprecedented may result.'

International Finance Corporation, Bertin Ltda 'Summary of proposed investment'

Brazil is seeking to gain market dominance in global industries linked to cattle products (beef and leather). Financial support from the BNDES has been key to the expansion of top beef exporters both within Brazil and globally. This indicates the high priority the Brazilian government gives to expanding the cattle industry's export earnings potential.

According to a 2008 industry presentation, five companies (Bertin, Independência, JBS, Marfrig, Minerva) controlled over 50% of Brazil's beef export market in 2007,¹³⁶ and just under 40% of Brazilian slaughter capacity.¹³⁷ These groups are global players in the food and leather industries.

Between 2007 and 2009, these top beef exporters received \$2.65 billion from the BNDES,¹³⁸ in exchange for Brazilian government shares in the companies. This money allowed them to modernise and expand processing facilities within the Brazilian Amazon and expand internationally to gain market share in key consumer countries and processing facilities in other producer regions.



TABLE 2: TOP FIVE BEEF EXPORTERS: SUMMARY INFORMATION

	Bertin	Independência	JBS-Friboi	Marfrig	Minerva	Total
MAJOR SOURCES OF CAPITAL INVESTMENT BY PUBLIC BANKS						
Banco Nacional de Desenvolvimento Econômico e Social (BNDES) state bank	Common shares held (%)	Preferred shares held (%)	Common shares held (%)	Common shares held (%)	Capital investment (million)	Capital investment (million)
2007 - 2009	26.9%	13.9%	13%	14.7%	R\$820	R\$5,900
Capital investment (million)	R\$3,370					
Other public financing institutions						
	(-\$1,500)	(-\$110)		(-\$370)		
	IFC/World Bank refinancing loan - 2007 (million)				Bank of Amazonia refinancing loan - 2009 (million)	BNDES refinancing loan - 2009 (million)
	\$90 (- R\$200)				R\$92.8 (-\$42)	RS 121.8 (-\$55)
INSTALLED SLAUGHTERHOUSE CAPACITY (HEAD OF CATTLE/DAY)						
Global	14,900 (December 2008)					6,600 (March 2009)
Brazil	~ 13,300 (December 2008)					5,900 (March 2009)
Legal Amazon	~ 5,000 (2008)					800 (March 2009)
INSTALLED TANNING CAPACITY (HIDES/DAY)						
Brazil	20,500 (wet-blue & crust leather)					5,000 (wet-blue leather)
	10,000 (March 2009) - no data for post March 2009				Not applicable	1,500
	1,700 (May 2009)				65,200 (2008)	
	1,700 (May 2009)				18,900 (2008)	
	500 (May 2009)				6,710 (2008)	

DATA SOURCES:

INVESTMENT BY PUBLIC BANKS:
BNDES (2009); IFC, 267-269; Minerva (2009b); IFC (2009)

INSTALLED SLAUGHTERHOUSE CAPACITY:

Bertin: (Brazil and global) Bertin confidential document (December 2008); 7, June 2008 (Legal Amazon) - various sources (2007/2008); Bertin confidential document (December 2007); 27 Independência (2009b, c, d)

JBS: (Brazil) JBS Annual Report (INA) 2008; (Legal Amazon) JBS website

Marfrig: Marfrig (2009b)

Minerva: Minerva (2009a); 15

INSTALLED TANNING CAPACITY:

Bertin confidential document (December 2008); 7, Independência (2009a); Marfrig Annual Report 2007; Minerva (2009a); 15



TABLE 2: TOP FIVE BEEF EXPORTERS: SUMMARY INFORMATION

SHARE OF BRAZIL EXPORT MARKET		Bertin	Independencia	JBS-Friboi	Marrig	Minerva	Total
Beef exports: total, % by weight (2008)	14.7%	5.1%	13.2%	5.2%	8.1%	46.4%	
Fresh, chilled and frozen beef, % by weight (2008)	10.7%	6.6%	11.0%	3.7%	8.9%	40.9%	
Processed beef, % by weight (2008)	37.2%	0.1%	23.5%	13.3%	0.8%	75.0%	
Leather exports, % by value (2008)	-17%	-5%	-	-	-1.5%	-23%	
KEY BRAZIL EXPORT MARKETS (2008)							
Beef, fresh and frozen	Italy, Kuwait, Netherlands, Russia, Saudi Arabia, Spain, USA, UK, -	Germany, Hong Kong, Italy, Ireland, Netherlands, Russia, Spain, UK, USA	France, Hong Kong, Kuwait, Italy, Netherlands, Russia, Saudi Arabia, Spain, UK, USA	Hong Kong, Italy, Netherlands, Russia, Saudi Arabia, Spain, UK, USA	France, Germany, Italy, Kuwait, Netherlands, Russia, Spain, UK		
Beef, processed	Belgium, Canada, France, Germany, Italy, Spain, Sweden, UK, USA	Dutch Antilles, Hong Kong, Russia	Belgium, France, Germany, Italy, Ireland, Sweden, UK, USA	Belgium, Canada, France, Germany, Italy, Kuwait, Netherlands, Spain, UK, USA	China, UK, USA		
Leather	China, Hong Kong, Italy, Indonesia, Vietnam	China, Hong Kong, Italy, Taiwan, Vietnam	-	Italy, Spain, Taiwan, UK, USA	China, Italy, Japan, Hong Kong, Korea		
IDENTIFIED CLIENTS BY SECTOR (MARKET COUNTRY)							
Beef products and extracts	Burger King (US) Kraft Foods (IT) Princes (UK) Tesco (UK)	Hason Int. (HK) Mangusa Supermarkt (Dutch Antilles)	Carrefour (BR) Hereford Foods (US) Makro (NL) Princess (UK) Timp Ltd (UK) Wal-Mart (BR)	Carrefour (BR) Hereford Foods (US) Kraft Foods (IT) Lidl (UK) Makro (NL) Metro (DE) Tesco (UK) Wal-Mart (US)	Oakfields Foods (UK) SAMP CO (US)		
Leather	Clarks (US) Eagle Otawa (US) Gruppo Mastroto (IT) HTL Int. (CN) Katzert (IT) Timberland (US)	Albion Int. (JP) Gruppo Mastroto (IT) Hairing Wangu Group (CN) Tenfac Leather (CN) Zhejiang Tongtianxing Group (CN)	Not applicable	A&D (IT) Conceria Pasubio (IT) Gruppo Mastroto (IT) Pelkg (US) Rino Mastroto Group (IT)	Conceria Benetti (IT) Faeda Spa (IT) Mapel Italia (IT) Verde Trading (JP) Zhenjiang Foreign Trading (CN)		
Hygiene and beauty	Carrefour Colgate Palmolive Johnson & Johnson Unilever						
Pet industry	Farm Food (NL) Hartz Mountain/ Sunitomo (US) Sampco (US) Vitakraft Pet Products (US)						

DATA SOURCES
 Share of export market: PIERs South American Trade Database January-December 2008 - Bertin data includes export via LFC logistics company
 Leather exports: Brazil's total exports of leather were worth R\$3.5 billion (2008) Source: SECEX (2009)
 Bertin exports of leather were worth R\$593 million (2008). Source: Bertin confidential document (December 2008)
 Minerva exports of leather were worth R\$48.1 million (2008) Source: Minerva (2009a)
 Independencia exports of leather were worth R\$164 million (2008). Source: Independencia (2nd and 3rd Quarter Financial reports)/Brazil export markets: PIERs South American Trade Database January-December 2008
 Identified clients by sector: PIERs South American Trade Database January-December 2008; Bertin non-beef export data; Bertin confidential document (June 2008)

THE ECONOMIC DOWNTURN IS AN OPPORTUNITY TO GAIN MARKET SHARE

'Minerva captures market share from exiting players. Slaughter share has also recovered to record historical levels.'

Minerva (2009) fourth quarter 2008 results conference call 26 March 2009

'JBS-Friboi has started to see a recovery – especially after several of its competitors have interrupted their operations due to the global crisis. JBS-Friboi's slaughter volume rose by 3% in January and by a further 17% in February, following an interruption in Independência meat packer's operations. Other meat packing groups, such as Bertin, have also taken advantage of the gaps left in the market by other companies.'

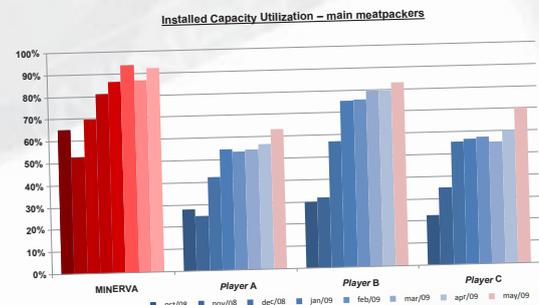
Gazeta Mercantil 'JBS and Bertin raise slaughter volume' 23 March 2009

'With such huge potential for cheap quality products [the industry's] eventual recovery can never really be in doubt. The question that really beckons for the rest of the global industry is how big Brazilian beef will be on its return, and how far its shadow will fall.'

The Cattle Site, March 2009

Industry Capacity Utilization

Big players are growing their capacity utilization in the last months due to the recent industry rationalization and improving export market.



5
Source for graphic: Minerva (2009c)

The current global economic downturn has reduced the availability of credit, driving a temporary collapse in commodity prices for beef and leather. As a consequence, the sector is in a state of flux. Many companies have gone bust, or been forced to scale back or freeze operations. According to a March 2009 industry report, meat-processing companies responsible for 35% of export share have filed for protection from creditors under Brazilian bankruptcy laws.¹³⁹ One of these companies is Independência – one of the top five exporters until it filed for bankruptcy protection in early 2009 and was forced to cut production.¹⁴⁰

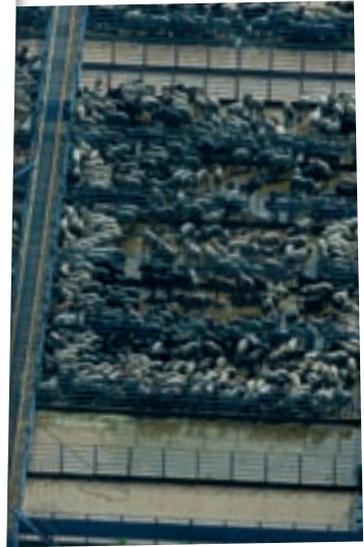
The notable winners are Bertin, JBS and Marfrig.¹⁴¹ For these exporters, the current collapse represents a golden opportunity to gain market share.

Through mergers and acquisitions, these companies are consolidating their power in Brazil and expanding their processing base in key regions – the USA, Europe and China. They are anticipating a recovery in cattle product markets that will find them with significantly increased control of the global sectors in which they operate.

Indeed, by March 2009 the recovery was already being heralded, with industry trade analysts announcing: 'Brazil clawing back exports: Brazilian beef exports increased 24% month-on-month in March [...] only 3% below March 2008 experts' and confirming the 'continuous recovery of the country's beef trade'.¹⁴²

In April 2009, the Finance Ministry made an additional R\$10 billion (\$4.9 billion) line of credit for meat processing companies at subsidised rates available through the BNDES – stepping in to underwrite the export trade to overcome temporary global cashflow problems.¹⁴³ The intervention sent stock prices for Brazilian meat processors JBS and Marfrig soaring.¹⁴⁴

EXPORTING THE AMAZON



‘Cattle are responsible for about 80% of all deforestation in the Legal Amazon.’

Presidência da República – Casa Civil ‘Plan of action for the prevention and control of deforestation in the Legal Amazon’ 2004

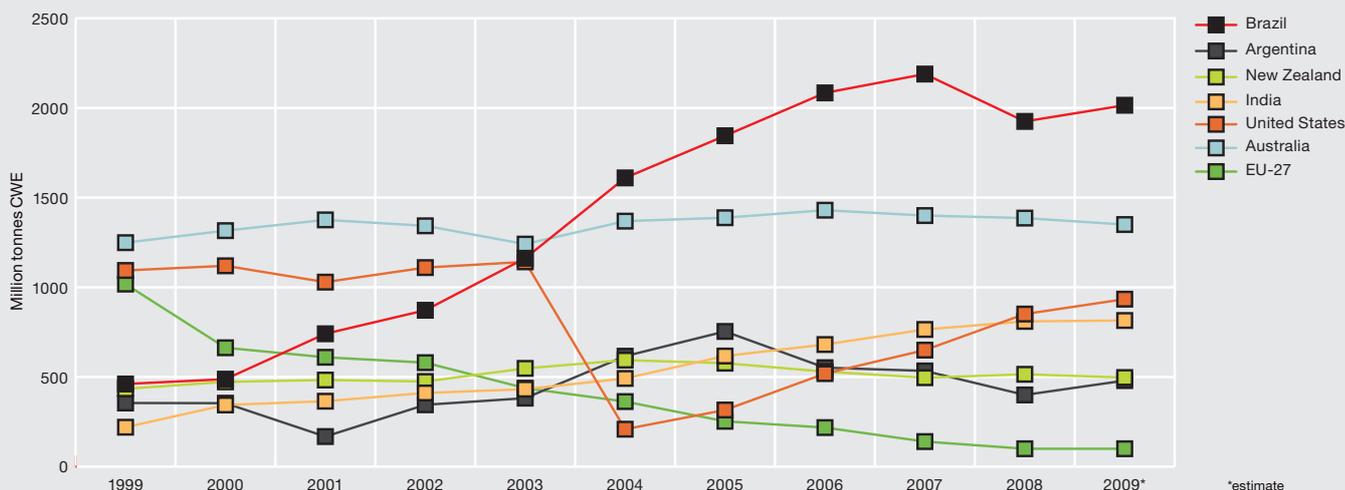
‘Government credit and tax-incentive programs have spurred [...] construction of processing facilities.’

US Department of Agriculture ‘Agricultural economy and policy report: Brazil’ February 2009

‘JBS is dramatically growing: massive, multi-origin, global sales reach.’

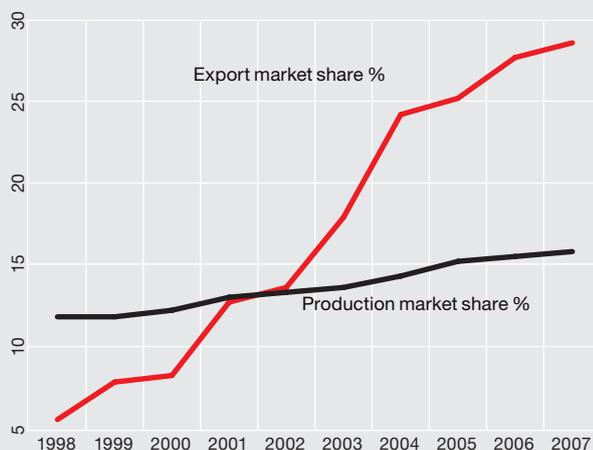
Benedict (2008)

GLOBAL BEEF EXPORTS BY COUNTRY 1999-2009



Source: Foreign Agricultural Service, Official USDA Estimates, PSD online (<http://www.fas.usda.gov/psdonline>) accessed 2009-01-27

BRAZIL'S SHARE OF THE GLOBAL BEEF MARKET



Source: See above

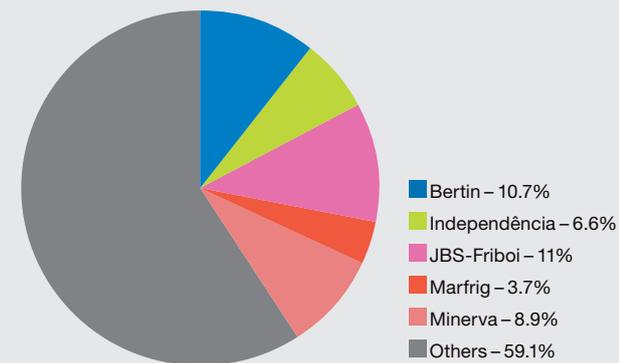
BRAZIL'S CATTLE SECTOR DOMINATES GLOBAL TRADE

Brazil has the world's largest commercial cattle herd,¹⁴⁵ is the largest beef exporter in the world¹⁴⁶ and, with China, shares the position of top exporter of tanned leather hides.¹⁴⁷

The sector has seen rapid export-oriented growth over the last decade.¹⁴⁸ Exports of beef and veal from Brazil increased almost six-fold in volume between 1998 and 2008.¹⁴⁹ In fact, Brazil accounts for 50% of the global increase in beef exports in that period. Brazil's increase in exports compensated for stagnant production in the USA and falling production in the EU and Russia.¹⁵⁰

In 2008, nearly one in every three tonnes of beef traded internationally came out of Brazil.¹⁵¹

FRESH, CHILLED AND FROZEN BEEF EXPORTS, % BY VOL. (2008)

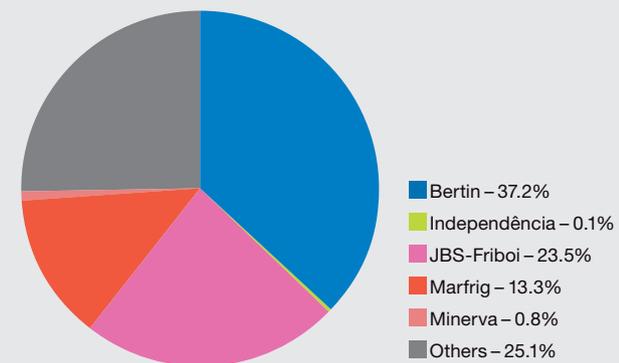


Key export sectors for cattle commodities are fresh/frozen beef, prepared or processed beef, and leather. The total value of the export trade was \$6.9 billion in 2008, of which leather represents more than a quarter.¹⁵²

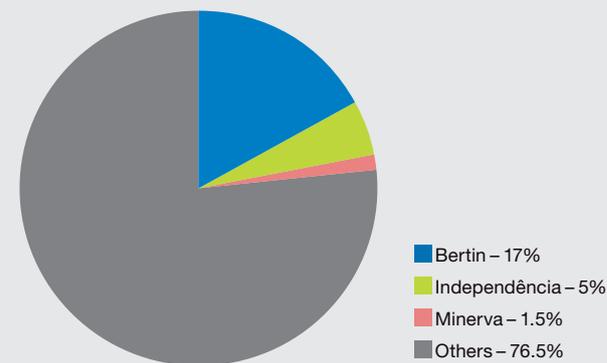
Brazil's Agriculture Ministry forecasts a doubling of Brazil's market share by 2018, with Brazil supplying almost two out of every three tonnes of beef traded internationally by this time.¹⁵³

By 2018, President Lula has pledged a 72% cut in deforestation.¹⁵⁴

PROCESSED BEEF EXPORTS, % BY VOLUME (2008)



LEATHER EXPORTS, % BY VALUE (2008)



All three pie charts, source: PIERFS South American Trade Database January-December 2008



EXPANSION OF THE CATTLE SECTOR IS CONCENTRATED IN THE AMAZON

Expansion in Brazil's cattle herd and slaughtering capacity is concentrated in the Amazon region.

Between 1995 and 2006 Brazil's cattle herd increased over 10% (from 153 million to 169 million head).¹⁵⁵

While outside the Amazon region total cattle numbers decreased by 4 million head, inside numbers increased by almost 21 million, to 56 million head in 2006.¹⁵⁶ Within the Amazon region itself, Mato Grosso and Pará represent 'hotspots' of expansion. Today, these two states account for almost two thirds of the total herd in the region.

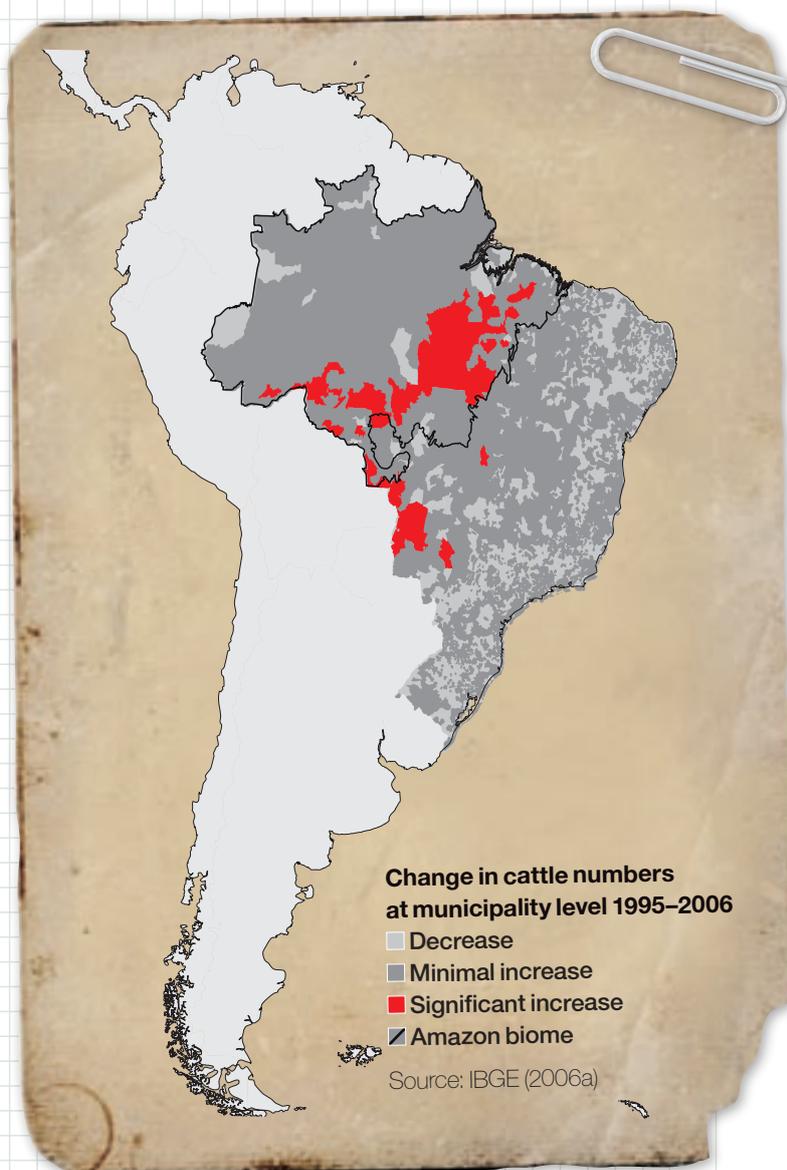
Mato Grosso has increased its cattle stock by 36% between 1995 and 2006.¹⁵⁷ The state had nearly 20 million head of cattle in 2006, meaning it holds the second largest cattle herd in the country – 11.5% of Brazil's total cattle herd – on just 2% of ranches.¹⁵⁸

Pará has increased its cattle stock by 111% between 1995 and 2006.¹⁵⁹ Today the state has nearly 13 million head of cattle on just 3% of ranches, making it the sixth largest ranching state in Brazil.¹⁶⁰

Based on figures from 2006, ranches in the Amazon are three times the size of those in the rest of Brazil in terms of land area, and over twice the size in terms of cattle numbers – stocking rates (the number of cattle per hectare) are lower in the Amazon. Since 1996, these differences have intensified – the size of Amazon ranches has increased by a third in terms of number of cattle and by more than 90% in terms of area.¹⁶¹ The total area occupied by cattle in the region increased 136% over the period, but the number of ranches increased by only 22%, demonstrating that deforestation largely resulted from the expansion of existing ranches rather than the establishment of new ranches.¹⁶²

In 1990, domestic beef consumption accounted for 100% of production; today exports make up 20% of production.¹⁶³

The Amazon region is a major production centre, not a consumption centre.¹⁶⁴ Indeed, cattle outnumber the local population by more than 7 to 1 in Mato Grosso¹⁶⁵ and nearly 2 to 1 in Pará.¹⁶⁶



'The competition for crop land [has] contributed to the expansion of the cattle industry towards the Amazon. The increase in the cattle herd in the Legal Amazon has also prompted an increase in slaughter plants in Mato Grosso state. However, major beef packers [ie processing facilities] remain in the interior of São Paulo and neighbouring states.'

US Department of Agriculture 'Brazil livestock and products annual livestock report 2008'

'Today a cattle rancher cuts down 4,000 – 5,000 hectares in the Amazon, in the Amazon biome, to put 5,000 head of cattle and create two jobs [...] It doesn't make any sense because there is so much pastureland to be recovered, to be improved in terms of efficiency.'

Estadão Online 'Stephanes criticises cattle industry in the Amazon' July 2008



Both slaughter and tannery capacity have also expanded in the Amazon region.

Movement of cattle products from these facilities for processing takes place at a national level over long distances and between groups. This movement of cattle products is 'facilitated by the fact that the facilities belong to groups that operate across the nation'.¹⁶⁷

Meat and other cattle products from slaughterhouses in the Amazon are shipped to centralised processing units concentrated outside the Amazon in the south of Brazil. For example, the main facilities of Bertin, JBS and Marfrig are in the state of São Paulo, close to the main Brazilian consumer market and points of export.

There is significant trade to and between the top five beef exporters from third-party suppliers, dictated by their areas of specialisation – for example Bertin receives considerable quantities of hides.¹⁶⁸

More specialised processing and transformation takes place internationally, with many of the top Brazilian exporters acquiring beef or leather processing units as far afield as the USA, the UK, Italy or China.

THE CATTLE SECTOR IS RESPONSIBLE FOR 80% OF AMAZON DEFORESTATION

Increasing demand for land in the south of Brazil for more profitable arable farming is pushing cattle ranching

northwards into the Amazon.¹⁶⁹ According to industry analysts, this displacement in production is expected to continue.¹⁷⁰

Within the Amazon, it costs half as much to clear forest for new fertile pasture than to restore degraded pastureland,¹⁷¹ as this requires significant use of fertiliser and water resources.

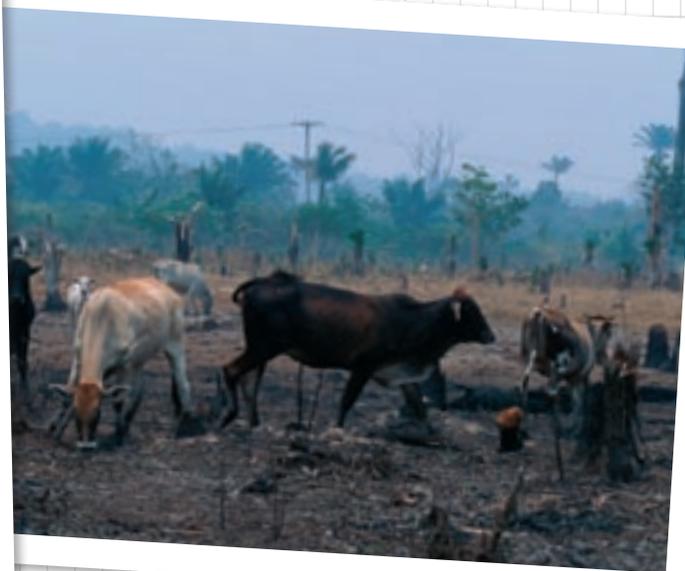
Since 2001, successive reports by the World Bank, the Brazilian government and research institutes have concluded that cattle ranching occupies about 80% of all deforested land in the Amazon region.¹⁷² 2008 analysis of Brazilian government satellite data by Greenpeace also finds that cattle have occupied nearly 80% of the land already in use in the Amazon region.¹⁷³

By July 2008, more than 70 million hectares of the Brazilian Amazon (nearly 20% of its original area) had been destroyed.¹⁷⁴

Mato Grosso, Pará and Rondônia are key states for cattle expansion and frontiers for deforestation.

By 2007, Mato Grosso had lost almost 38% of its original forest area.¹⁷⁵ Between 1995 and 2006, 38% of Amazon deforestation was in Mato Grosso.¹⁷⁶ Over the same period, the state has seen a 36% increase in the size of its cattle herd.¹⁷⁷

By 2007, Pará had lost nearly 20% of its original forest area.¹⁷⁸ Between 1995 and 2006, 31% of Amazon



‘Nearly 90% of agricultural land in the Amazon is either devoted to pasture or has been out of use for more than four years.’

Chomitz and Thomas (2001) ‘Geographic patterns of land use and land intensity’ Report for the World Bank

deforestation was in Pará.¹⁷⁹ Over the same period, the state has seen a 111% increase in the size of its cattle herd.¹⁸⁰ The IFC notes that in some municipalities in Pará ‘the herd occupies the entire deforested area’.¹⁸¹

By 2007, Rondônia had lost almost 39% of its original forest area.¹⁸² Between 1995 and 2006, 14% of Amazon deforestation was in Rondônia.¹⁸³ Over the same period, the state has seen a 120% increase in the size of its cattle herd.¹⁸⁴

LACK OF GOVERNANCE CREATES INCENTIVES FOR CATTLE EXPANSION IN THE AMAZON

The cattle sector is expanding into the Amazon because of the availability of cheap land and cheap labour.

The largest economic incentive for the expansion of Brazil’s cattle sector into the Amazon is lack of governance. This permits illegal appropriation of public land (land grabbing) and deforestation of more than the 20% of an individual landholding than can be legally cleared.¹⁸⁵ Analysis by Greenpeace of 2006–2007 satellite data and forest clearance permits reveals that more than 90% of current Amazon deforestation was illegal.¹⁸⁶

LAND TENURE IN DISARRAY

Legal land tenure, established through registration of land titles,¹⁸⁷ is in a state of disarray.¹⁸⁸ The legal status of roughly half the Amazon region is uncertain.¹⁸⁹ For instance a 2008 study for the Pará Court of Justice recommends

that over 6,000 irregular – often overlapping – land titles should be cancelled. These land titles, covering an area of 110 million hectares (equivalent to almost the entire area of Pará), are suspected of being obtained fraudulently or simply grabbed.¹⁹⁰

INCRA, the Brazilian government agency responsible for land registry and management, is poorly structured and therefore unable to meet its responsibilities.¹⁹¹

According to the Federal Prosecution Office in Pará, the current disorganisation within INCRA is an obstacle in the fight against deforestation.¹⁹² Although Brazil has developed an effective system to monitor deforestation through analysis of satellite data, the lack of an efficient land registration system makes prosecution of illegal deforestation difficult, as the status of an individual’s tenure is often hard to establish definitively.

CORRUPTION AND LIMITED CAPACITY OF GOVERNMENT AUTHORITIES

Enforcement of law is limited, as an IFC loan assessment recognises.¹⁹³ This is due to a mix of corruption, violence, limited capacity by federal authorities and a lack of coordination¹⁹⁴ between government departments.

INCRA has been implicated in many cases of corruption.¹⁹⁵

IBAMA, the Brazilian federal environmental agency responsible for investigating illegal deforestation, is hampered by its limited capacity. In a 2009 interview, the

current director of Environmental Protection at IBAMA, Luciano Evaristo, stated that the agency has only 500 permanent agents in the region, with a further 900 during the months when deforestation rates typically rise.¹⁹⁶ The Amazon region covers an area of some 520 million hectares, nearly two-thirds of Brazil.¹⁹⁷

CONSEQUENCES ARE NOT ADEQUATE DETERRENTS

The measures for tackling illegal behaviour do not serve as adequate disincentives.¹⁹⁸ For instance, a ranch caught illegally deforesting land is only banned from trading cattle grazed on the land where the illegal deforestation has been detected.¹⁹⁹

The Brazilian legal system allows many levels of appeal, meaning that it can take years to get a final ruling.²⁰⁰ Even when illegal deforestation is detected and the case has successfully negotiated Brazil's lengthy legal process, fines often go unpaid and orders to reforest illegally deforested lands are ignored.²⁰¹ In 2005, IBAMA issued fines totalling R\$1,436 million (\$697 million), of which only 0.5% were paid.²⁰²

Consequently, illegal deforestation is rampant throughout the Amazon.²⁰³

GOVERNMENT MEASURES ARE UNABLE TO CONTAIN THE PROBLEM

In an effort to crack down on land grabbing, the federal government has 'embargoed' authorities in those municipalities with the highest rates of deforestation from granting permits for deforestation to ranches without registered land titles.²⁰⁴ Despite this intervention, deforestation rates in embargoed municipalities have seen little if any fall.²⁰⁵

GOVERNMENT POLICIES EXACERBATE DEFORESTATION

History has shown that – in the absence of governance and land-use planning – government-funded projects to open up forest regions with transport and other infrastructure drive illegal deforestation.²⁰⁶ Unpaved sections of the federal and state roads pass through vulnerable areas of frontier rainforest.²⁰⁷

Policy initiatives proposed by the Lula government conflict with its commitment to forest protection and tackling illegal deforestation.

The links between the agriculture sector and the Brazilian Congress are well known. For instance, the largest parliamentary special-interest group comprises 116

deputies and senators connected to farming.²⁰⁸

Land titles in the Amazon region are in disarray. Rather than fixing the problem, a bill before the Brazilian Congress would exacerbate deforestation by granting land grabbers legal property rights for illegally occupied land.²⁰⁹

Another bill²¹⁰ before the Brazilian Congress proposes to more than double the percentage of forest that can be cleared legally within a property.

The effect of both these pieces of proposed legislation would be to legalise increased deforestation.

SLAVERY

The costs of clearing forest land and other activities linked to cattle ranching are also 'subsidised' by forced labour. Thus, slavery represents another subvention for a high carbon activity.

The Ministry of Labour and Employment (MTE) publishes the Employers Cadastre,²¹¹ known as the 'Dirty List', which names those convicted of keeping people in conditions of forced labour.²¹² A company or rancher is not listed until all further legal avenues for appeal (a lengthy process in Brazil) have been exhausted. Consequently, the list is not comprehensive, as many ranches from which slaves have been freed are not named. A ranch is listed for a minimum of two years, and then only removed if all fines have been paid and the MTE deems that the poor labour conditions have been corrected.

Nearly two-thirds of the cases on the most recent 'Dirty List', published in February 2009,²¹³ are in the Amazon region, with four out of five of these cases related to cattle ranching.

On the February 2009 'Dirty List', Pará is the state with the greatest dependence on forced labour, followed by Mato Grosso.

Pará alone accounts for one out of every three people liberated from conditions of slavery in the Amazon region, with virtually all those liberated coming from cattle ranches.²¹⁴ More than half of the municipalities within Bertin's primary cattle supply area had cattle-ranching-related slavery cases.²¹⁵

In the process of investigating illegal deforestation, Greenpeace has found that four of the top five beef exporters – Bertin, Independência, JBS and Marfrig – have acquired cattle from ranchers linked to forced labour.²¹⁶