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 global 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]

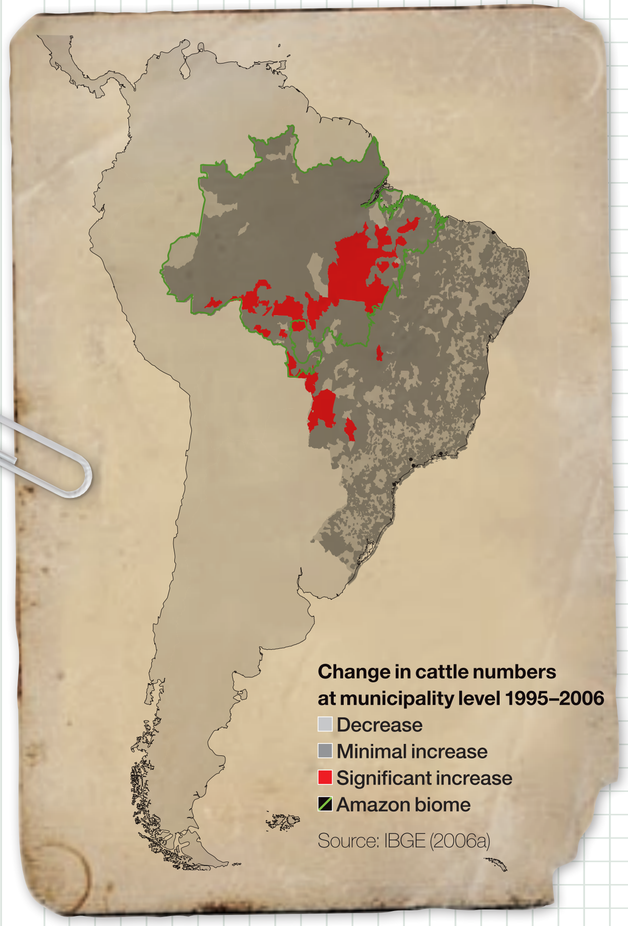
The cattle sector in the Brazilian Amazon is responsible for 14% of the world's annual deforestation.[13] This makes it the world's largest driver of deforestation, responsible for more forest loss than the total deforestation in any country outside Brazil except Indonesia.[14]

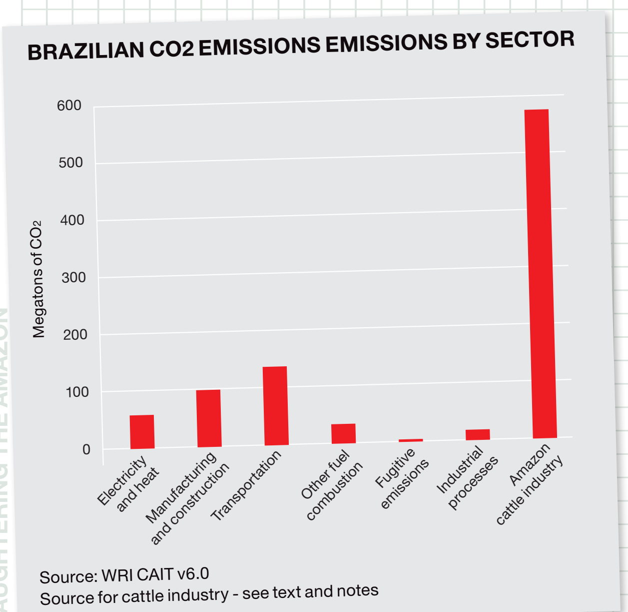
THE BRAZILIAN GOVERNMENT FORECASTS DOMINATION OF THE GLOBAL BEEF TRADE

Brazil has the world's largest commercial cattle herd[15] 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 billion[22] 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 bill[31] 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.

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, EuroStar, 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 exclusive supplier to the Italian Railway (Trenitalia, EuroStar

Group, Cisalpino AG) 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, Wal-Mart and Cia Brasiliera de Distribuição[60] (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 Poznàn, 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 CO_2,[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 Amazon[67] – 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 rights[68] 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 Blue Chip corporations behind reputable global brands whose blind consumption of raw materials in their supply chains fuel 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 funds 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.'

X

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

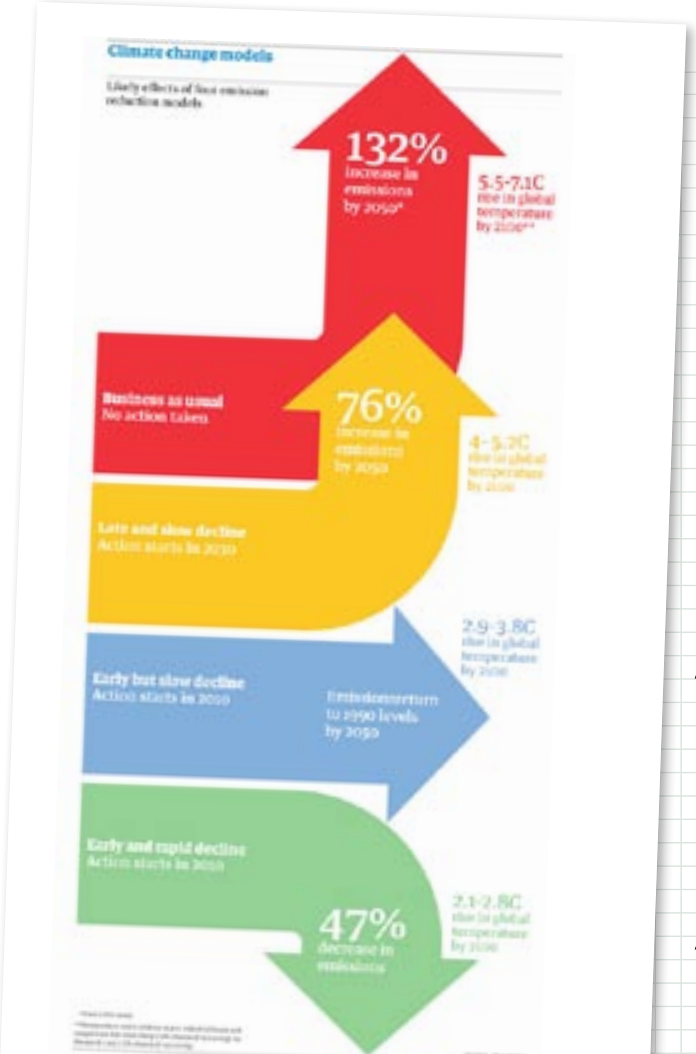
Developing countries must reduce their projected GHG emissions growth by 15–30% by 2020, putting in place cost-free measures to improve efficiency.

$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.



Source: Met Office UK (2008)

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 forest[78] 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 Poznàn, 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 Amazon[84] – the leading driver of global deforestation. 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 Chip[87] 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 Indio – 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

Paránă – 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

CONTENTS

'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.'

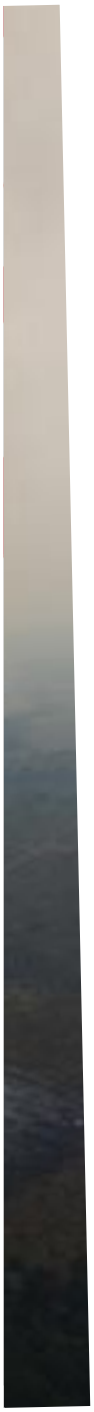
US Department of Agriculture 'Agricultural economy and policy report: Brazil' February 2009

'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 Poznàn, 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.

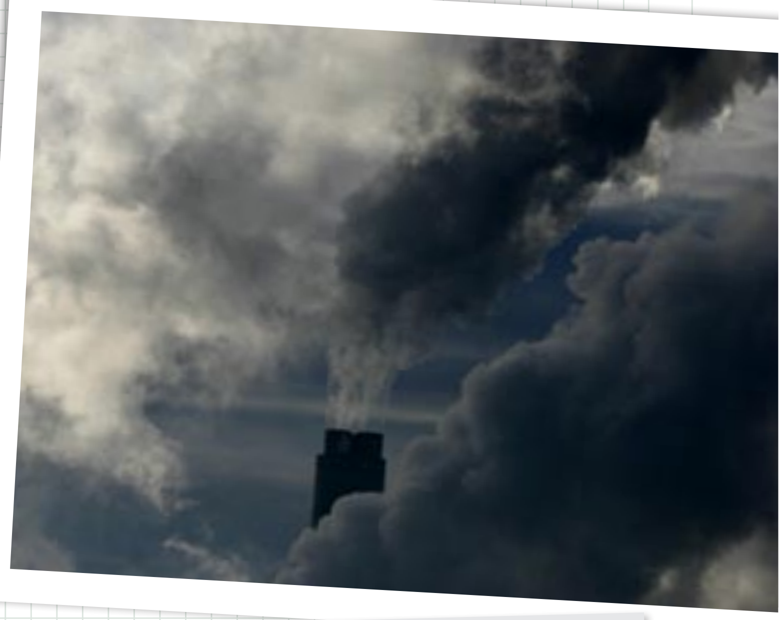
At the same time, the Brazilian government continues its investment in the cattle sector. Already the world's largest beef exporter, the government aims to double Brazil's share of global trade in beef products by 2018.[89]

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]

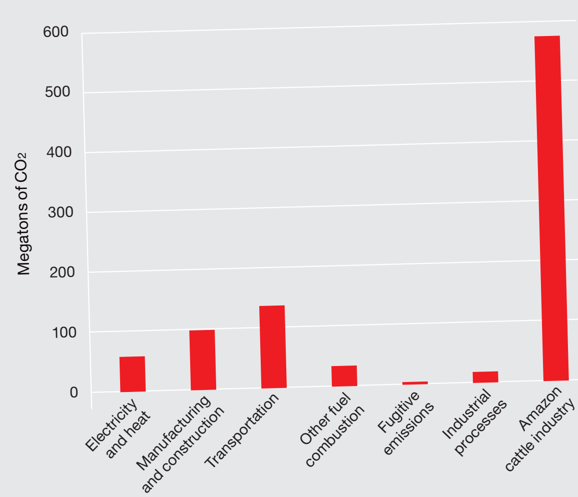
The cattle sector in the Brazilian Amazon is responsible for 14% of the world's annual deforestation.[93] This makes it the world's largest driver of deforestation, responsible for more forest loss than the total deforestation in any other country except Indonesia.[94]

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 CO_2 emissions.[95]

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



BRAZILIAN CO_2 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: [1]USDA FAS (2009b), [2] MAPA (2009), [3] MAPA (2009), [4] MAPA (2009) Table 24 p28, [5] Broiler meat, [6] Centrifugal sugar production, [7] Valdes (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 shares[103] in exchange for investing capital.

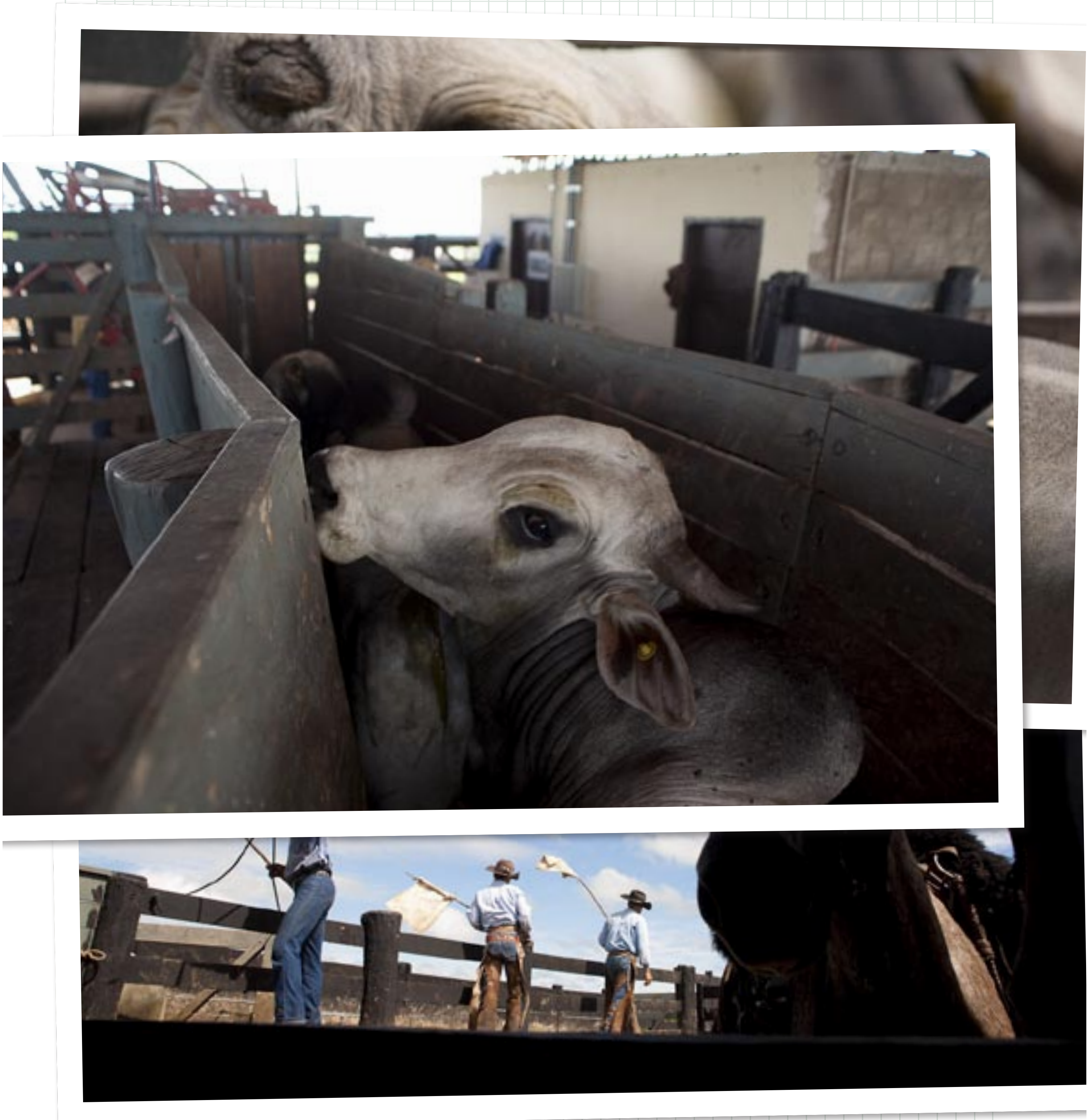
BNDES credit is the dominant source of financing for the agribusiness sector.[104]

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, tobacco[108] and derivative commodities including processed meat,[109] leather[110] and biofuels.[111]

The Brazilian government,[112] the agribusiness sector[113] and international competitors[114] 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 CO_2,[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 v ery rapidly expanding ... globally.'

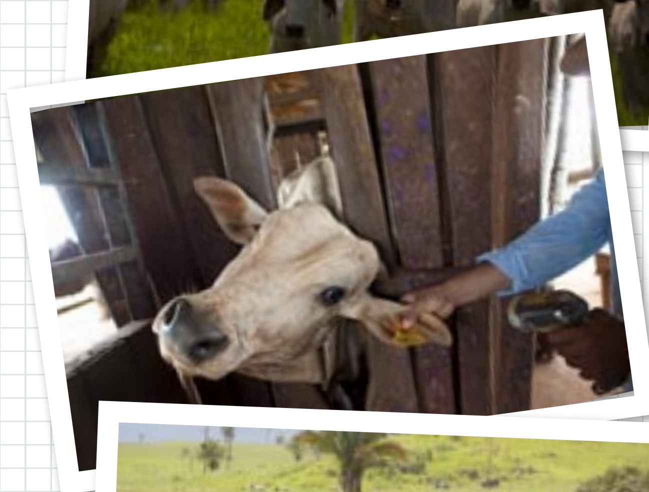
Benedict (2008)

'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

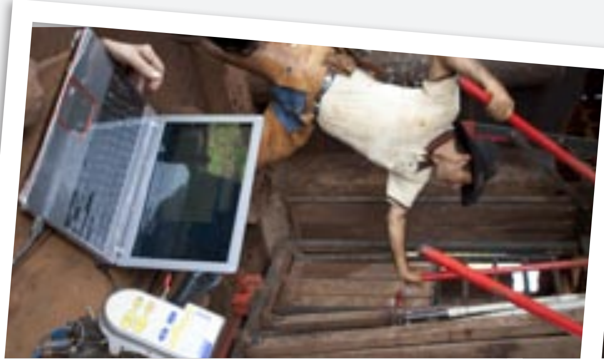
	Bertin		Independência		JBS-Friboi		Marfrig		Minerva		Total
MAJOR SOURCES OF CAPITAL INVESTMENT BY PUBLIC BANKS											
Banco Nacional de Desenvolvimento Econômico e Social (BNDES) state bank	Common shares held	Capital investment	Preferred shares held	Capital investment	Common shares held	Capital investment	Common shares held	Capital investment			Capital investment
	(%)	(million)	(%)	(million)	(%)	(million)	%	(million)			(million)
2007 - 2009	26.9%	R$3,370	13.9%	R$250	13%	R$1,470	14.7%	R$820			R$5,900
		(~$1,500)		(~$110)		(~$670)		(~$370)			($2.650)
Other public financing institutions		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)		1,700 (May 2009)		65,200 (2008)		21,100 (2008)		6,600 (March 2009)	
Brazil		~ 13,300 (December 2008)		1,700 (May 2009)		18,900 (2008)		13,300 (2008)		5,900 (March 2009)	
Legal Amazon		~ 5,000 (2008)		500 (May 2009)		6,710 (2008)		5,500 (2008)		800 (March 2009)	
INSTALLED TANNING CAPACITY (HIDES/DAY)											
Brazil		20,500 (wet-blue & crust leather)		10,000 (March 2009) – no data for post March 2009		Not applicable		1,500		5,000 (wet-blue leather)	

DATA SOURCES:

INVESTMENT BY PUBLIC BANKS:
BNDES (2009):64, 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 web-site
Marfrig: Marfrig (2009b)
Minerva: Minerva (2009a): 15

INSTALLED TANNING CAPACITY:
Bertin confidential document (December 2008): 7; Independência (2009e); Marfrig Annual Report 2007; Minerva (2009a): 15



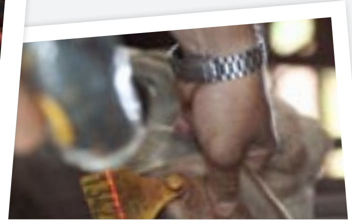


TABLE 2: TOP FIVE BEEF EXPORTERS: SUMMARY INFORMATION

	Bertin	Independencia	JBS-Friboi	Marfrig	Minerva	Total
SHARE OF BRAZIL EXPORT MARKET						
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)	Hason Int. (HK)	Carrefour (BR)	Carrefour (BR)	Oakfields Foods (UK)	
	Kraft Foods (IT)	Mangusa Supermarket (Dutch Antilles)	Hereford Foods (US)	Hereford Foods (US)	SAMPCO (US)	
	Princes (UK)		Makro (NL)	Kraft Foods (IT)		
	Tesco (UK)		Princes (UK)	Lidl (UK)		
			Tulip Ltd (UK)	Makro (NL)		
			Wal-Mart (BR)	Metro (DE)		
				Tesco (UK)		
				Wal-Mart (US)		
Leather	Clarks (US)	Albion Int. (IT)	Not applicable	A&D (IT)	Conceria Benetti (IT)	
	Eagle Ottawa (US)	Gruppo Mastrotto (IT)		Conceria Pasubio (IT)	Faeda Spa (IT)	
	Gruppo Mastrotto (IT)	Haining Mengu Group (CN)		Gruppo Mastrotto (IT)	Mapel Italia (IT)	
	HTL Int. (CN)	TanTec Leather (CN)		PetAg (US)	Verde Trading (JP)	
	Natuzzi (IT)	Zhejiang Tongtianxing Group (CN)		Rino Mastrotto Group (IT)	Zhenjiang Foreign Trading (CN)	
	Timberland (US)					
Hygiene and beauty	Carrefour					
	Colgate Palmolive					
	Johnson & Johnson					
	Unilever					
Pet industry	Farm Food (NL)					
	Hartz Mountain / Sumitomo (US)					
	Sampco (US)					
	Vitakraft Pet Products (US)					

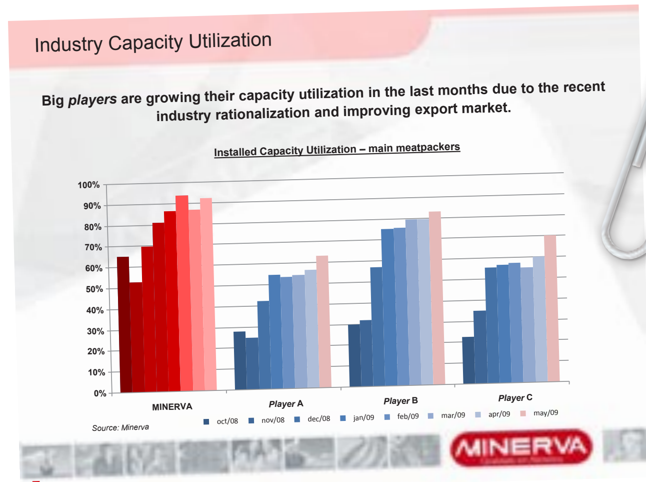
DATA SOURCES

Share of export market: PIERS South American Trade Database January-December 2008 - Bertin data includes export via LPC 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 RS48.1 milion (2008)

Source: Minerva (2009a)Independência exports of leather were worth R$164 million (2008). Source: Independência (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)



Source for graphic: Minerva (2009c)

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

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]

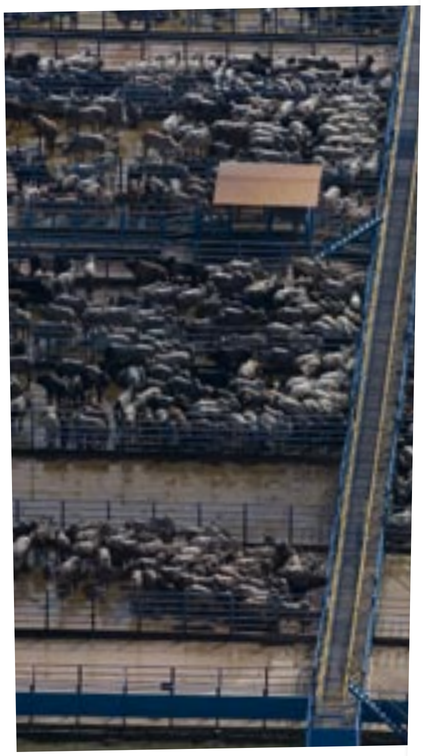
The notable winners are Bertin, JBS and Marfrig.[141] For these exporters, the current collapse represents a golden opportunity to gain market share.

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



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

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

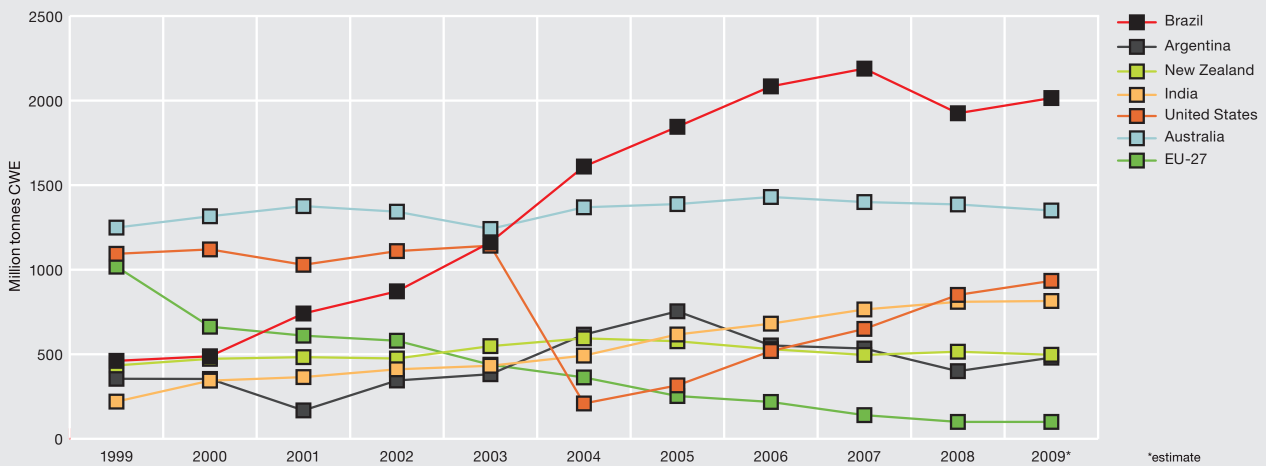
'JBS is dramatically growing: massive, multi-origin, global sales reach.'

Benedict (2008)

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

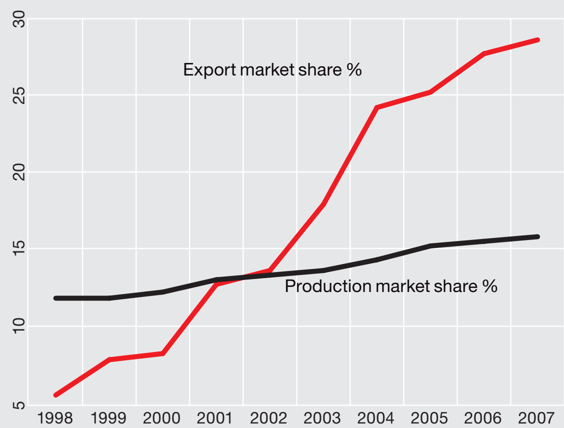
Presidência da República – Casa Civil 'Plan of action for the prevention and control of deforestation in the Legal Amazon' 2004

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 world[146] 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]

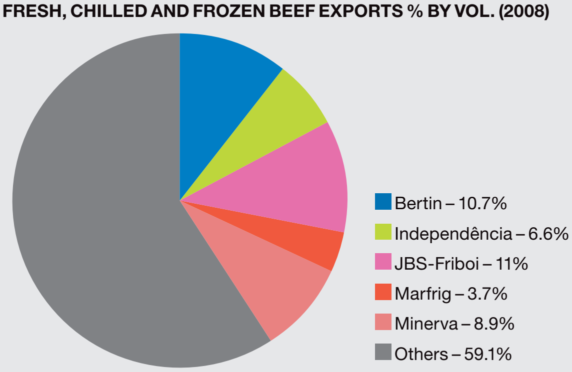
In 2008, nearly one in every three tonnes of beef traded internationally came out of Brazil.[151]

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]

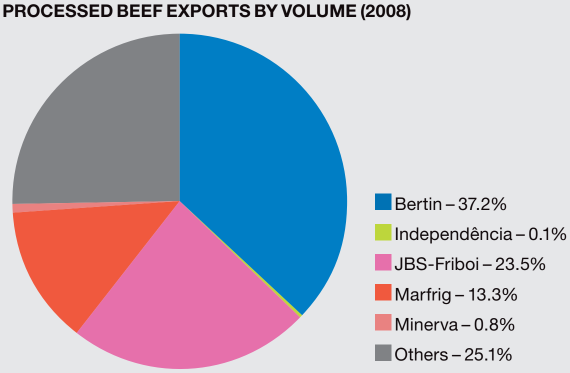
Brazil's Agriculture Ministry forecasts a doubling of Brazil's market share by 2018, with Brazil supplying almost two out of every three tonnes of beef traded internationally by this time.[153]

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

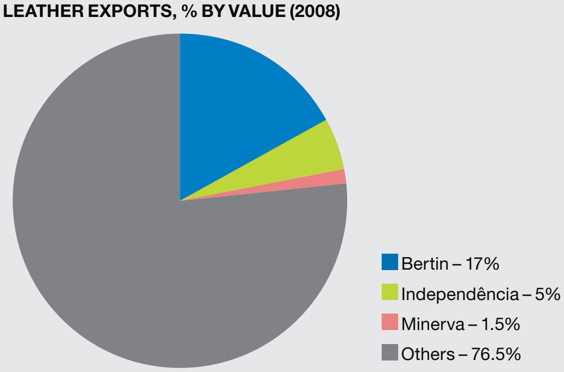
FRESH, CHILLED AND FROZEN BEEF EXPORTS % BY VOL. (2008)



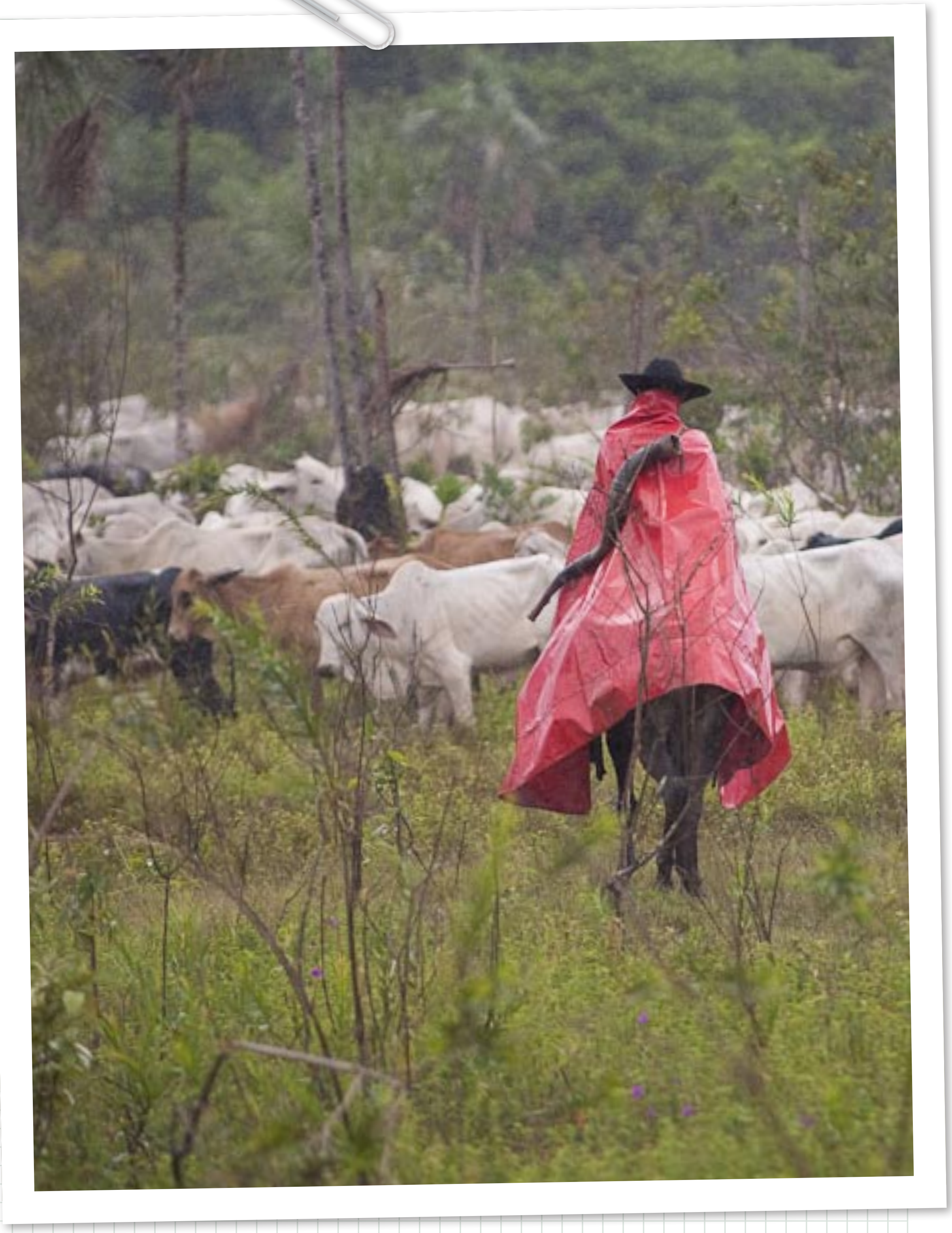
PROCESSED BEEF EXPORTS BY VOLUME (2008)



LEATHER EXPORTS, % BY VALUE (2008)



All three pie charts, source: PIERS 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.

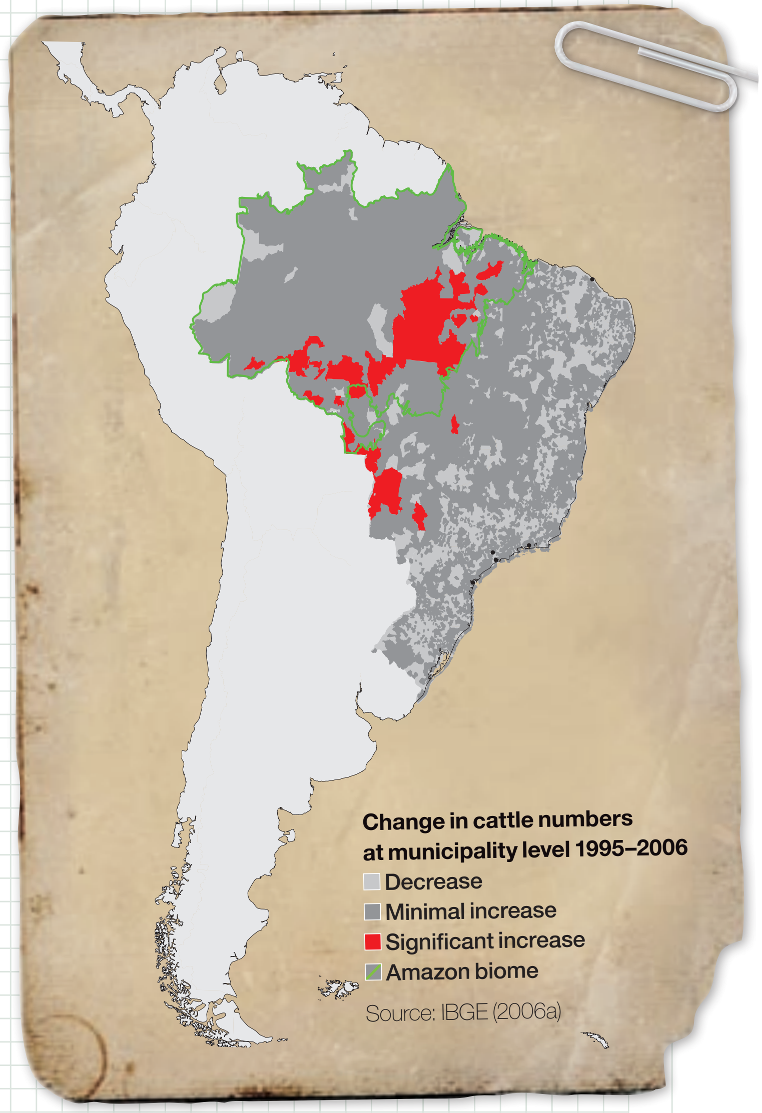
Mato Grosso has increased its cattle stock by 36% between 1995 and 2006.[157] The state had nearly 20 million head of cattle in 2006, meaning it holds the second largest cattle herd in the country – 11.5% of Brazil's total cattle herd – on just 2% of ranches.[158]

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 Grosso[165] 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.

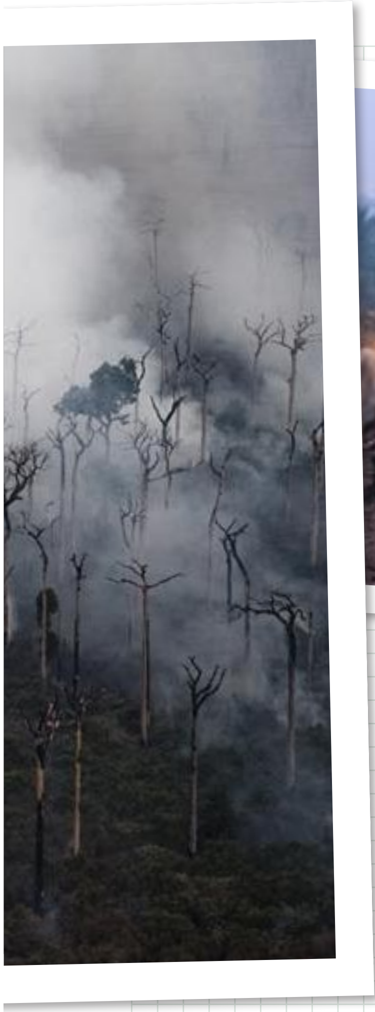
Since 2001, successive reports by the World Bank, the Brazilian government and Research institutes have concluded that cattle ranching occupies about 80% of all deforested land in the Amazon region.[172] 2008 analysis of Brazilian government satellite data by Greenpeace also finds that cattle have occupied 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 coordination[194] 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

'Between 1960 and 1970, modern slave labour was initiated in Brazil, in response to the expansion of modern agriculture in Amazonia. The labour force came from places with few job opportunities and limited access to land and financial services. Furthermore, large-scale agribusiness has generated heavy pressure on the region's natural resources, promoting accelerated deforestation processes and an increase in slave labour.'

UN report GeoAmazonia

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 bill[210] 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.

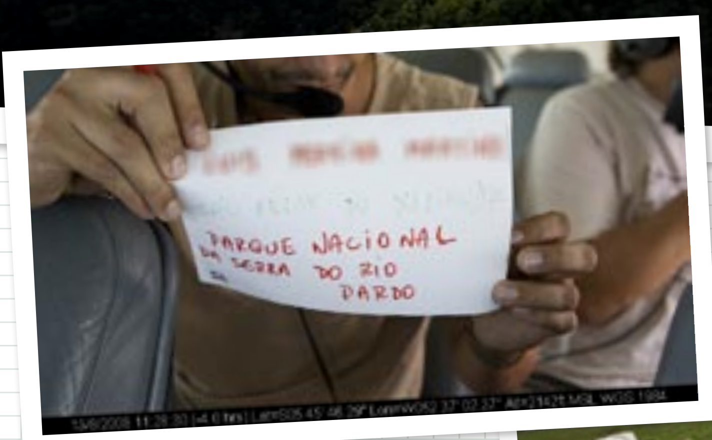
On the February 2009 'Dirty List', Pará is the state with the greatest dependence on forced labour, followed by Mato Grosso.

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]

SECTION TWO:

GREENPEACE EXPOSES THE BLIND CONSUMPTION OF THE PRODUCTS OF AMAZON CRIMES



METHODS

Since 2006, Greenpeace has been investigating market links to illegal deforestation for cattle ranches in the Amazon rainforest and has documented connections between cattle ranches, slaughterhouses, food processors, leather manufacturers, the cosmetics industry and high street retailers.

Where Greenpeace has been able to establish trade links to registered ranches, analysis of satellite data has allowed us to assess both the area of deforestation and the years in which deforestation has taken place within the boundaries of the ranch. Greenpeace made surveillance flights over critical areas and carried out on-the-ground investigations to confirm the satellite data analysis.

Greenpeace also obtained Brazilian government trade data, confidential company documents, company and government insider information, global trade data and classified government information from Brazil, China, Europe, Vietnam and the USA. Analysis of these sources has helped reveal the truth behind this complex global trade.

Greenpeace has engaged in a three-year investigation of the role the cattle industry plays in driving Amazon deforestation. The investigation reveals how the top exporters – propped up by BNDES and financial institutions such as the IFC – are driving deforestation in the heart of the Amazon.

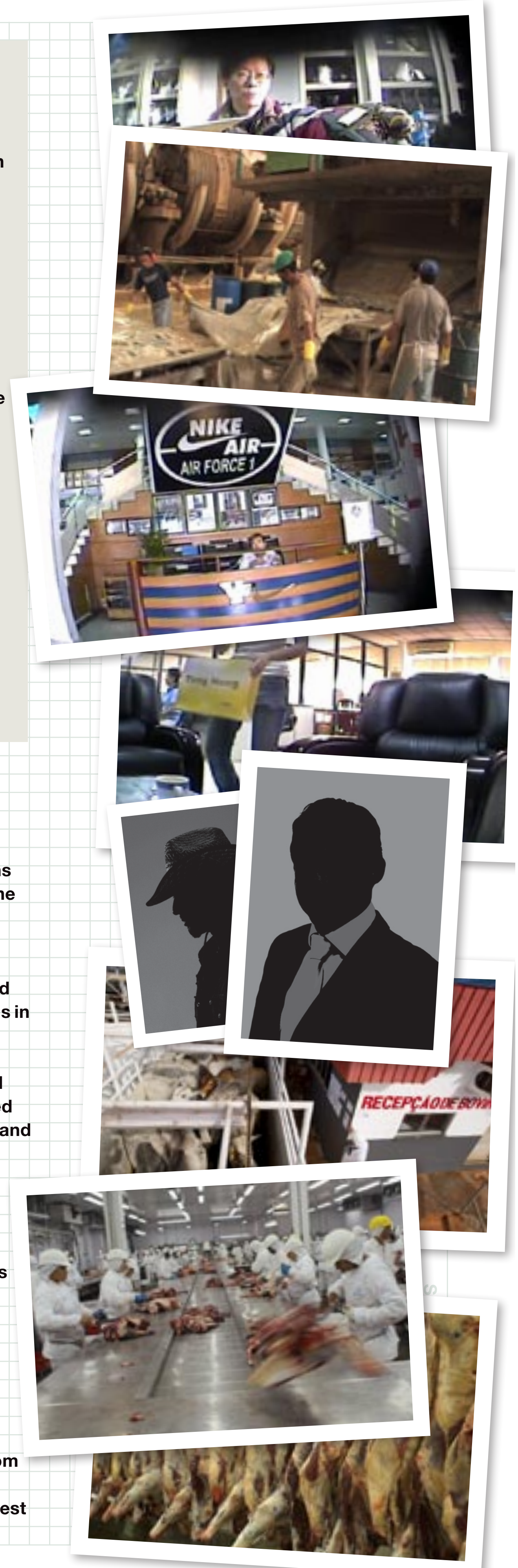
Supplied by ranchers breaking land tenure, labour and environmental laws, global beef and leather processors in turn supply global brands in food, fashion and footwear.

Less identifiably, they cater to the rising global market in private label products, the unbranded catering/food service industry, the cosmetics and hygiene sectors, biofuel and dog chews.

By their nature, fraudulent land titles or other illegalities are time and resource-intensive to prove at an individual case level. However, advances in satellite imagery and data analysis make it possible to identify deforestation conclusively.

In our investigation, Greenpeace has focused primarily on deforestation.

Greenpeace evidence shows that top beef exporters are regularly supplied with cattle from ranches that have cleared well above the legal deforestation limit. Ranches continue to deforest at the frontiers – areas with remaining forests.



THE TOUR DU MONDE

Greenpeace undercover investigations of the trade in cattle products from slaughterhouses in the Amazon region have taken us on a tour of the world to manufacturing hubs and suppliers to some of the world's leading Blue Chip corporations behind top global brands of food and leather goods.

China

China is the world's largest producer and exporter of shoes, producing nearly 60% of the world's total output in 2006.

Brazil

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

USA

Furniture and vehicle upholstery is the second-largest use of leather. Production of leather vehicle interiors is outsourced to leather processors such as US-based Eagle Ottawa.

Italy

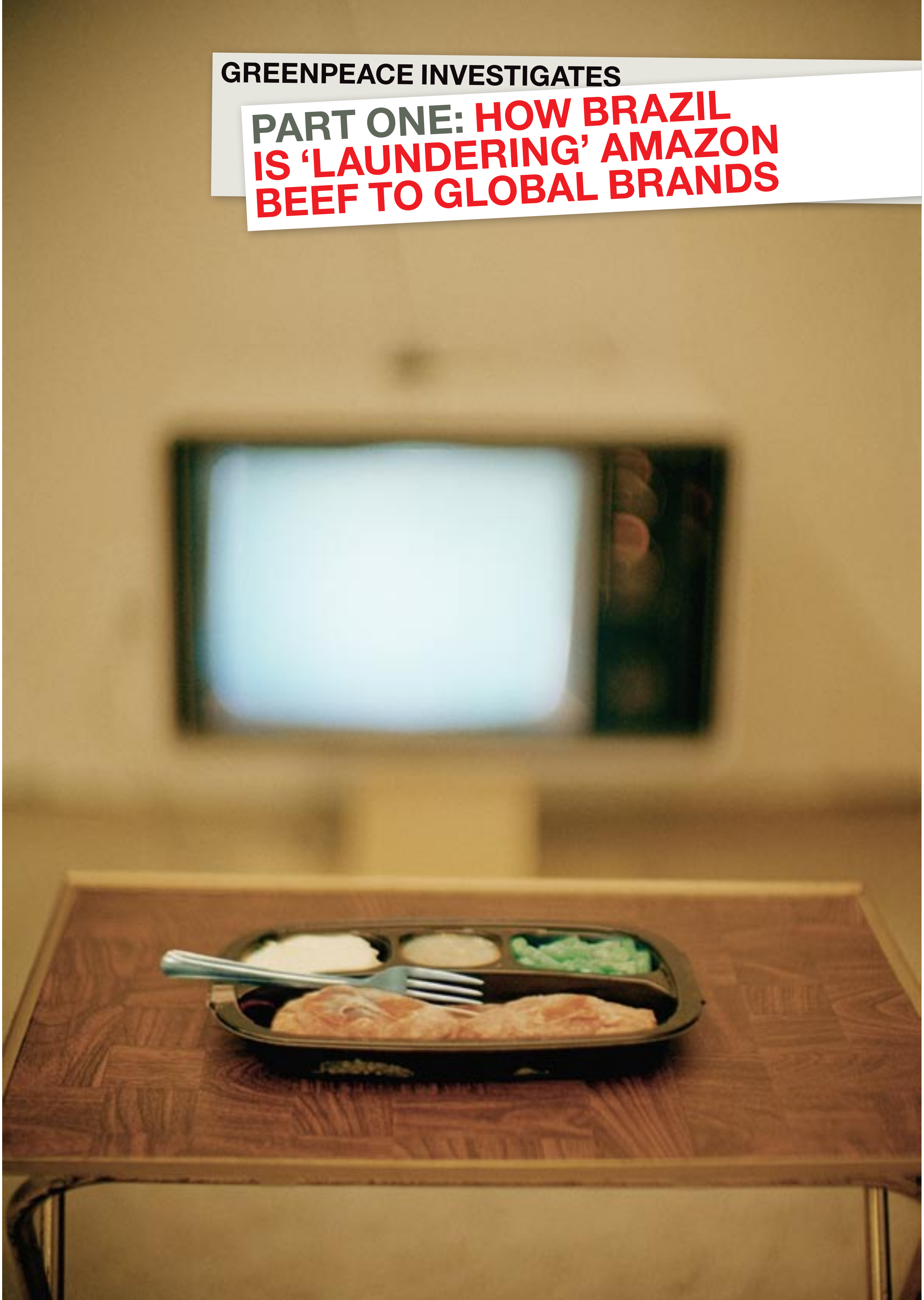
Handbag lines are the star of Italy's leather export industry, accounting for nearly two thirds of the trade value of Italian leather goods.

United Kingdom

The UK ready-meal market is 'the most advanced in Europe'. 'Sales of ready meals, both frozen and chilled, represent 7% of all main meal occasions in the UK.

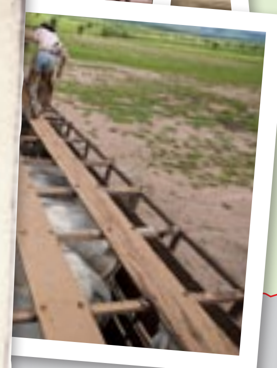
GREENPEACE INVESTIGATES

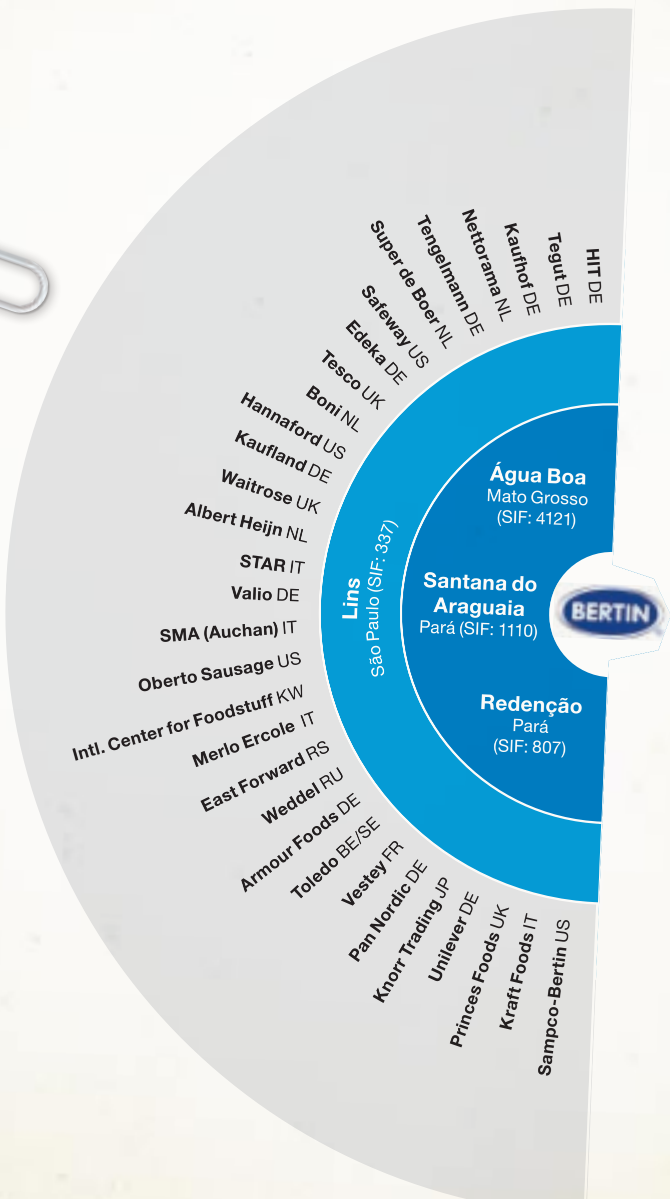
PART ONE: HOW BRAZIL IS ‘LAUNDERING’ AMAZON BEEF TO GLOBAL BRANDS

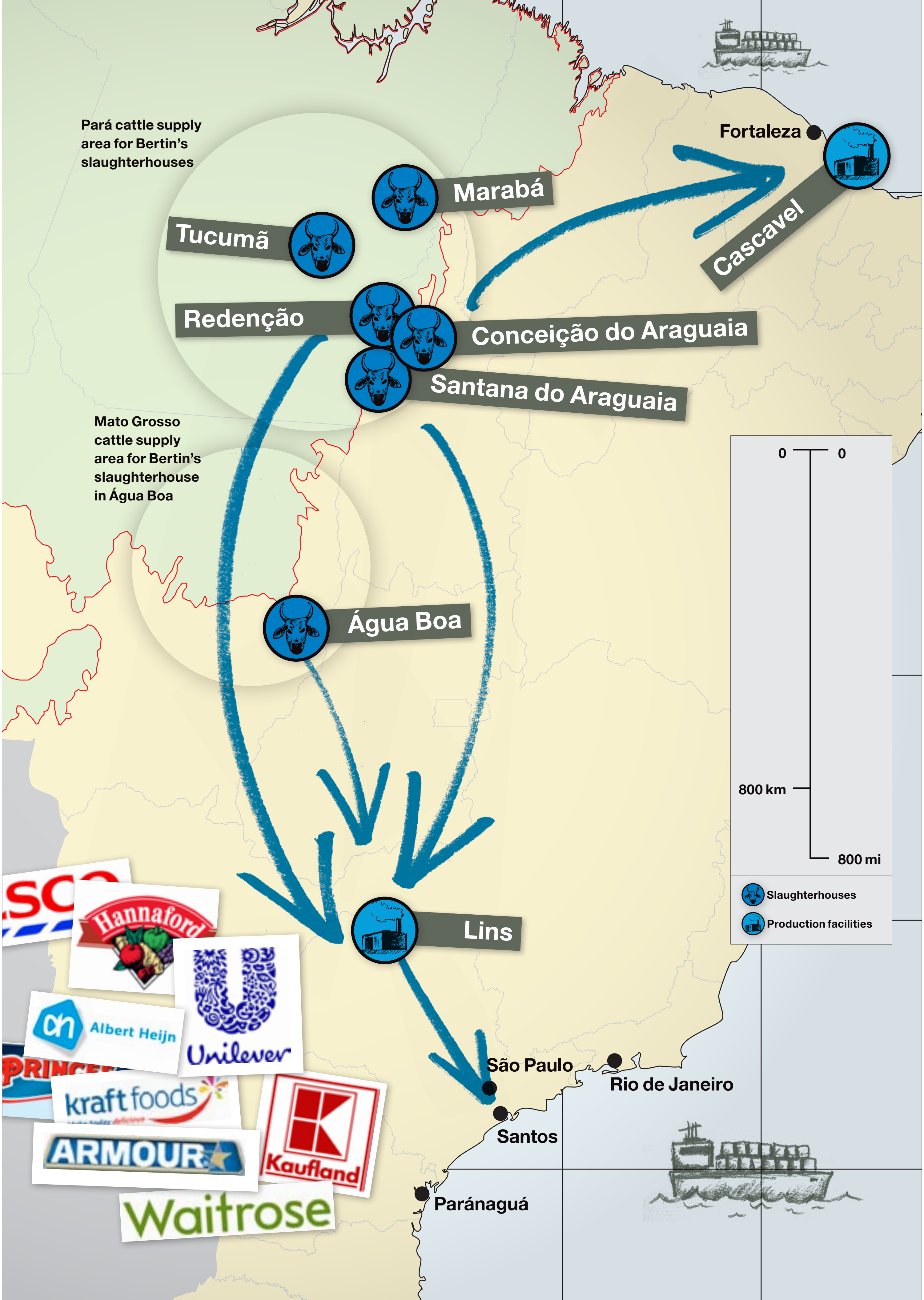


BERTIN LINKS CATTLE RANCHES IN THE AMAZON TO MEAT RETAILERS AROUND THE WORLD

Bertin's major export-orientated facility for beef products are in Lins (SP) (SIF: 337). Suppliers to these facilities include Bertin slaughterhouses in Rendenção (PA) (SIF: 807), Santana do Araguaia (PA) (SIF: 1110) and Água Boa (MT) (SIF: 4121).

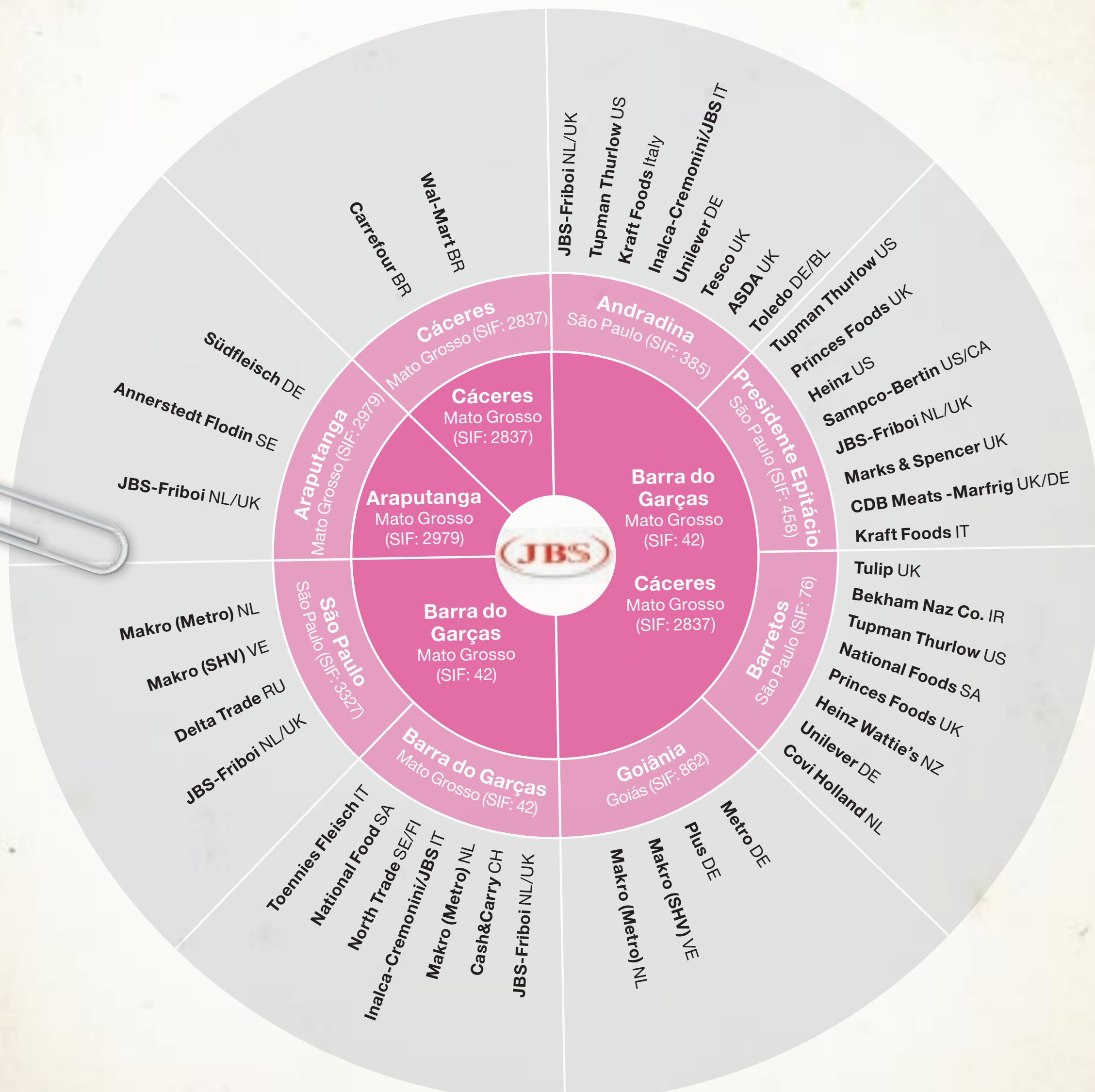


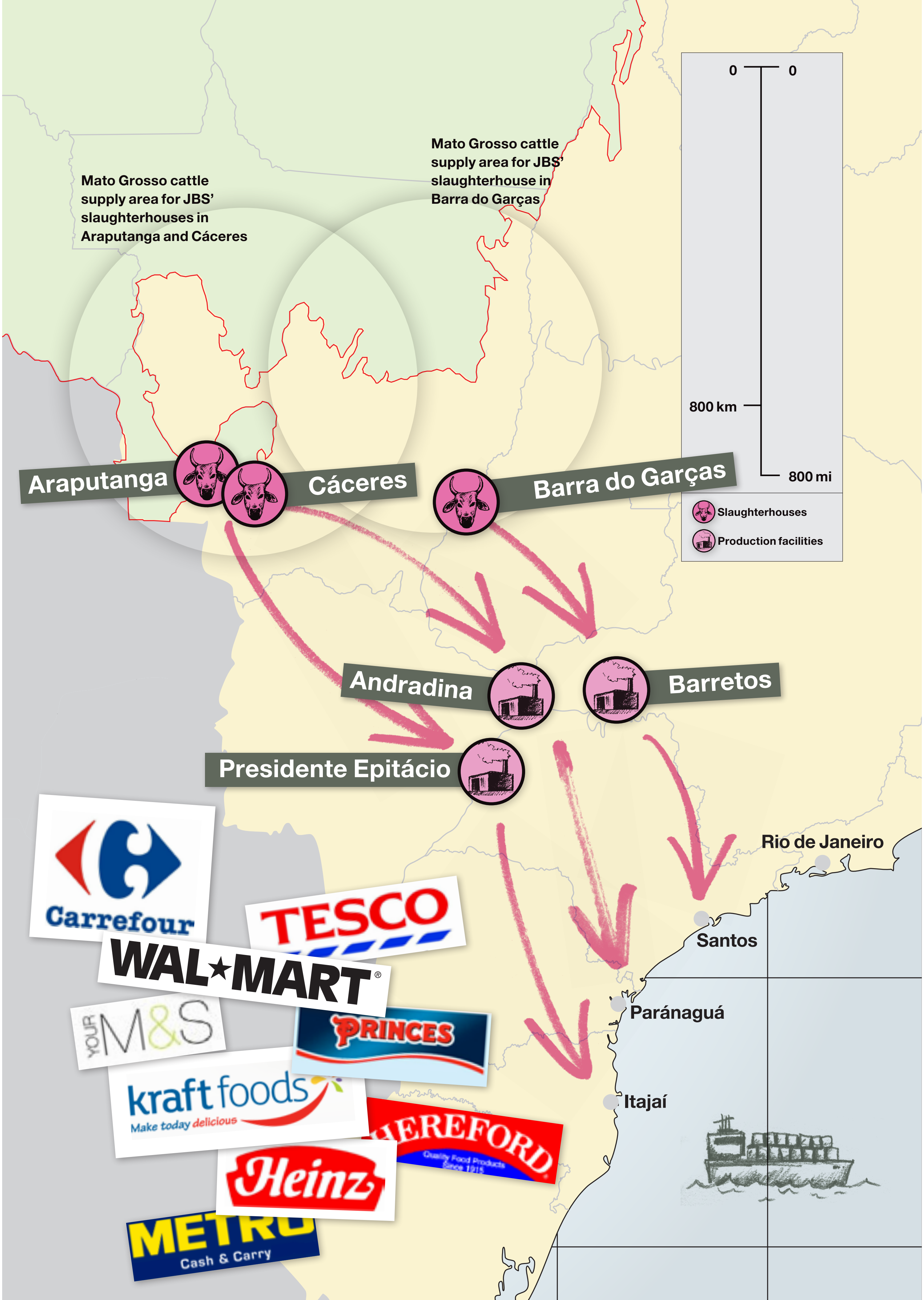



Pará cattle supply area for Bertin's slaughterhouses
Marabá
Tucumã
Redenção
Conceição do Araguaia
Santana do Araguaia
Fortaleza
Cascavel
Mato Grosso cattle supply area for Bertin's slaughterhouse in Água Boa
Água Boa
Lins
São Paulo
Rio de Janeiro
Santos
Paránaguá
0
0
800 km
800 mi
Slaughterhouses
Production facilities
Hannaford
Albert Heijn
Unilever
kraft foods
ARMOUR
Kaufland
Waitrose

JBS LINKS CATTLE RANCHES IN THE AMAZON TO MEAT RETAILERS AROUND THE WORLD

JBS has export-orientated meat processing plants in Andradina (SP) (SIF: 385), Barretos (SP) (SIF: 76), São Paulo (SP) (SIF: 3327) and Presidente Epitácio (SP) (SIF: 458). Suppliers to these units include JBS slaughterhouses in Barra do Garças (MT) (SIF: 42) and Cáceres (MT) (SIF: 2837). From the unit in Araputanga (MT) (SIF: 2979), JBS directly supplies the European market with Amazon beef.

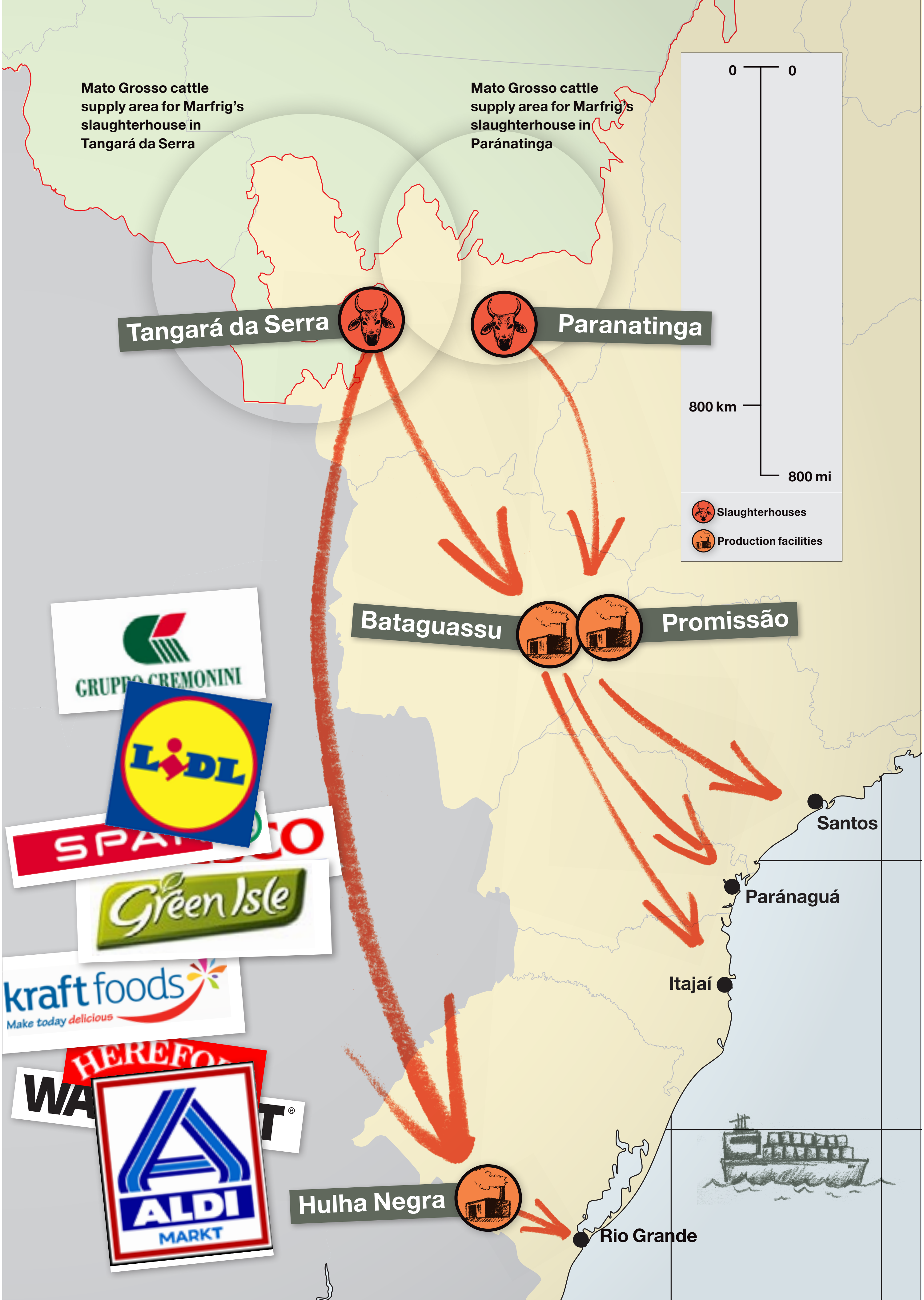




Mato Grosso cattle supply area for JBS' slaughterhouses in Araputanga and Cáceres
Mato Grosso cattle supply area for JBS' slaughterhouse in Barra do Garças
0
0
800 km
800 mi
Slaughterhouses
Production facilities
Araputanga
Cáceres
Barra do Garças
Andradina
Barretos
Presidente Epitácio
Rio de Janeiro
Santos
Paránaguá
Itajaí
Carrefour
TESCO
WAL★MART
YOUR M&S
PRINCES
kraft foods
Make today delicious
HEREFORD
Heinz
METRO
Cash & Carry

MARFRIG LINKS CATTLE RANCHES IN THE AMAZON TO MEAT RETAILERS AROUND THE WORLD

Marfrig's export-orientated processing plants are at Bataguassu (MS) (SIF: 4238) and Promissão (SP) (SIF: 2543) and the Pampeano processing plant at Hulha Negra (RS) (SIF: 226). Suppliers to these units include Marfrig's slaughterhouse in Tangará da Serra (MT) (SIF: 1751).


Mato Grosso cattle supply area for Marfrig's slaughterhouse in Tangará da Serra
Mato Grosso cattle supply area for Marfrig's slaughterhouse in Paránatinga
Tangará da Serra
Paranatinga
0
0
800 km
800 mi
Slaughterhouses
Production facilities
Bataguassu
Promissão
Santos
Paránaguá
Itajaí
Hulha Negra
Rio Grande

UK: 'EUROPEAN CAPITAL OF THE READY MEAL'

'Processed meat (cooked, cured, heat sterilised, canned…) constitutes the largest and most dynamic element of EU meat consumption. […] The products are convenient – most do not require cooking – they can be present at most meal occasions – and they appeal to both the older and the younger European consumer.'

Gira 'Strategies & opportunities for the next 10 years in EU processed meat markets' February 2008

'Processed meat sales account for some 40% of total EU meat sales. While raw meat retail sales are reaching stagnation in the EU, growth in processed foods is accelerating. This reflects the consumer drive towards convenience, often best delivered by meat-based, processed/ready-to-eat foods, whether purchased in retail for home consumption, or eaten out of home.'

Gira 'Strategies & opportunities for the next 10 years in EU processed meat markets' February 2008

TABLE 3: 2008 EXPORTS OF PROCESSED BOVINE MEAT PRODUCTS FROM BRAZIL, TOP DESTINATIONS BY VALUE

	tonnes	%	$1000	%
USA	51,179	26	279,846	33
United Kingdom	50,730	25	188,793	22
Italy	10,615	5	69,043	8
The Netherlands	14,518	7	65,609	8
Germany	5,356	3	28,746	3
Belgium	3,559	2	18,791	2
Others	64,337	33	202,504	25
Total	200,294	100	853,331	100

Source: Secretaria de Comércio Exterior (SECEX) (2009) covering HS code 16025000

The convenience food market and the food service industry are changing what we eat, where we eat and how we shop.

Across the EU, we are seeing growth in 'modern', often transnational processed meat products. The category of 'Ready meals and meal components' includes complete (meat and vegetable) ready meals; 'exotics' containing quantifiable meat content (eg pizzas and meat salads); and convenient meal components (eg industrial burgers).[217] All have been industrially prepared in some way.[218]

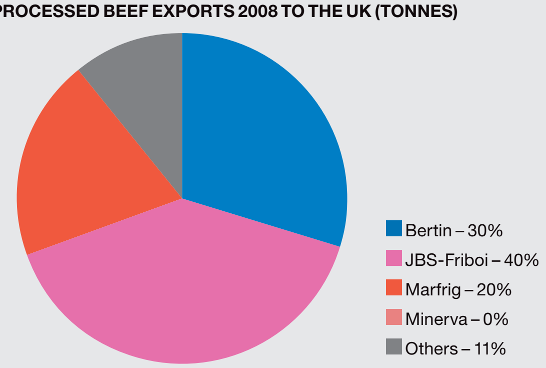
The European ready meals market, encompassing fresh, tinned, frozen and chilled foods, is one of the major growth sectors of the European food economy.[219] Growth is underpinned by the trend towards busier lifestyles and convenience.[220] The ready meals market in the largest EU countries - Germany, France, the UK, Italy and Spain - was worth €8.4 billion ($11.5 billion) in 2007. One analyst predicts a further 18% sales hike by 2011, by which point the market would be worth €9.9 billion ($13.6 billion).[221]

Trade data reveal the significance of Brazil as the country of origin for much of the beef used by this sector of the market.

In 2008, the EU imported over 100,000 tonnes of processed or corned beef from non-EU countries. Over 80% of this was imported from Brazil.[222]

Information on the UK market (what people are buying, where the beef comes from) is indicative. The UK imports 40% of its processed beef (prepared, cooked or tinned) from Brazil (but only 3% of fresh, chilled or frozen beef).[223] Nearly 90% of this processed beef comes from Bertin, JBS or Marfrig.[224]

PROCESSED BEEF EXPORTS 2008 TO THE UK (TONNES)



Source: PIERS South American Trade Database January-December 2008

A COUNTRY THAT HAS FORGOTTEN HOW TO COOK

'Sales of ready meals, both frozen and chilled, represent 7% of all main meal occasions in the UK. Totalling a forecast market value of £2.1 billion in 2008, these statistics go some way to explaining the reputation within Europe of the UK as a country that has forgotten how to cook and is now viewed as the European capital of the ready meal.'

Ian McGarrigle 'The Ready Meal Capital' Convenience Foods Autumn 2008

The UK ready meal market is 'the most advanced in Europe'.[225] According to Joanna Blythman, by 2004 UK consumers were spending £7,000 ($10,600) a minute on ready meals, three times more than any other country in Europe.[226]

According to Northern Foods Ready Meals business unit director Julian Slade, the market for convenience food has grown by 70% over ten years, creating a UK market worth almost £25 billion ($38 billion).[227]

HOME CONVENIENCE

Beef is the most frequently eaten red meat in the UK,[228] with two-thirds of it eaten in the home.[229] Consumers eat almost twice as much prepared beef as unprocessed fresh or frozen beef at home.[230] About one-third of prepared beef eaten at home is found in ready meals.[231]

Virtually all UK ready meal sales are private label (supermarket own brand).[232] Tesco holds more than a quarter of UK market share, with £396 million ($600 million) of sales in chilled ready meals.[233]

The leading manufacturing company in the UK market for ready meals in 2005 was Northern Foods. The second-largest player was Campbell Soup Company, with Unilever in third place.[234]

Northern Foods has units across the UK and Ireland specialising in chilled, bakery and frozen food production.[235]

More than three-quarters of Northern Foods' business is with five key retailers – Asda, Marks & Spencer, Morrisons, Sainsbury's and Tesco. It supplies these retailers with a wide range of own label and branded food.[236]

Northern Foods make around 140 million chilled ready meals every year. The biggest selling chilled ready meal in the UK is the single portion lasagne for M&S.[237]

Private label pies containing beef in Asda, Morrisons and Sainsbury's state that they were produced in Ireland. Labelling on Sainsbury's pies reveals that the beef is 'from Brazil or Ireland'.

Trade data[238] indicate that Marfrig (Bataguassu and Promissão units) ships to Green Isle Foods,[239] an Irish subsidiary of Northern Foods.

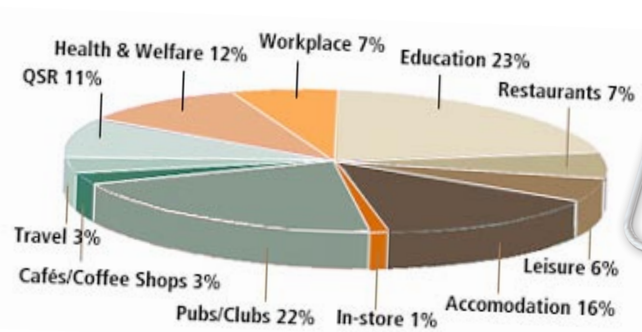
OUTSIDE THE HOME

Beef is an important part of the catering trade, a component of the pre-prepared meat and meat dishes in restaurants, pubs, sandwich bars, government or school canteens, healthcare establishments such as hospitals, catering service providers and takeaway food service outlets.

The UK eats out a lot. The predicted value of the UK catering industry for 2007 was £43.5 billion ($65.9 billion).[240]

According to Unilever, the catering industry in the UK serves over 10 billion meals per year, with one-fifth of all customers eating out at least once a week.[241] Catering for the public sector – education and healthcare – accounts for more than a third of catering industry meals.[242]

Marfrig's UK subsidiary CDB Meats is listed as a supplier to the UK National Health Service (NHS).[243]



Source: Unilever website

BRAZIL: EXPANSION OF GLOBAL BRANDS INTO EMERGING MARKETS'

Three global supermarket giants – Carrefour (France), Casino (France) and Wal-Mart (USA) – are leading expansion of the food retail sector in Brazil.

According to the Brazilian Supermarket Association (ABRAS), supermarket sales in Brazil were worth R$158.5 billion ($76.9 billion) in 2008.[249] Despite the economic downturn, supermarkets plan to invest R$3.877 billion ($1.9 billion) in expansion.[250]

Nearly 40% of the sector in Brazil[251] is controlled by Carrefour, Walmart and Cia Brasiliera de Distribuição (known as Grupo Pão de Açúcar)[252] – affiliated to the Casino group. Other foreign-owned groups in the supermarket sector in Brazil include the Dutch-owned Makro Group.[253]

Unilever is the biggest 'staples' player in developing and emerging markets including Brazil, Russia, India and China (globally, BRIC countries are leading expansion of resource consumption). [254]

According to Bertin, the global personal hygiene market is worth $269 billion, and Brazil has the third largest share in this market.[255]

While Unilever is thought of as a food company, nearly half of its sales are in home and personal care products[256] and these categories are seen as growth drivers within the group. It is a global leader in deodorants and skincare, the world's number two in hair care,[257] and 'sells more laundry washes than any other company in the world'.[258]

Unilever identifies the central role of home and personal care products in emerging markets, 'where we can build on leadership positions, for example in laundry, while bringing the very best of Unilever's brands and products to new customers'.[259]

Unilever, Colgate Palmolive and Johnson & Johnson are all listed as key consumers in Brazil of Bertin hygiene and beauty sector products.

In 2004, Bertin bought the Brazilian company OX, producer of cosmetics with cattle marrow in the composition. The OX brand is available across Brazil in 130 different personal care products.[260]

While the Blue Chip companies behind reputable global brands appear to believe that Amazon sources are excluded from their products,[261] Greenpeace investigations expose for the first time how their blind consumption of raw materials fuels deforestation and climate change.

BEAUTY AND THE BEEF

Tallow is rendered beef fat. This raw material is used for the production of biodiesel and other oleochemicals. A common application of oleochemicals is in the production of detergents. According to the European oleochemical industry, animal fats cover more than 50% of oleochemical raw material needs.[244]

Glycerol (commonly called glycerin or glycerine) is a by-product of biodiesel production. It is widely used in medical, pharmaceutical and personal care products. It is found in toothpaste, mouthwash, skin care products, shaving cream, hair care products and soap. It is also used as filler in commercially prepared foods (eg cookies), and in shortenings and margarine.[245]

Sodium tallowate is made from caustic soda or lye and tallow. It is usually combined with sodium cocoate, the sodium salt of coconut oil. Together with sodium palmate, sodium tallowate is one the main raw materials used in the manufacture of soap bars.[246]

Gelatin is a by-product of the meat and leather industry, derived mainly from cattle bones, connective tissues, organs and intestines, and hides. It is commonly used as a gelling agent in food such as 'gummy' confectionery and as a thickener in yogurt, cream cheese, jam or margarine. It is also used for clarification of juices such as apple juice.[247]

Gelatin is also used in the pharmaceutical and cosmetic industries. Cosmetics contain a non-gelling variant of gelatin called hydrolysed collagen, also known as HCP, purified gelatin or collagen hydrolysate.[248]

‘Consumer spending is growing faster in [developing and emerging] markets than in developed markets. Over the next ten years, around one billion new consumers will emerge with disposable incomes commensurate with developed world lifestyles and consumption patterns.’

Unilever Chief Financial Officer
Jim Lawrence, 2008

‘As concern spreads around the world about the global recession, Brazil continues to be held up as one of the few countries to offer the prospect of economic growth over the next few years.’

The Financial Times,
‘Betting on Brazil’, March 2009

THE 'LAUNDRY LIST':

GLOBAL BRANDS ARE SILENT PARTNERS TO CRIME

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

BRANDS

HEREFORD (JBS/ MARFRIG)

Tupman Thurlow, a 100% JBS subsidiary,[263] has been a major US food importer since 1915, with links to the wholesale and retail grocery trade in the USA and internationally. Its principle brand is 'Hereford' canned meats – the number one selling brand of 'roast beef with gravy' in the world, and also one of the major brands of corned beef.[264]

JBS is a supplier to Tupman Thurlow. Export data indicate that in 2008, JBS supplied Tupman Thurlow beef from its Andradina (SP), Barretos (SP) and Presidente Epitácio (SP) processing facilities.[265]

Marfrig is a supplier to Tupman Thurlow. Export data indicate that in February 2008 and between May and December 2008 Marfrig supplied Tupman Thurlow beef from its Pampeano (RS) processing facility.[266]

KNORR (BERTIN)

With annual sales of over €3 billion ($4.1 billion), Knorr is Unilever's biggest-selling brand.[267] Described as the 'beating heart' of the Knorr brand,[268] Unilever's Heilbronn factory in Germany produces soups and soup stocks,[269] some of which use beef extract as a key ingredient.[270]

Unilever's German top-seller meat snack Bi-Fi contains beef,[271] while Knorr Lasagne Verdi Alfredo is advertised as using Brazilian beef.[272]

Brazilian export data list Unilever as one of Bertin's larger customers of processed beef products and beef extracts; exports in 2008 amounted to over R$36 million ($17.5 million).[273] Processed beef products were mainly exported to Germany and The Netherlands, while over 70% of beef extracts went to Unilever in Germany.[274]

'In Brazil we deal only with JBS S.A. and Bertin S.A. for the s
canned beef products. They guarantee that all of the meat u
established (in excess of 30 years) ranch areas and not from
rain forest regions. Neither of our suppliers is involved in def
ambient pouch and canned beef products are from long-es

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.

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers on branded or own-label processed or corned beef products in the EU and USA regularly link to Bertin, JBS and Marfrig processing units.[262]

KRAFT FOODS ITALY (BERTIN/ MARFRIG)

Kraft Foods Italy owns Italy's most popular tinned beef brand 'Simmenthal'.[275]

Bertin lists Kraft Foods Italy as a major client in the food sector.[276] Export data indicate that between January and September 2008, Bertin shipped Kraft beef from its Lins (SP) and Água Boa (MT) processing facilities.

JBS is a supplier to Kraft Foods Italy. Export data indicate that between January and July 2008 JBS supplied Kraft Foods Italy beef from its Andradina (SP) and Presidente Epitácio (SP) processing facilities.[277]

Marfrig is a supplier to Kraft Foods Italy. Export data indicate that between January and May 2008 Marfrig supplied Kraft Foods Italy beef from its Bataguassu (MS) processing facility.[278] Between May and August 2008, Marfrig shipped Kraft Foods Italy beef from its Promissão (SP) processing facility.[279]

PRINCES (BERTIN/ JBS)

Princes, owned by Japan's Mitsubishi Corporation, is a major supplier to UK and European grocery markets and has an annual turnover of £950 million ($1.43 billion).[280] The company was the UK's third largest canned food supplier in 2007.[281]

Bertin lists Princes as a major client in the food sector.[282] Export data indicate that between January and December 2008, Bertin supplied Princes with beef from its Lins (SP) processing facilities. Over 11,000 tonnes was shipped from this facility to the UK.[283] Shipments also went to The Netherlands, Portugal and Germany.[284]

JBS is a supplier to Princes. Export data indicate that between January and December 2008, JBS supplied Princes with beef from its Andradina (SP), Barretos (SP) and Presidente Epitácio (SP) processing facilities. Nearly 8,000 tonnes was shipped from these facilities to the UK.[285] Shipments also went to the Netherlands.[286]

upply of our ambient pouch and ised in our products is from long- livestock reared on cleared equatorial forestation and all supplies of our tablished ranching areas.'

Princes, a major customer of JBS and Bertin in a letter to Greenpeace, 6 May 2009

SUPERMARKETS

CARREFOUR (BERTIN/JBS/MARFRIG)

French-based Carrefour was Europe's largest grocery retailer in 2008.[287] With a presence in 33 countries, over 56% of group turnover derives from outside France.[288] The group sees strong potential for further international growth in the future, in countries including Brazil.[289]

Carrefour is the largest retailer in Brazil, with 476 stores across the country.[290]

Government trade data[291] indicate that JBS supplied Carrefour in Brazil with deboned beef in 2007 and the first half of 2008 from its slaughterhouses in Barra do Garças (MT) and Cáceres (MT).

Government trade data[292] indicate that Marfrig supplied Carrefour Brazil in the same period with deboned beef from its unit in Tangará da Serra (MT).

Bertin lists Carrefour as a client in the hygiene and beauty sector.[293]

CASINO (BERTIN)

The French-owned Casino Group is one of the world's leading food retailers, with 10,000 stores worldwide.[294]

Casino is focusing its growth strategy on emerging countries with high growth potential, primarily in South America and Southeast Asia, regions where its subsidiary brands are sector leaders.[295]

Brazil is a flagship market for Casino, which has been present in the country since 1999 through its acquisition of Companhia Brasileira de Distribuição (CBD).[296] The group now has 595 stores in Brazil,[297] through CBD, Pão de Açucar, CompreBem/Sendas, Assaï and Extra Eletro.[298]

CBD is Brazil's second largest supermarket,[299] targeting the discount end of the market.[300] With 'a policy of steady, targeted expansion', CBD is currently seeing strong growth in revenue (up 21% in 2008) driven by increasing sales of both food and non-food products.[301]

In April 2009, CBD shareholders approved the issue to Casino of 2.2 million new shares of preferred stock for a total value of R$71 million ($34.5 million). The issue will increase Casino's stake in CBD to more than 35%.[302]

Other supermarkets in the Casino Group of companies include Pão de Açucar, a chain targeting the high-quality end of the market,[303] and Assaï, a cash-and-carry bulk retailer acquired by Casino in 2007.[304]

Bertin lists CBD as a major client in the food sector.[305]

LIDL (MARFRIG)

LIDL is the leading discount grocer retailer in Europe[306] trading in more than 22 countries and operating in excess of 8,000 stores.[307]

Confidential industry intelligence shows that Marfrig-owned CDB Meats has a contract to supply the LIDL group.[308]

CDB Meats is an importer of corned beef, stewed steak and beef curry found at LIDL in the UK.[309]

Export data indicate that between January and December 2008, Marfrig supplied CDB in the UK with beef from its Pampeano (RS) processing facility. It supplied beef from the same facility to CDB in Germany between May and July 2008.[310]

MAKRO (JBS/MARFRIG)

Owned by the Dutch holding company SHV,[311] Makro has 65 stores in Brazil.[312]

Government trade data[313] indicate that in 2007 and the first half of 2008, Makro Brazil bought significant amounts of deboned beef from JBS units Barra do Garças (MT) and Cáceres (MT) and Marfrig's slaughterhouse in Tangará da Serra (MT).

METRO (MARFRIG)

In Germany, Metro Cash & Carry is the largest trade and retail group.[314] Internationally it operates under the brand names Metro and Makro, though South American Makro operations still belong to Dutch holding company SHV.[315]

Export data indicate that Marfrig sold processed beef to Metro in Germany between February and March 2008 and sold processed beef to Metro in Belgium in March 2008. This was exported from Marfrig's Pampeano (RS) processing facility.[316]

TESCO (BERTIN/ MARFRIG)

Tesco is a UK-based international retail chain. It is the largest UK retailer with profits of £2.8 billion ($4.24 billion) in 2008[317] and over 30% of the UK grocery market.[318] In 2008, Tesco was Europe's second largest retailer and the world's fourth largest retailer.[319]

Marfrig-owned CDB Meats is an importer of tinned corned beef found at Tesco in the UK.[320]

Export data indicate that between January and December 2008, Marfrig supplied CDB in the UK with beef from its Pampeano (RS) processing facility. It supplied beef from the same facility to CDB in Germany between May and July 2008.[321]

Bertin is a supplier to Tesco. Bertin supplied Tesco with beef from its Lins (SP) processing facility.[322]

WAL-MART (BERTIN/ JBS/ MARFRIG)

US-based Wal-Mart runs chains of large retail stores. It is the world's largest public corporation according to the 2008 Fortune Global 500, based on 2008 revenue of $378 billion.[323]

Wal-Mart is the third largest retailer in Brazil.[324] As of the end of March 2008, the company operated 344 stores.[325] Wal-Mart Brazil announced plans to open 80 to 90 new stores in 2009.[326]

JBS is a supplier to Wal-Mart. In Brazil, Wal-Mart is supplied by JBS' Cáceres & JBS Andradina (MT) slaughterhouse.[327] In the UK, Asda (part of the Wal-Mart group) has received beef from JBS' Andradina (SP) processing facility under the Fray Bentos corned beef brand marketed by Premier Foods.[328]

Wal-Mart Brazil exports corned beef to Mexico, Puerto Rico, Canada, Argentina, the UK, El Salvador, Costa Rica and Guatemala.[329]

Marfrig is a supplier to Wal-Mart. Export data indicate that in January, February and October 2008 Marfrig supplied Wal-Mart in the USA with tinned beef from its Pampeano (RS) processing facility.[330]

Bertin lists Wal-Mart as a major client in the dairy sector.[331]

HYGIENE AND BEAUTY

Unilever

UNILEVER (BERTIN)

Unilever is one of the world's largest food processing giants, selling household, food and cosmetics brands in nearly every country.

Bertin lists Unilever as a major client in the hygiene and beauty sector.[332]

'And the good news is that increasing disposable income leads to disproportionate growth in per capita consumption for Unilever products.'

Unilever Chief Financial Officer Jim Lawrence, 2008

COLGATE-PALMOLIVE COMPANY

COLGATE PALMOLIVE (BERTIN)

Colgate Palmolive is a leading consumer products company specialising in oral, personal and home care and pet nutrition.[333]

Bertin lists Colgate Palmolive as a major client in the hygiene and beauty sector.[334]

Johnson & Johnson

JOHNSON & JOHNSON (BERTIN)

Johnson & Johnson is the world's premier consumer health company, the world's largest medical devices and diagnostics company, the world's fourth-largest 'biologics' company and the world's seventh-largest pharmaceuticals company.[335]

Bertin lists Johnson & Johnson as a major client in the hygiene and beauty sector.[336]

CATERING/FOOD SERVICE

GRUPPO CREMONINI INALCA MARR MONTANA

CREMONINI/ INALCA /MARR/ MONTANA (BERTIN/JBS/MARFRIG)

Cremonini is exclusive supplier to the Italian railway (Trenitalia, EuroStar Group, Cisalpino AG) and also supplies the French railway companies SNCF and Thalys International.[338] The group is the second largest Italian motorway caterer, through its 'ChefExpress' service stations.[339] It owns the restaurant chain 'Road House Grill'.[340]

JBS has a 50% stake in the beef production and beef by-products division of Gruppo Cremonini (Inalca SpA and Montana Alimentari SpA).[341] Montana produces Italy's second largest selling brand of tinned beef.[342].

Inalca produces 260,000 tonnes of beef per year, of which 50,000 tonnes is ground beef for hamburgers.[343]

Export data indicate that from January to December 2008, JBS supplied frozen and processed beef to Inalca in Italy from its Andradina (SP) and Presidente Epitácio (SP) units,[344] while Marfrig supplied processed beef from its Promissão (SP) unit.[345] Bertin supplied frozen beef to Inalca in Algeria from its units in Lins (SP) and others.[346]

Marr is the catering division of Cremonini.[347]

In the first 11 months of 2008, JBS supplied frozen beef to Marr in Russia, mainly from Andradina (SP), and Bertin supplied beef from Lins (SP).[348]

Marr Russia key customers include hotels such as Marriot, Ritz-Carlton Moscow and Hyatt.[349]

FAST FOOD

BURGER KING (BERTIN)

Bertin lists Burger King in the USA as a major client.[337]

OAKFIELD FOODS (MARFRIG)

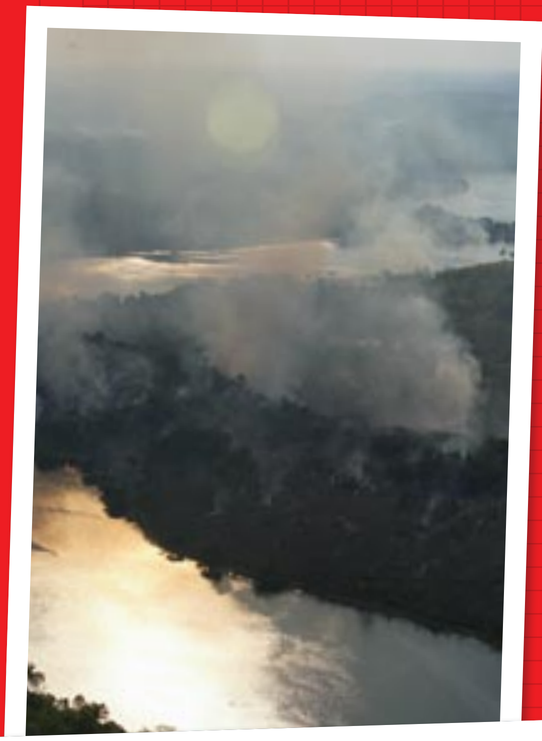
Oakfield Foods is a meat importer and processor in the UK. It supplies major UK manufacturing companies in the ready meal, bakery, cooked meats, canning, food service and catering sectors.[350]

Export data indicate that Marfrig sold Oakfield Foods beef from its Promissão (SP) processing facility between June and December 2008. It also sold Oakfield Foods beef from its Bataguassu (MS) processing facility between January and May 2008 and in October 2008.[351]

US ARMY (BERTIN)

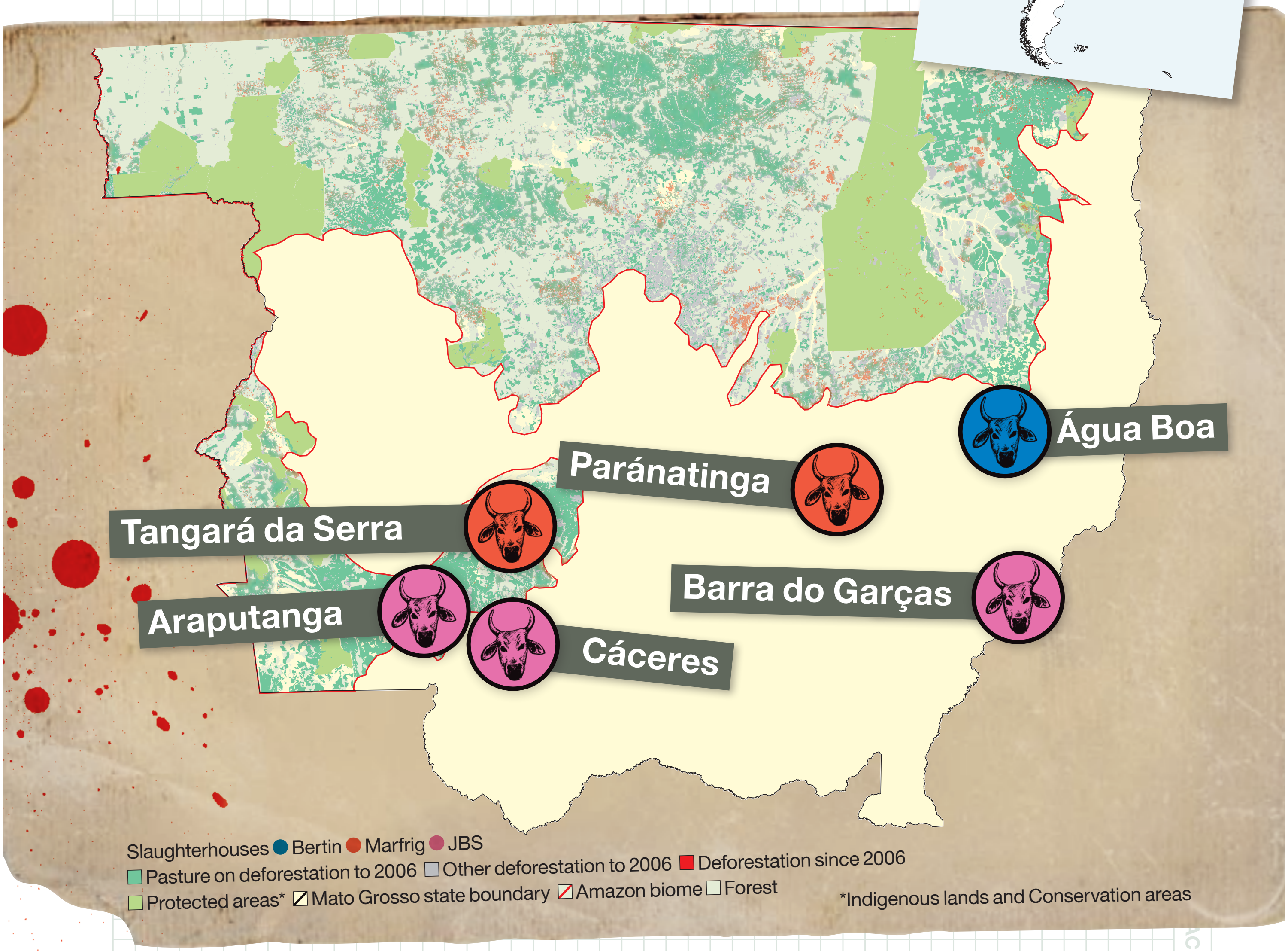
The International Center group, based in Kuwait, is a major trader of foodstuff in Kuwait and to neighbouring Iraq. It claims to supply the British, Dutch, Italian, Spanish and US military forces.[352]

The International Center group bought several hundred tonnes of processed beef products from Bertin in Lins (SP) throughout 2008.[353]



THE FRONTIERS OF AMAZON DESTRUCTION:

MAPPING THE CRIME SCENE



THE CATTLE FRONTIER AND CRITICAL DEFORESTATION

In 2007, just 36 municipalities[354] representing 18%[355] of the area of the Amazon rainforest biome accounted for 42% of annual deforested area.[356] Of the 36 municipalities, 19 are located in Mato Grosso and 12 in Pará.[357]

Given this high level of deforestation and the general disarray of land titling in the Amazon region, in January 2008 the Ministry of Environment banned authorities from granting permits for deforestation to unregistered ranches within these 'embargoed' municipalities.[358] Despite this intervention, embargoed municipalities have seen little if any fall in the rate of deforestation.[359]

Government trade data[360] indicate that those municipalities embargoed in 2008 are significant supply areas to the slaughterhouses of the three major beef exporters:

- Bertin's slaughterhouse in Água Boa (MT) is supplied with cattle from ranches in the embargoed municipalities of Confresa, Gaúcha do Norte, Querência, São Félix do Araguaia and Vila Rica.
- Bertin's slaughterhouse in Marabá (PA) is supplied with cattle from ranches in the embargoed municipalities of Altamira and Novo Repartimento.
- Bertin's slaughterhouse in Tucumã (PA) is supplied with cattle from ranches in the embargoed municipality of São Félix do Xingu.
- JBS' slaughterhouse in Barra do Garças (MT) is supplied with cattle from ranches in the embargoed municipalities of Confresa, Querência, São Félix do Araguaia and Vila Rica.
- JBS' slaughterhouse in Cáceres (MT) is supplied with cattle from ranches in the embargoed municipalities of Brasnorte and Juína.
- Marfrig's slaughterhouse in Paránatinga (MT) is supplied with cattle from Gaúcha do Norte, Querência, Nova Ubiratã, São Félix do Araguaia and Vila Rica.
- Marfrig's slaughterhouse in Tangará da Serra (MT) is supplied with cattle from ranches in the embargoed municipalities of Aripuanã, Brasnorte, Cotriguaçu, Juína, Juara, Marcelândia, Nova Maringá, Nova Ubiratã and Porto dos Gaúchos.

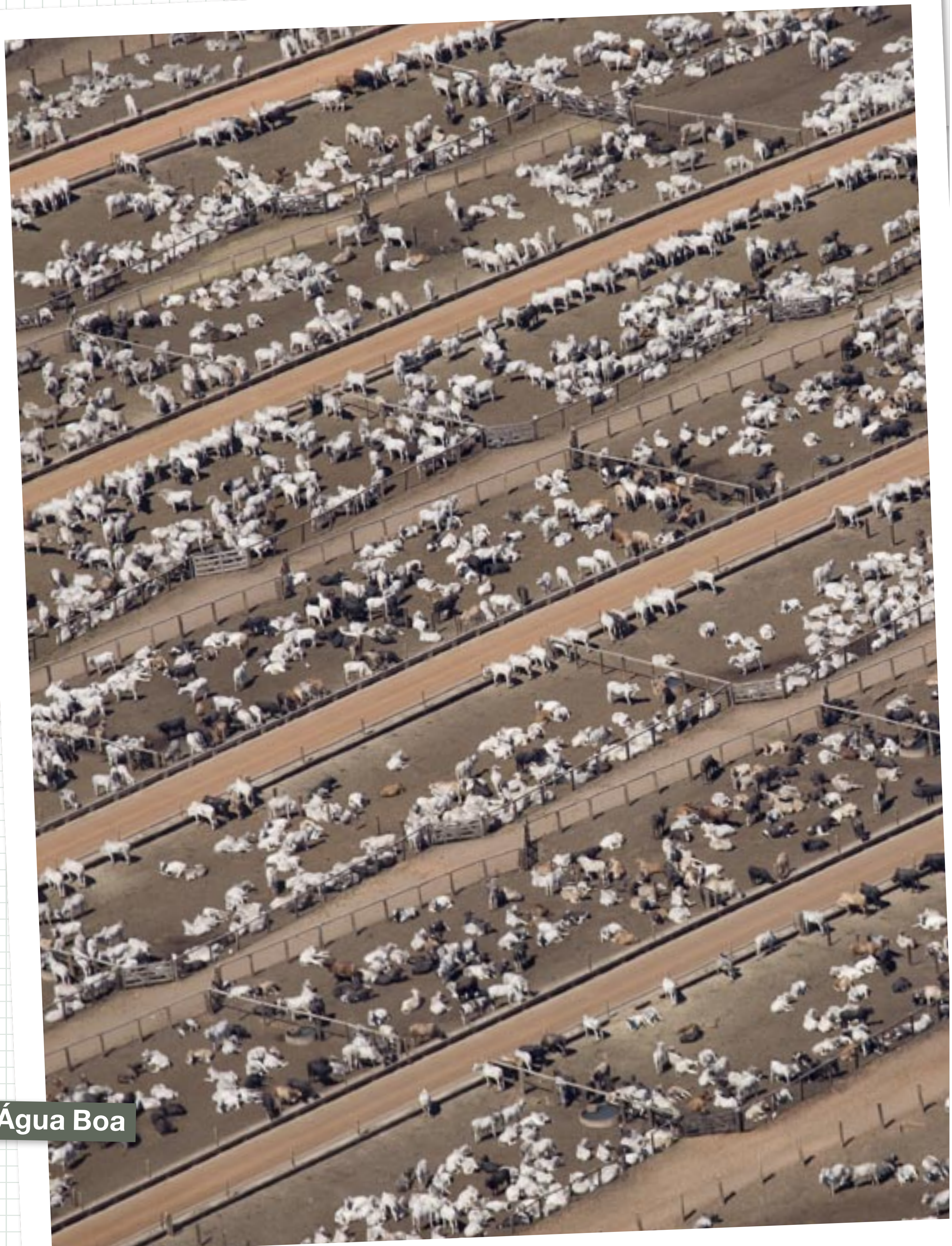
In February 2009, the Minister of Environment Carlos Minc revealed that, despite the 'embargo', 14 of these municipalities had seen no decrease in rates of deforestation in 2008.[361] Greenpeace analysis of satellite data and figures provided by the National Institute of Space Research (INPE) shows that twelve of these areas are in Mato Grosso and two in Pará.[362]

Despite a small reduction in its deforestation rate, São Félix do Xingu (PA), the main supply municipality to Bertin's Tucumã facility, remained the municipality with the largest area of deforestation in 2008: some 76,300 hectares.[363]

According to a March 2009 Ministry of Environment decree,[364] seven additional municipalities will be added to the embargo because of their deforestation rates.[365] Of these, five are in Pará and one in Mato Grosso. This new list includes municipalities with ranches that are major suppliers to Bertin's Marabá slaughterhouse.

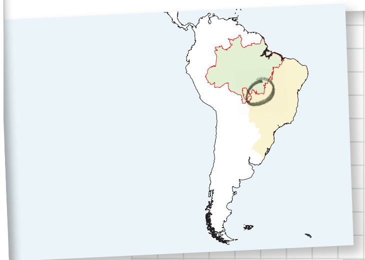
Government trade data indicate that those municipalities embargoed in 2009 are significant supply areas to a major beef exporter:[366]

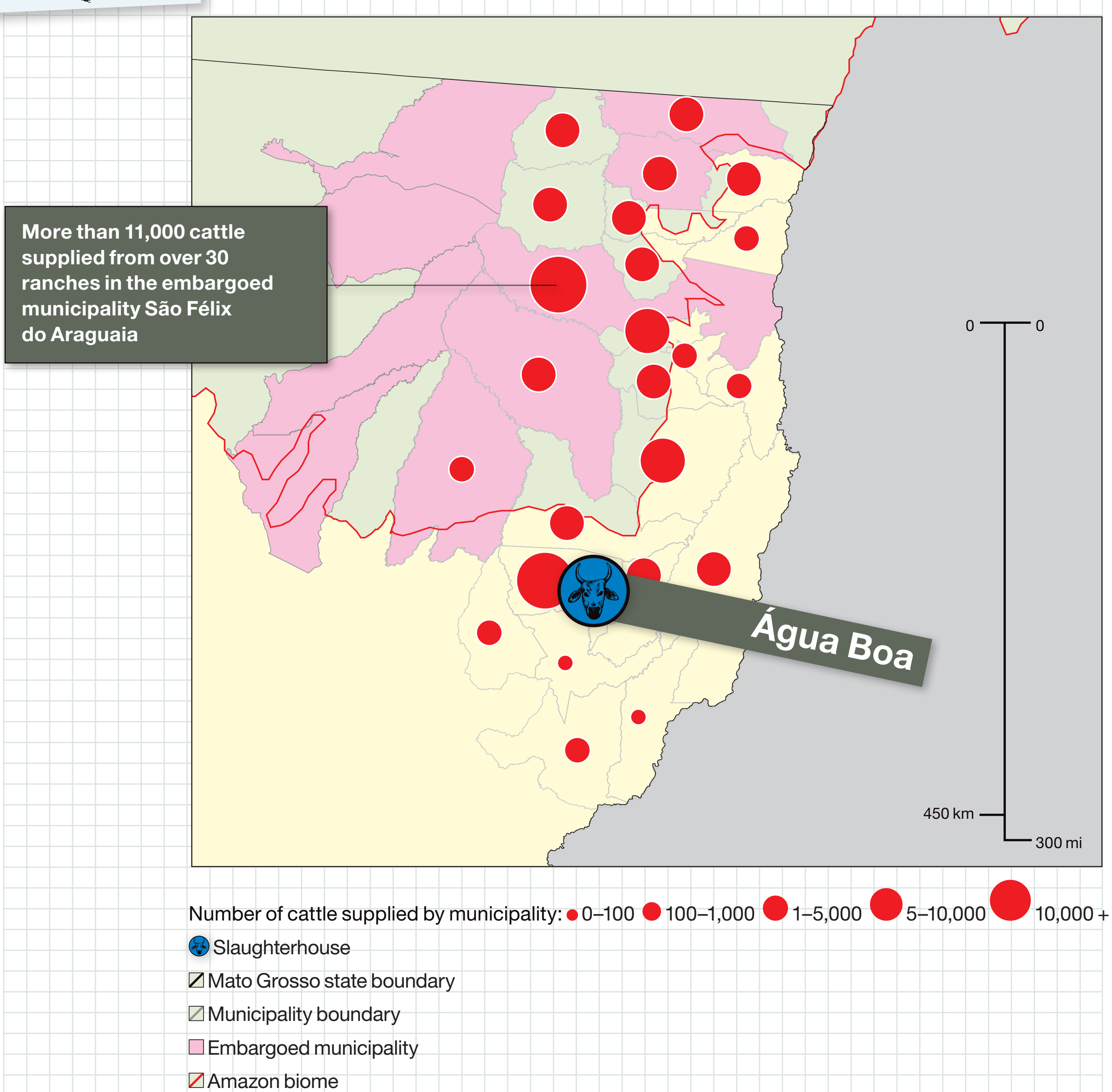
- Bertin's slaughterhouse in Marabá (PA) is supplied with cattle from ranches in the embargoed municipalities of Itupiranga, Marabá and Pacajá.



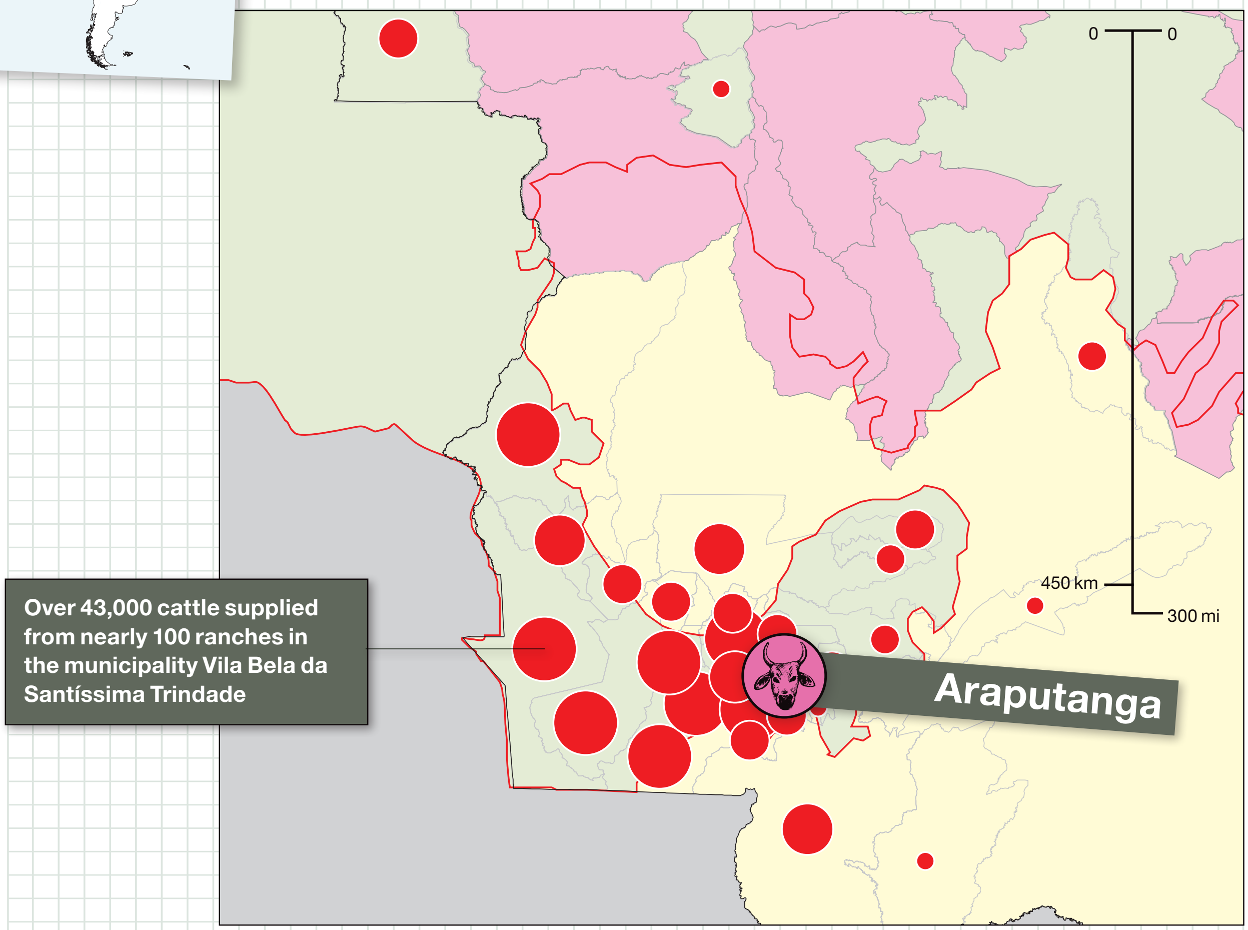
Água Boa

CATTLE SUPPLY AREA IN MATO GROSSO





CATTLE SUPPLY AREAS IN MATO GROSSO



Number of cattle supplied by municipality: 0–100 100–1,000 1–5,000 5–10,000 10,000 +

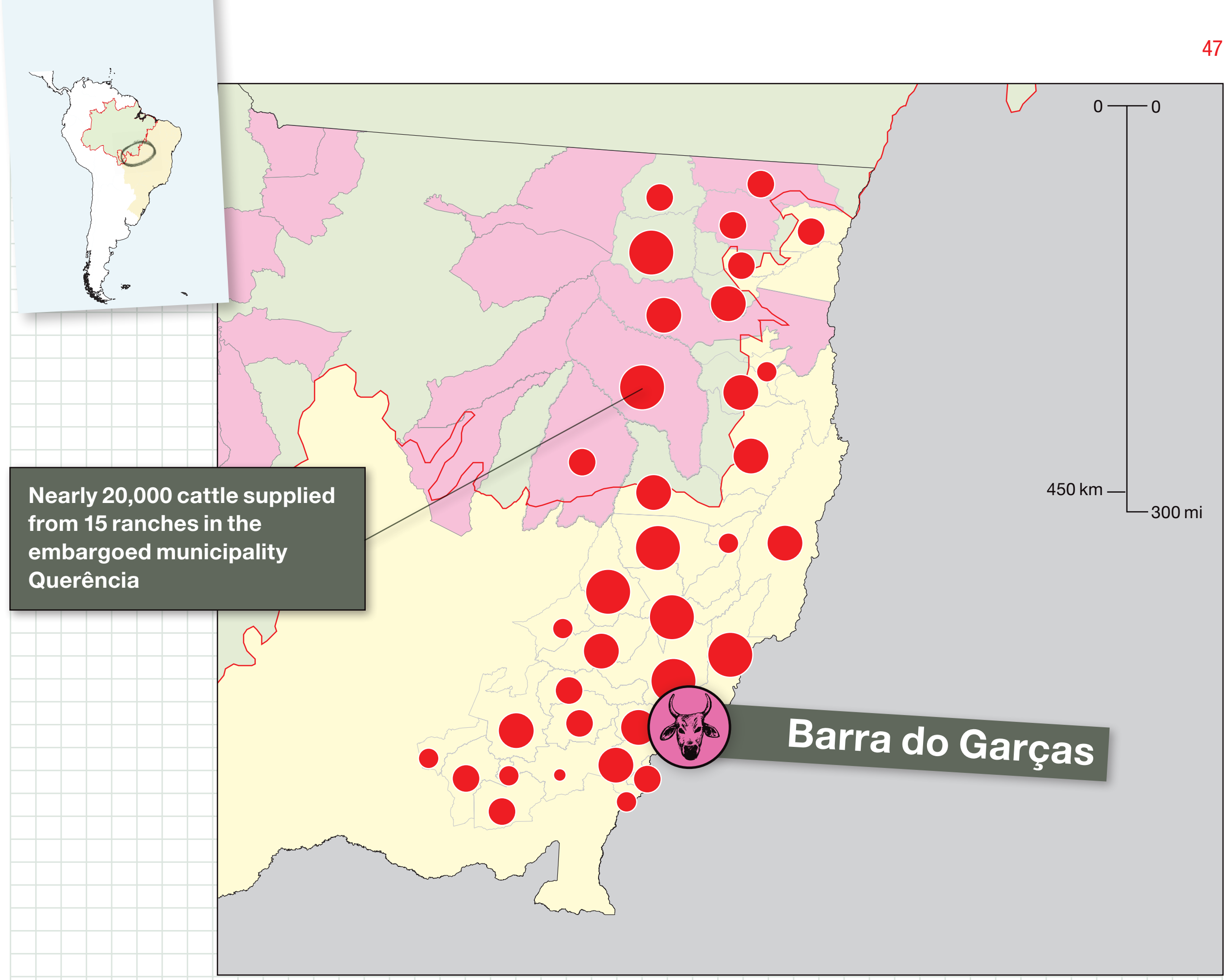
Slaughterhouse

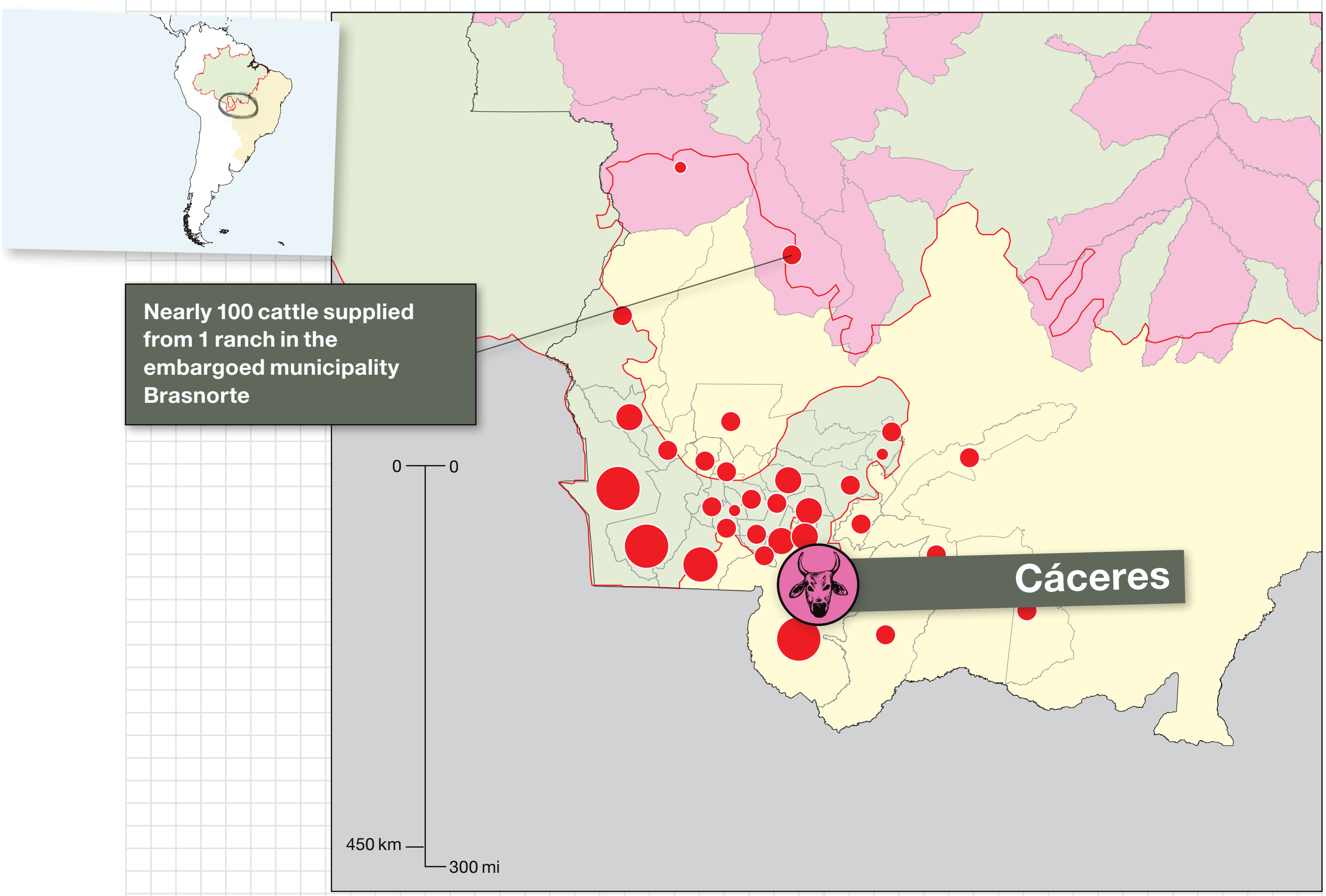
Mato Grosso state boundary

Municipality boundary

Embargoed municipality

Amazon biome


Nearly 20,000 cattle supplied from 15 ranches in the embargoed municipality Querência
Barra do Garças
0
0
450 km
300 mi


Nearly 100 cattle supplied from 1 ranch in the embargoed municipality Brasnorte
Cáceres
0
0
450 km
300 mi

CATTLE SUPPLY AREAS IN MATO GROSSO

Number of cattle supplied by municipality: 0–100 100–1,000 1–5,000 5–10,000 10,000 +

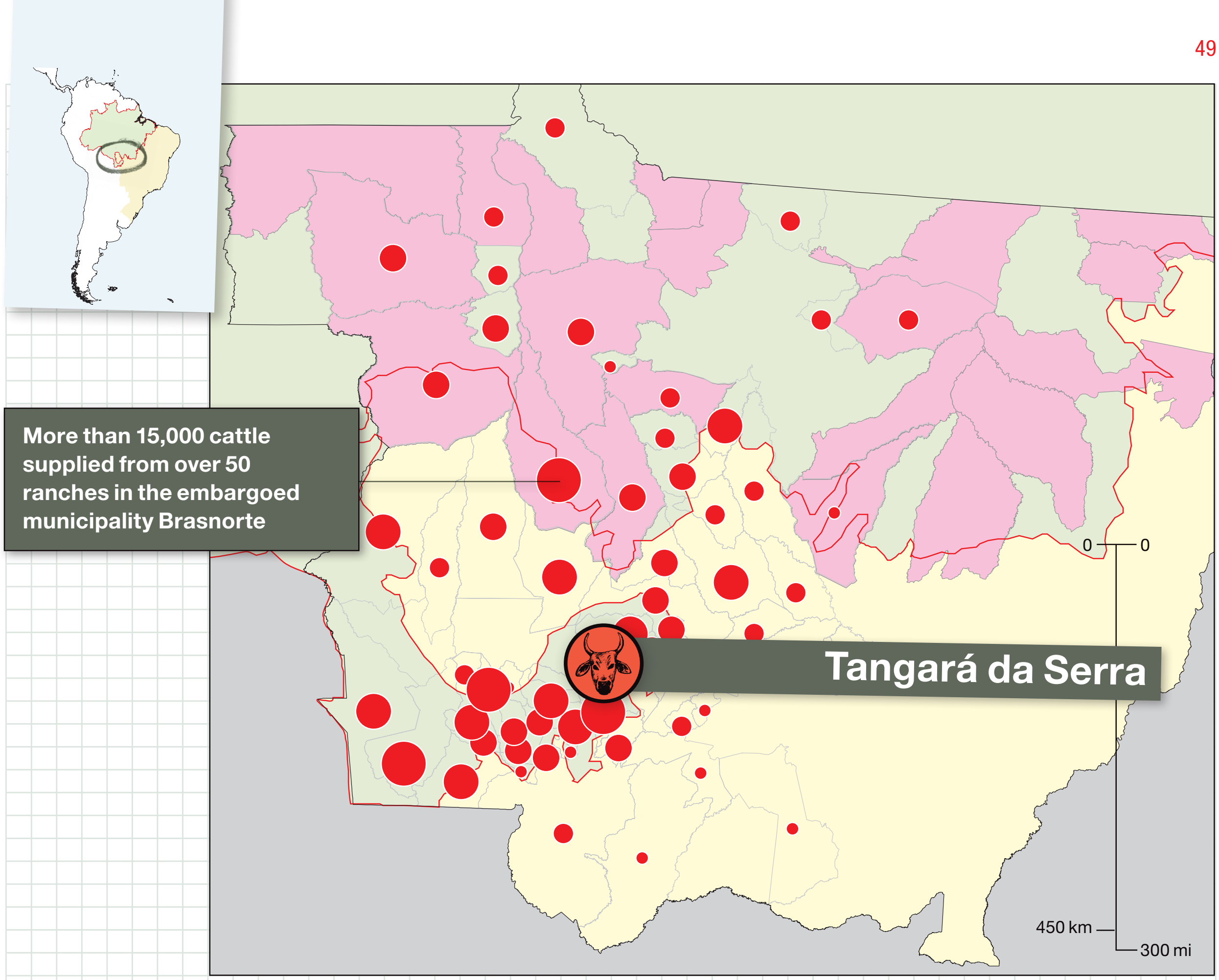
Slaughterhouse

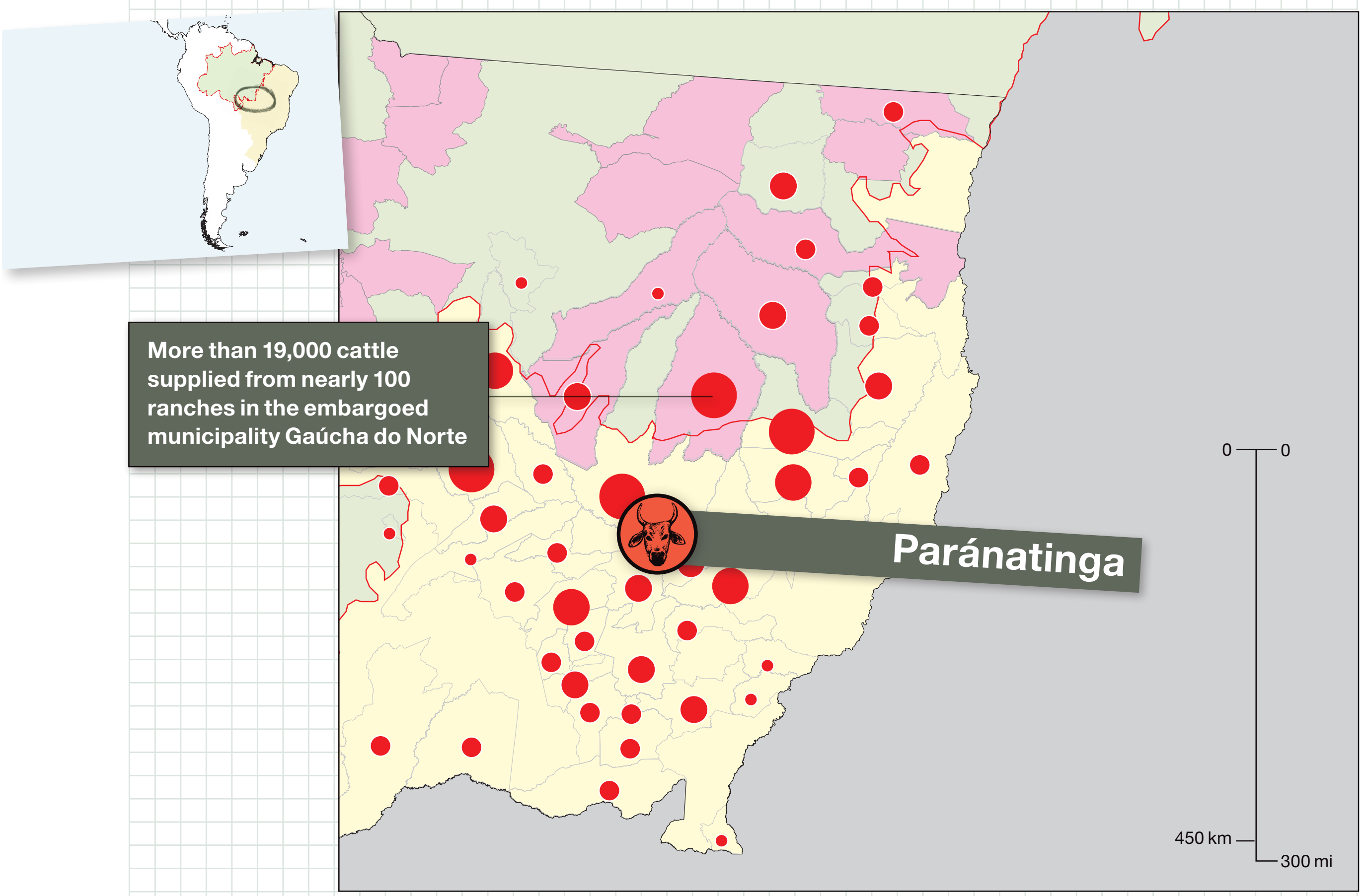
Mato Grosso state boundary

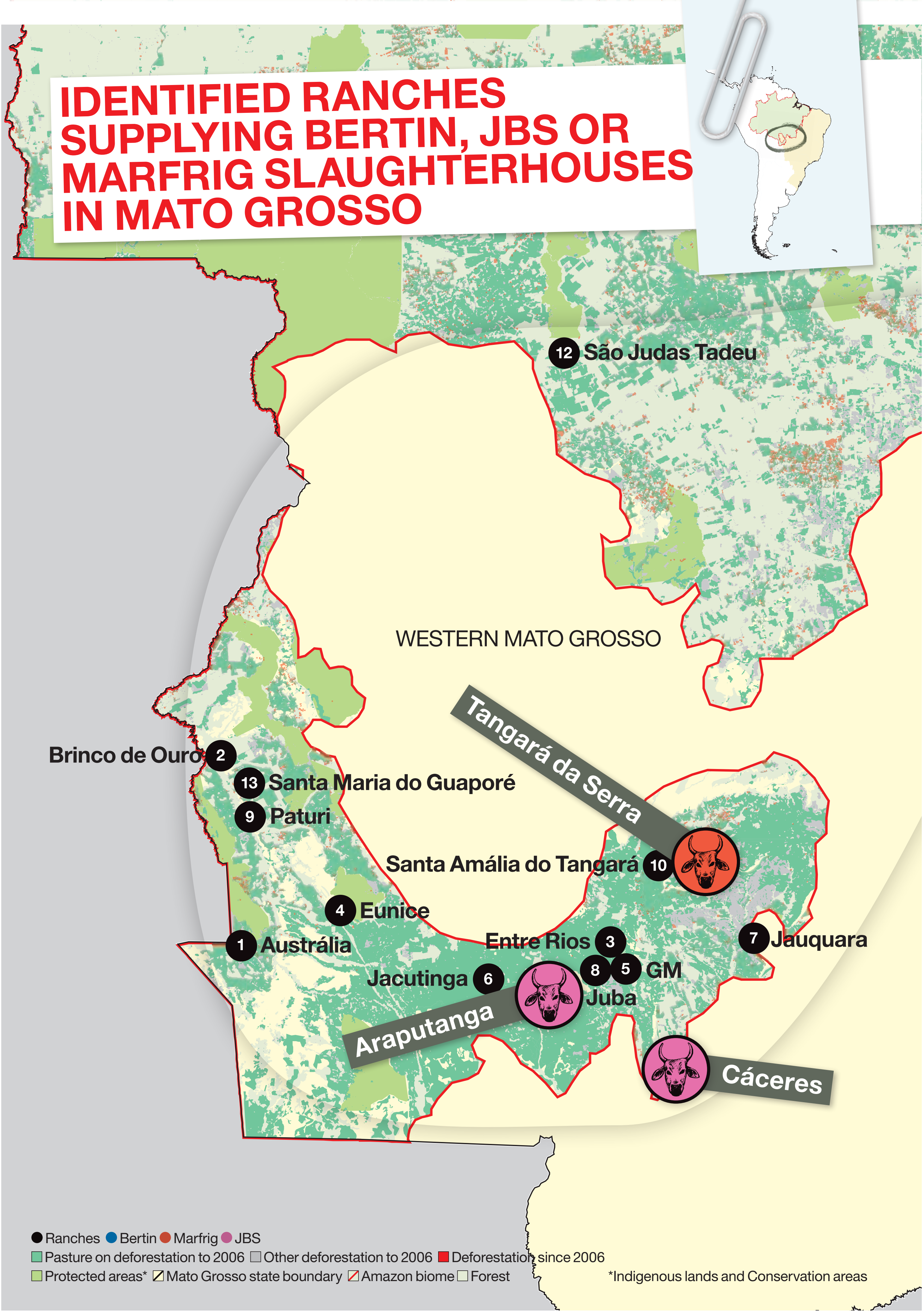
Municipality boundary

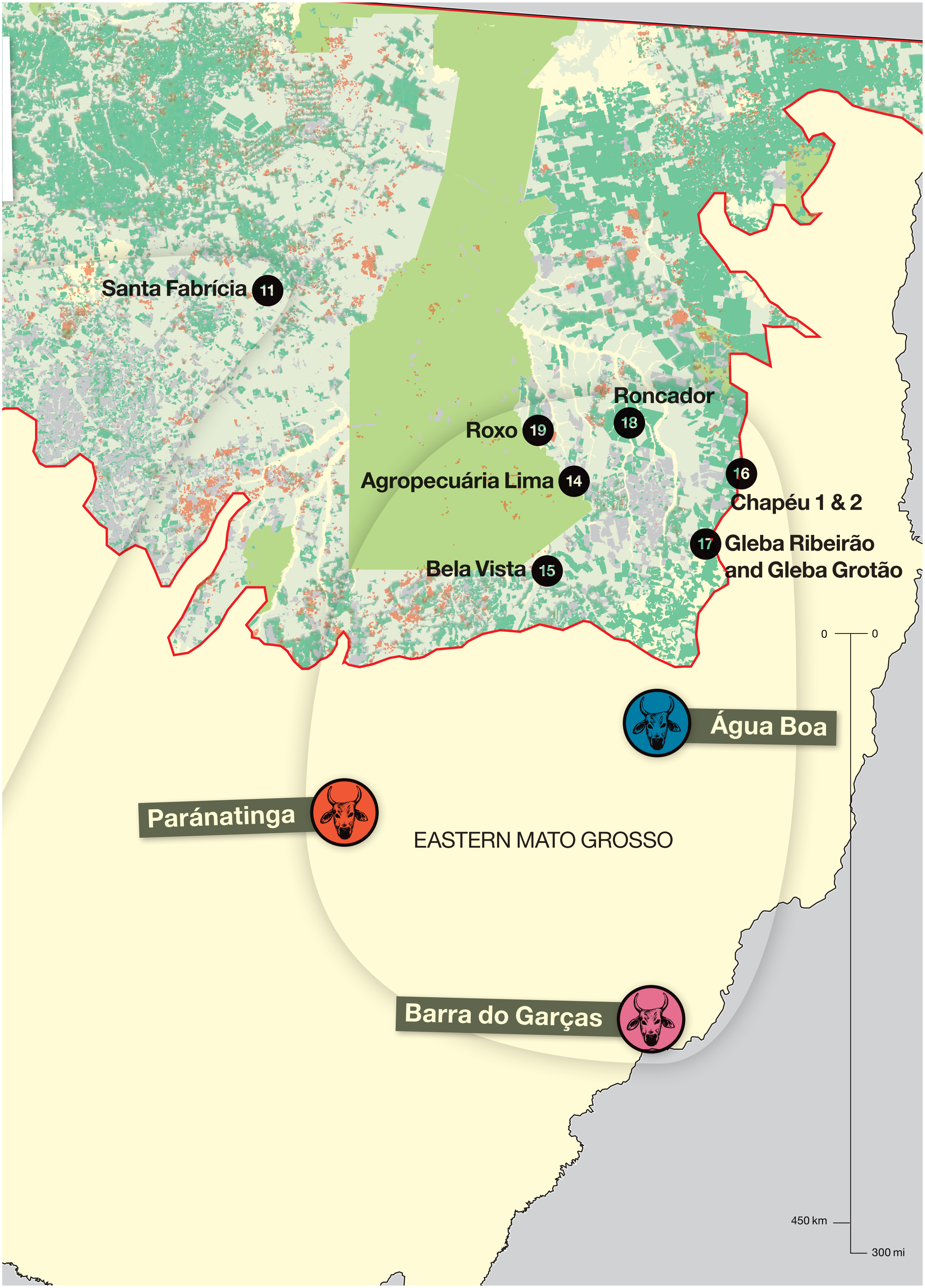
Embargoed municipality

Amazon biome


More than 15,000 cattle supplied from over 50 ranches in the embargoed municipality Brasnorte
Tangará da Serra
0
0
450 km
300 mi


More than 19,000 cattle supplied from nearly 100 ranches in the embargoed municipality Gaúcha do Norte
Paránatinga
0
0
450 km
300 mi


IDENTIFIED RANCHES SUPPLYING BERTIN, JBS OR MARFRIG SLAUGHTERHOUSES IN MATO GROSSO
12 São Judas Tadeu
WESTERN MATO GROSSO
Tangará da Serra
Brinco de Ouro 2
13 Santa Maria do Guaporé
9 Paturi
Santa Amália do Tangará 10
4 Eunice
1 Austrália
Entre Rios 3
7 Jauquara
Jacutinga 6
8 5 GM
Juba
Araputanga
Cáceres
Ranches Bertin Marfrig JBS
Pasture on deforestation to 2006 Other deforestation to 2006 Deforestation since 2006
Protected areas* Mato Grosso state boundary Amazon biome Forest
*Indigenous lands and Conservation areas

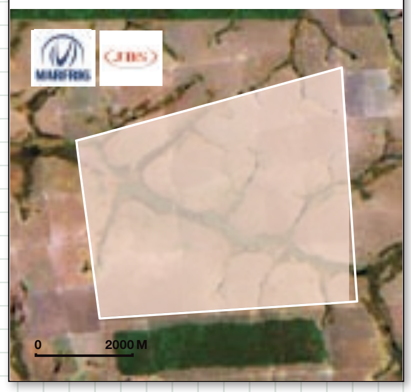

Santa Fabrícia 11
Roncador 18
Roxo 19
Agropecuária Lima 14
16
Chapéu 1 & 2
17 Gleba Ribeirão
and Gleba Grotão
Bela Vista 15
0
0
Água Boa
Paránatinga
EASTERN MATO GROSSO
Barra do Garças
450 km
300 mi

THE SATELLITE VIEW: IDENTIFIED RANCHES SUPPLYING JBS OR MARFRIG SLAUGHTERHOUSES IN WESTERN MATO GROSSO

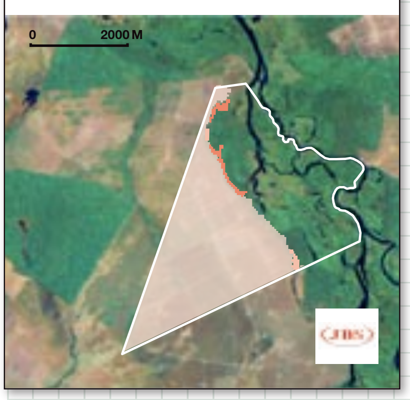
Deforestation

- to 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- Lake
- Ranch boundary
- Forest

1 Austrália

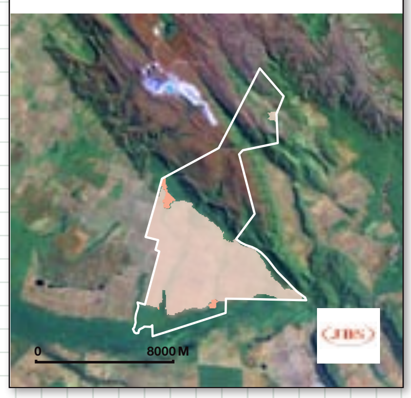


2 Brinco de Ouro

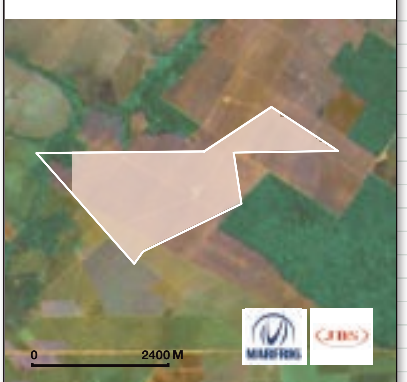


3 Entre Rios

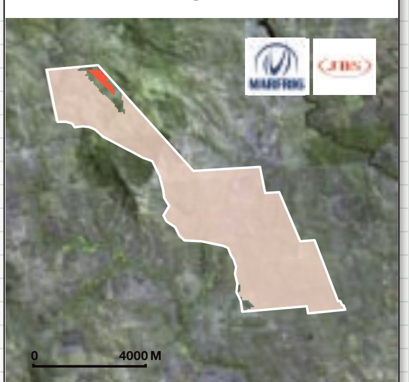
4 Eunice



5 GM



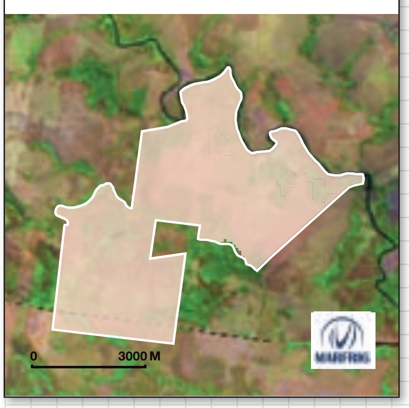
6 Jacutinga



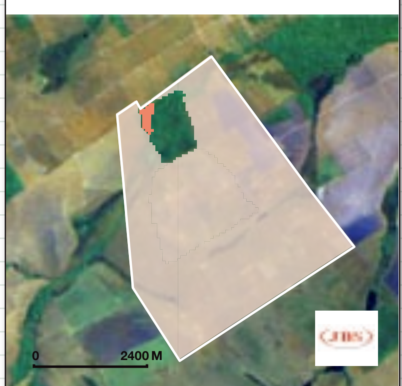
7 Jauquara

TABLE 4: ANALYSIS OF DEFORESTATION ON IDENTIFIED RANCHES IN WESTERN MATO GROSSO							
	Farm name	**Farm owner**	**Location in Mato Grosso**	**Size of farm (hectares)**	**Deforestation class (% of farm)**	**Supplying slaughterhouse (Group / location)**	**Identified trade Jan-Aug 2008 (Head of cattle)**
1	**Australia**	Braulino Basílio Maia Filho	Vila Bela da Santíssima Trindade	2,448	90-100	JBS, Araputanga	1,620
						Marfrig, Tangará da Serra	255
2	**Brinco de Ouro**	Sidney Gasques Bordoni	Vila Bela da Santíssima Trindade	2,741	50-60	JBS, Araputanga	2,056
3	**Entre Rios**	Manoel Jorge Ribeiro	Rio Branco	757	90-100	Marfrig, Tangará da Serra	832
4	**Eunice**	Donato Lemos Beraldo	Vila Bela da Santíssima Trindade	7,570	50-60	JBS, Araputanga	3,605
5	**GM**	Manoel Jorge Ribeiro	Lambari d'Oeste	757	90-100	JBS, Araputanga	72
						Marfrig, Tangará da Serra	339
6	**Jacutinga**	Fernanda Aufiero	Figueirópolis d'Oeste	2,532	90-100	JBS, Araputanga	1,377
						Marfrig, Tangará da Serra	442
7	**Jauquara**	Rene Barbour	Barra do Bugres	1,236	90-100	Marfrig, Tangará da Serra	2,240
8	**Juba**	Manoel Jorge Ribeiro	Rio Branco	1,560	90-100	Marfrig, Tangará da Serra	357
9	**Paturi**	José Reis Pereira Filho	Vila Bela da Santíssima Trindade	1,731	90-100	JBS, Araputanga	3,410
10	**Santa Amália do Tangará**	Renato Junqueira Meirelles	Tangará da Serra	8,466	90-100	JBS, Araputanga	180
						Marfrig, Tangará da Serra	1,572
11	**Santa Fabricia**	Waldir Martinez Rossi	Marcelândia	6,316	10-20	Marfrig, Tangará da Serra	648
12	**São Judas Tadeu**	Naur Celestino Tedeschi	Brasnorte	10,000	20-30	Marfrig, Tangará da Serra	119
13	**Santa Maria do Guaporé**	Sidney Gasques Bordoni	Vila Bela da Santíssima Trindade	3,204	60-70	JBS, Araputanga	636

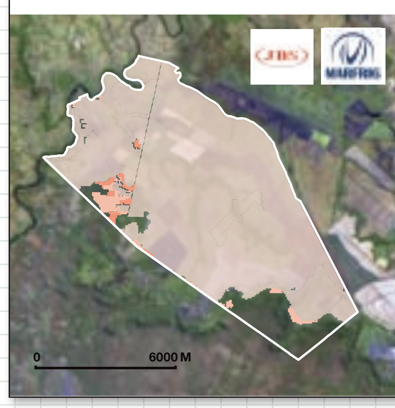
8 Juba



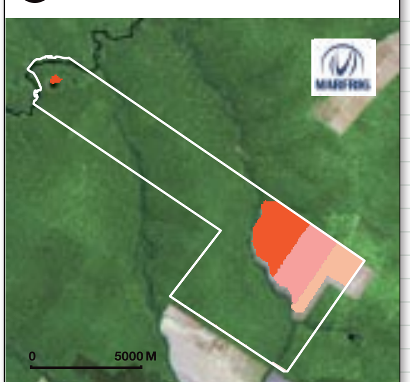
9 Paturi



10 St Amália do Tangará

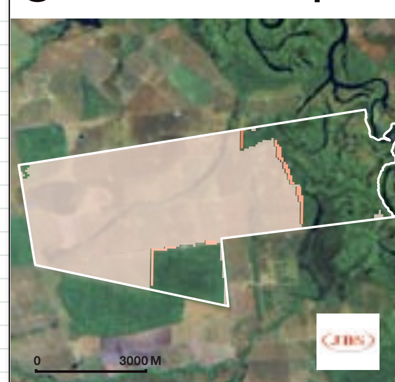


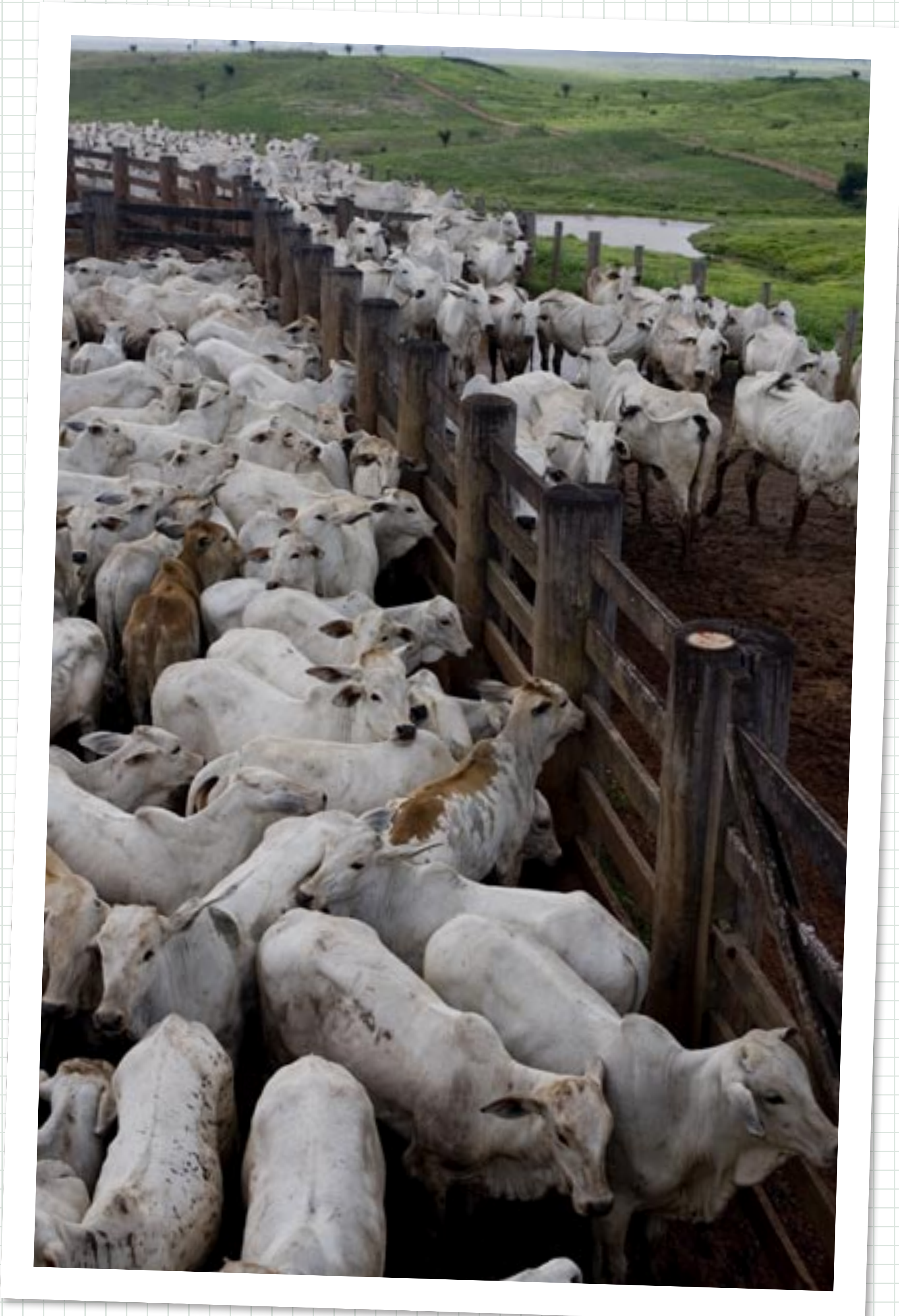
11 Santa Fabricia



12 São Judas Tadeu

13 St Maria do Guaporé



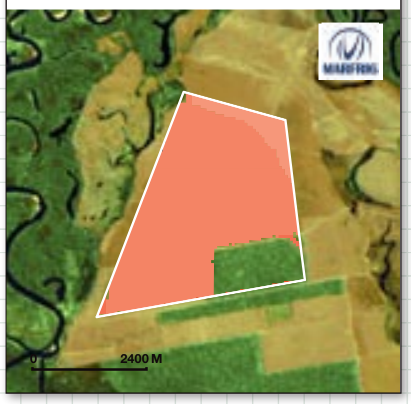


IDENTIFIED RANCHES SUPPLYING JBS OR MARFRIG SLAUGHTERHOUSES IN EASTERN MATO GROSSO

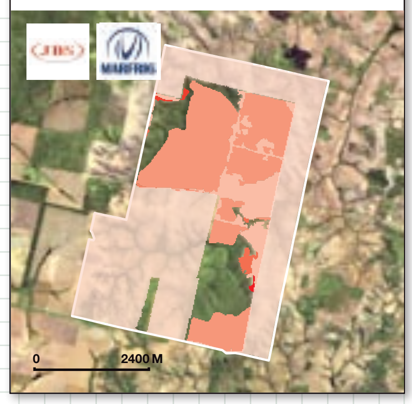
Deforestation to 2000 2001 2002 2003 2004 2005 2006 2007 2008
Lake Ranch boundary Forest

14 Agropecuária Lima

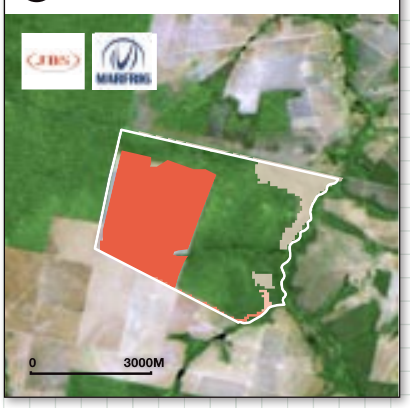
15 Bela Vista



16 Chapéu 1 & 2



17 Gleba Ribeirão



18 Roncador

19 Roxo

TABLE: TITLE TABLE 5: ANALYSIS OF DEFORESTATION ON IDENTIFIED RANCHES IN EASTERN MATO GROSSO

	Farm name	Farm owner	Location in Mato Grosso	Size of farm (hectares)	Deforestation class (% of farm)	Supplying slaughterhouse (Group / location)	Identified trade Jan-Aug 2008 (Head of cattle)
14	**Agropecuária Lima**	Antônio Roberto de Lima	Querência	2,982	80-90	JBS, Barra do Garcas	195
						Bertin, Agua Boa	71
15	**Bela Vista**	Aldo Pedreschi	Canarana	1,278	80-90	Marfrig, Paránatinga	136
16	**Chapéu I & II**	Milton Vilela de Carvalho	Bom Jesus do Araguaia / Ribeirao Cascalheira	17,091	80-90	JBS, Barra do Garcas	2,174
						Independencia, Nova Xavantina	2,338
						Marfrig, Paránatinga	17
17	**Gleba Ribeirão**	Luciana Selmi	Ribeirão Cascalheira	1,694	40-50	JBS, Barra do Garcas	442
						Marfrig, Paránatinga	255
18	**Roncador**	Agropecuária Roncador	Querência	149,095	50-60	JBS, Barra do Garcas	15,708
						Independencia, Nova Xavantina	54
19	**Roxo**	Adecréscio Pedro de Aguiar	Querência	6,140	60-70	JBS, Barra do Garcas	168
						Marfrig, Paránatinga	1,801

GREENPEACE INVESTIGATES

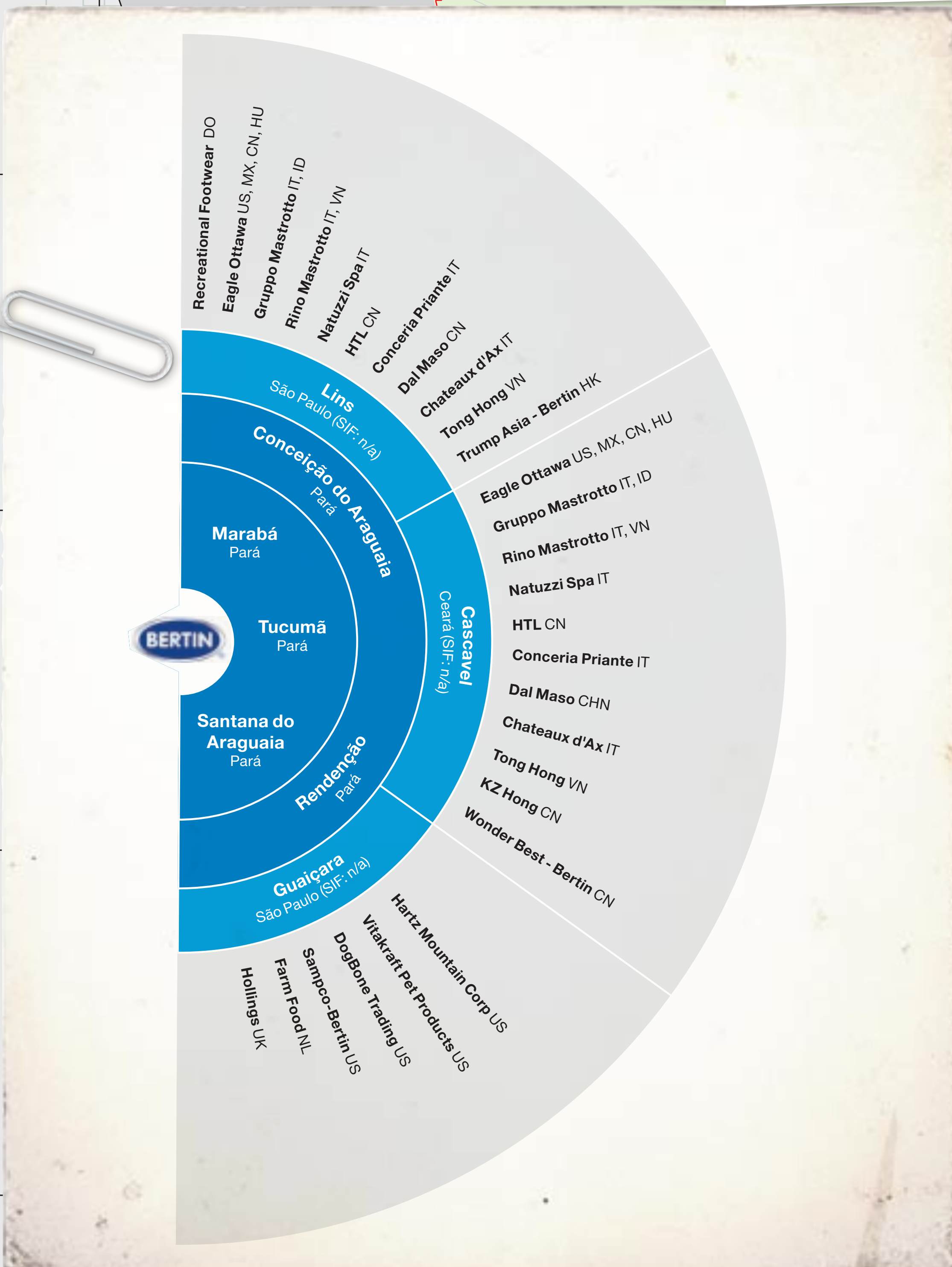
PART TWO: HOW BRAZIL IS ‘LAUNDERING’ AMAZON LEATHER TO GLOBAL BRANDS

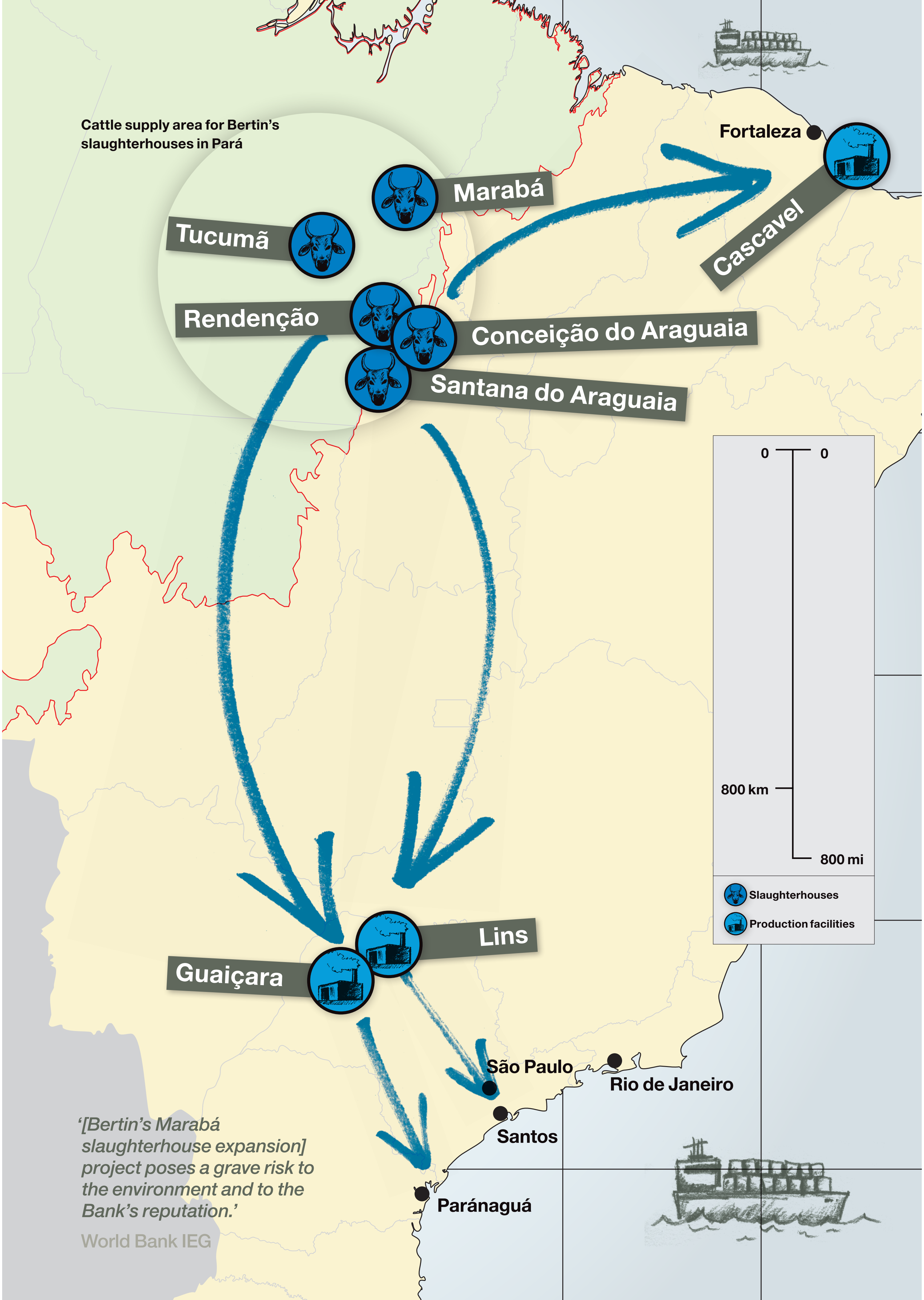
BERTIN LINKS CATTLE RANCHES IN THE AMAZON TO LEATHER USERS AROUND THE WORLD

Bertin's major export-orientated facilities for leather are in Lins (SP) and the Bracol tannery in Cascavel (CE).

In 2008, suppliers of leather to these facilities included Bertin's Rendenção (PA) and Conceição do Araguaia (PA) tanneries. Hides for these facilities include supplies from Bertin's Pará slaughterhouses at Marabá (PA), Santana do Araguaia (PA), and Tucumã (PA).

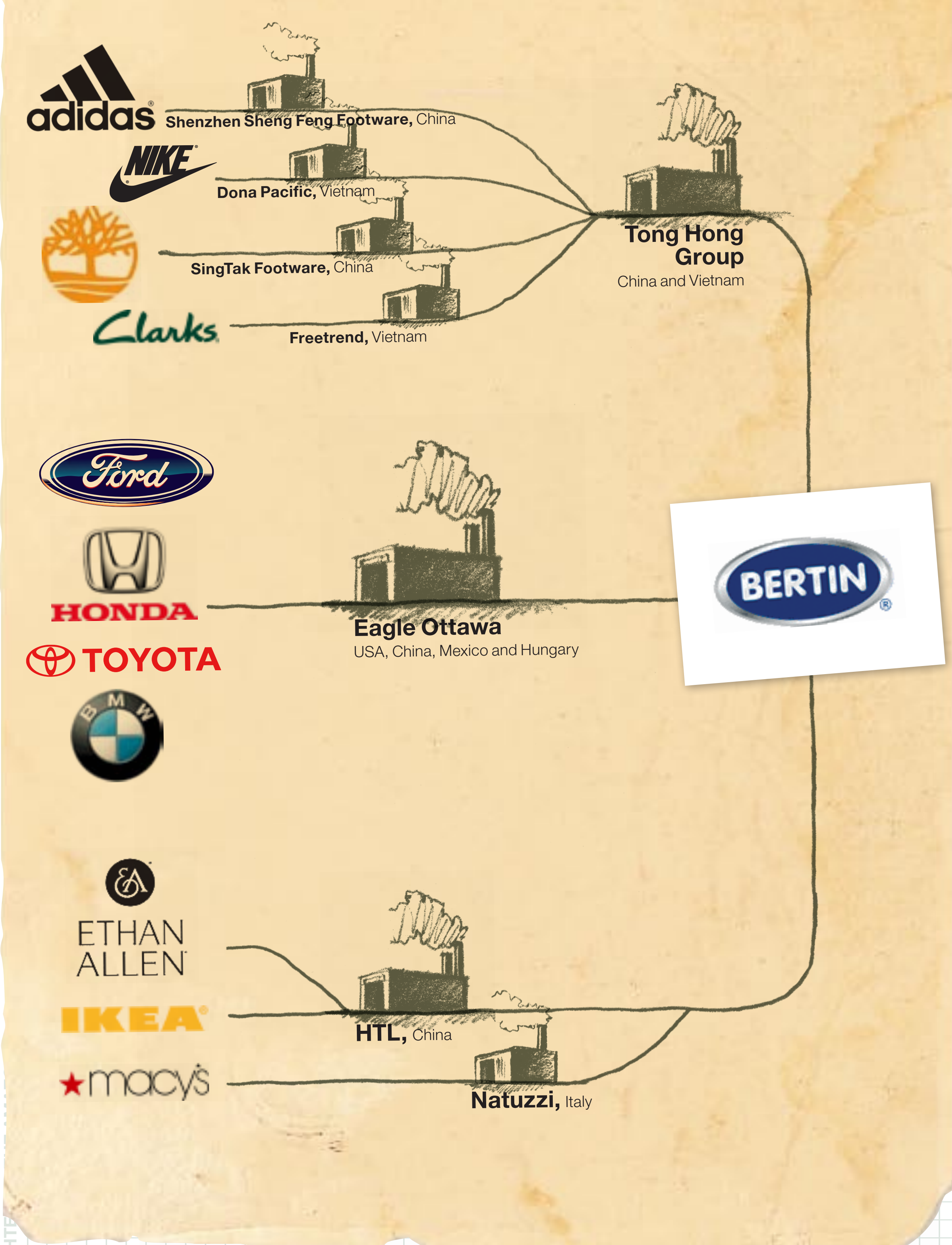
Bertin's Água Boa (MT) unit also supplies Bertin's dog chew facility in Guaiçara (SP).





Cattle supply area for Bertin's slaughterhouses in Pará
Fortaleza
Marabá
Tucumã
Cascavel
Rendenção
Conceição do Araguaia
Santana do Araguaia
0
0
800 km
800 mi
Slaughterhouses
Production facilities
Lins
Guaiçara
São Paulo
Rio de Janeiro
Santos
Paránaguá
'[Bertin's Marabá slaughterhouse expansion] project poses a grave risk to the environment and to the Bank's reputation.'
World Bank IEG

THE 'DIRTY' LEATHER SUPPLY CHAIN FROM BERTIN TO SUPPLIERS TO GLOBAL BRANDS



LEATHER IS A HIGH VALUE COMMODITY

Leather is one of the most widely traded and universally used commodities in the world.

According to the UN Food and Agriculture Organisation (FAO), the average annual value of international trade in leather during 2004-2006 was $23.7 billion.[367]

This makes the total formal value of the leather trade on a par with the value of the trade in red meat ($24 billion) and approaching double the value of the sugar trade ($12.3 billion).[368]

The sector has seen dramatic growth. Between the late 1980s and 2006, trade in tanned leather expanded by nearly four times (7.5% year-on-year).[369]

TABLE 6: 2008 EXPORTS OF BOVINE LEATHER FROM BRAZIL, TOP DESTINATIONS BY VALUE

	tonnes	%	Value in million $	%
Italy	85,088	30	507	27
China	102,066	35	370	20
Hong Kong	31,941	11	208	11
USA	8,292	3	170	9
Vietnam	13,661	5	89	5
Others	46,847	16	502	27
Total	287,895	100	1,846	100

Source: SECEX (2009) 'ALICE-Web' http://aliceweb.desenvolvimento.gov.br/

BRAZIL DOMINATES GLOBAL LEATHER PRODUCTION

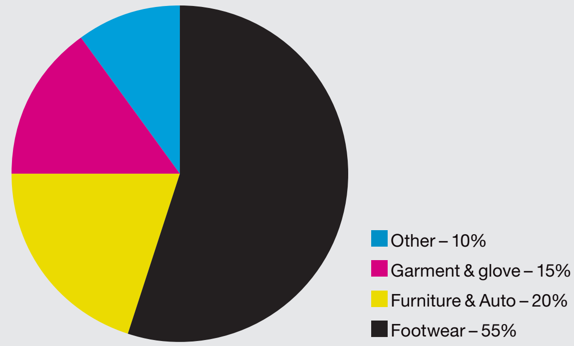
According to FAO estimates, in 2007 Brazil was the biggest producer of hides from cattle in the world.[370] With China, Brazil is the largest exporter of tanned hides in the world, each accounting for 15% of global exports by volume in 2006.[371] Unlike China (which imports significant quantities of raw or semi-tanned hides from Brazil for further treatment and re-export) Brazilian exports originate from cattle raised in Brazil itself.[372]

Over 80% of leather exported from Brazil in 2008 went to China/Hong Kong, Vietnam or Italy.[373]

The Brazilian leather industry's total export revenue in 2008 was $1.9 billion[374] from some 24,800,000 hides,[375] compared to total beef export revenue of $5.1 billion.[376]

Accounting for 17% of the Brazilian export share,[377] Bertin is a top player in the Brazilian and global leather sector. Processing its own and third-party hides, Bertin has been rapidly expanding its domination of the leather sector through joint ventures, alliances and acquisitions. Strategic markets and key companies include the car industry, the pet toy sector, the Italian fashion and upholstery sector and the Far East shoe production hub.

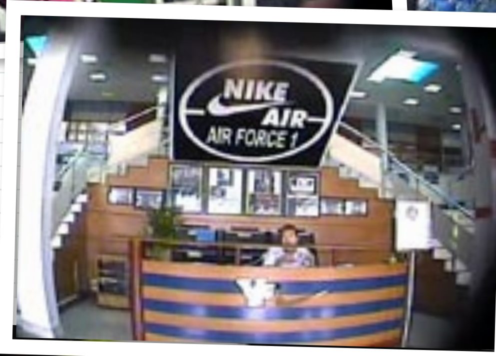
SHARE OF LEATHER BY END USE (2004)



Source: International Council of Tanners (ICT) website: www.tannerscouncilict.org

SHOE PRODUCTION IS THE SINGLE LARGEST USE OF LEATHER:

CHINA PRODUCES 60% OF THE WORLD'S SHOES



Most of the output from tanneries is light leather. About half of this is estimated to go to shoe production. The remainder goes to diverse uses, including clothing, furniture and vehicle upholstery, and travel goods including handbags.[378]

According to the FAO, the average annual value of international trade in footwear with leather uppers during 2004-2006, was $34.5 billion.[379]

According to market reports, in 2006, a total of 14.8 billion pairs of shoes were manufactured globally.[380] FAO data suggest that about one-third of production is shoes with leather uppers.[381]

Adidas claims to use 14 million m^2 of leather annually[382] – which translates roughly to 10,000-15,000 tonnes[383] or 0.2 to 0.3% of all leather traded internationally in 2006.[384] Some 95% of Adidas leather comes from ten tanneries, 85% from South America.[385]

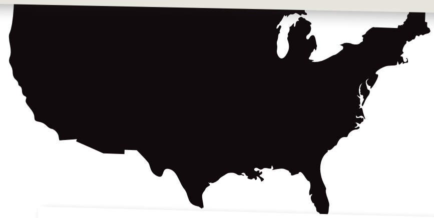
CHINA – A HUB FOR SHOE PRODUCTION

The Far East has become the world's most important exporting region thanks to its processing and manufacturing base.[386] The region produced 13.5 billion pairs of shoes in 2006, over 90% of the world's total and its market share continues to grow.[387]

China is the world's largest producer and exporter of shoes, producing nearly 60% of the world's total output in 2006;[388] 80% of what it produces is exported.[389]

Brazil is the single largest exporter (by value) of wet-blue leather to China (including Hong Kong), accounting for nearly a quarter of all imports.[390] Further processing of wet-blue leather – a cheap feedstock –takes place in tanneries in mainland China.

FURNITURE AND VEHICLE UPHOLSTERY IS THE SECOND LARGEST USE OF LEATHER:



USA – SITTING IN LUXURY

The global automobile industry consumes considerable amounts of leather.

Production of leather interiors is outsourced to leather processors such as US-based Eagle Ottawa, which claims to be the world's largest supplier of premium leather for the automobile industry and to supply 'more than 100 current vehicle models'.[391]

Eagle Ottawa accounts for 20% of all leather used globally for vehicle upholstery.[392] In 2007, Eagle Ottawa supplied leather for more than 600,000 production vehicles. In 2008, Eagle Ottawa supplied leather for more than 800,000 vehicles, despite the economic downturn in the car sector.[393]

According to Nathan Mullinix, Vice President, Global Research and Development, Eagle Ottawa, just 2% of all hides are suitable for vehicle leather upholstery; of that, less than a third are suitable for producing premium leather products.[394]

Eagle Ottawa has important production facilities around the world.[395]

In the USA, Eagle Ottawa supplied leather for the Chevrolet Malibu, Car of the Year 2008, as well as for the runners up, the Cadillac CTS and the Honda Accord.[396] Eagle Ottawa also supplied leather to the Truck of the Year, Toyota Tundra (sport utility vehicle), the Chevrolet Tahoe Hybrid (2008 Green Car of the Year at the LA Auto Show), the BMW 3-series (2008 10 Best Cars) and the Lexus IS-F (Forbes Autos.com, Top 10 Hottest Sedans of 2008).[397]

In Germany, Eagle Ottawa supplied leather for the Audi A6, BMW 3 & 5 series, Mercedes E- and M-class and the VW Beetle.[398]

Bertin is an exclusive supplier to Eagle Ottawa,[399] which absorbs 30% of Bertin's leather exports.[400]

'MADE IN ITALY' HANDBAGS ARE THE STAR OF THE ITALIAN LEATHER INDUSTRY

The fashion industry 'is addicted to leather'.[401] Italy is the centre of high-quality leather production for the fashion market. The country mostly imports wet-blue and crust (unfinished) leather, a quarter of which comes from Brazil.[402]

Footwear and upholstered furniture consumes over 70% of Italian production of finished leather.[403]

The biggest export markets for 'Made in Italy' leather goods are the EU, the USA and Japan.[404]

The two leading Italian leather processors, Rino Mastrotto Group (RMG) and Gruppo Mastrotto (GM) (RMG and GM are seParáte entities controlled by different siblings in the Mastrotto family), receive regular supplies of leather from Bertin's Lins (SP) and Cascavel (CE) facilities in Brazil.[405]

Gruppo Mastrotto controls 1% of leather worldwide.[406] It provides leather mainly for the furnishing sector (about 75%) and shoemaking (about 20%), the rest is accounted for by the vehicle and leather goods sectors. It exports 80% of production. The majority of production is in Italy as shown by its 2008 turnover: of €510 million ($699 million), €267 million ($366 million) was invoiced in Italy.[407]

FASHION FOOTWEAR

Italy is the world's second-largest leather shoe exporter in terms of value.[408] This stems from the fact that the Italian industry is undisputed leader for the manufacture of luxury and high-fashion shoes with leather uppers.[409]

The UK alone imports around £4 billion ($6 billion) of leather fashion products (mainly shoes) every year.[410]

FURNITURE

The Italian industry is world-renowned for its upholstered furniture. In 2007, Italy was the second largest exporter of furniture in the world, after China, exporting $12.8 billion worth of furniture[411] mainly to other European countries, Russia and the USA.[412]

HANDBAGS

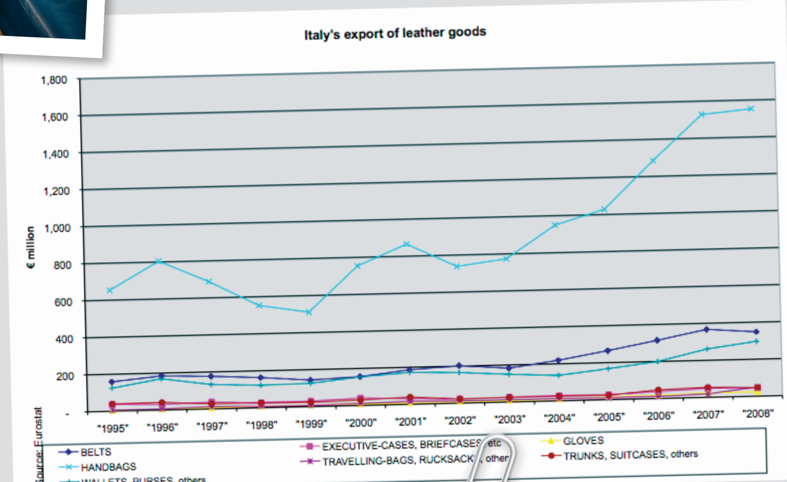
Handbag lines are the star of Italy's leather export industry, both in terms of quantity (44% of units exported) and value (63% of leather trade).[413] The value of real hide purse and handbag exports in 2007 was in the region of €1.44 billion ($1.97 billion).[414]

OUTSOURCING THE 'MADE IN ITALY' BRAND

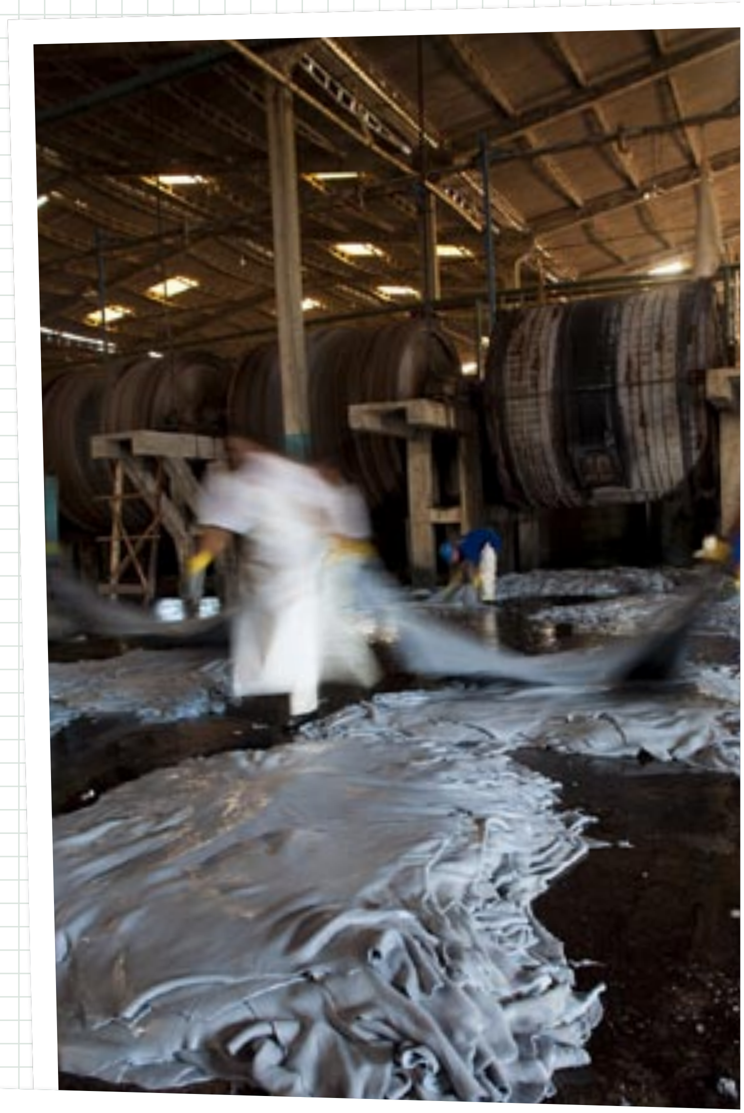
Italy's output of leather goods in 2008, excluding shoes but including production 'outsourced' abroad, is estimated at €3.9 billion ($5.3 billion)[415] – output manufactured in Italy itself is estimated at €2.6 billion ($3.56 billion).[416]

Italian firms outsource a great deal of manufacturing to China, which import materials into Hong Kong for subsequent re-export as finished products. [417]

Italy imports a significant amount of leather goods from China – 24% in 2008.



Source: Eurostat



THE AMAZON GOING TO THE DOGS: THE US MARKET FOR DOG CHEWS

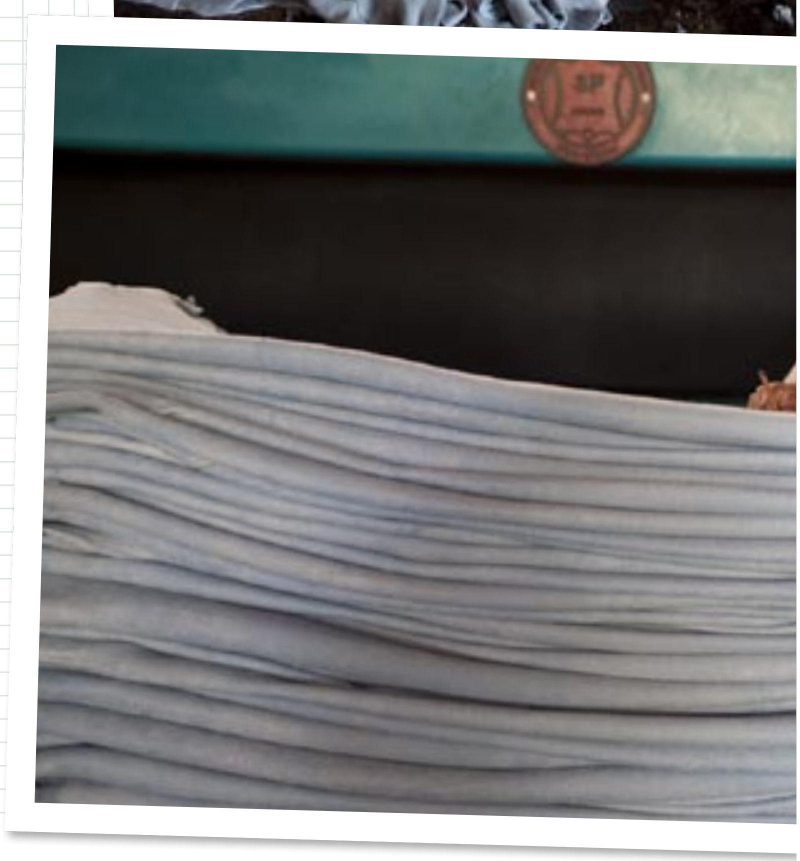
According to the 2007-2008 National Pet Owners Survey, two out of three US households own a pet.[418] Worth $43 billion in 2008, the US market for pet products is the largest in the world.[419]

The market for dog toys in the USA and Europe is estimated to be worth $1 billion.[420]

Bertin exports over R$18 million ($37m) of dog chews.[421] The USA is the principal market. Bertin is exclusive supplier to Sumito Corporation,[422] which owns Hartz Mountain, one of the leading brands of dog chew in the USA.

'The Italian leather and footwear industry is regarded as the best in the world in terms of technology, craftsmanship, fashion, design and quality. Italy is the second largest exporter of leather and leather products in the world, next to China, with total exports of about $17 billion (2006).'

K. Abdul Sattar Khan, Assistant Director, Council for Leather Exports 'Fair Report' MICAM Shoe Event, Milan (Italy), 4-7 March 2009



'We never forget though that our core business consists of big groups: from IKEA for furnishings to Peugeot and Audi for cars.'

Gruppo Mastrotto (2008)

THE ‘LAUNDRY LIST’:

GLOBAL BRANDS ARE SILENT PARTNERS TO CRIME

While the Blue Chip companies behind reputable global brands appear to believe that Amazon sources are excluded from their products,[423] 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 leather products from the IFC-funded, part-Brazilian-government-owned corporation Bertin. Greenpeace has identified hundreds of ranches within the Amazon rainforest supplying cattle to Bertin’s slaughterhouses in the Amazon state of Pará. 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 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 leather are ‘laundered’ through the supply chain to an unwitting global market.

BRANDS

SHOES: NIKE, ADIDAS/REEBOK, TIMBERLAND AND CLARKS (BERTIN)

Globally, shoes consume the lion’s share of leather production.[424]

Much manufacture of shoes and trainers and production of shoe leather is concentrated in China.[425]

Greenpeace investigations have found that Tong Hong Group is a key customer of Bertin, via the tanneries KZ Hong in China and Tong Hong in Vietnam. Both KZ Hong in China and Tong Hong in Vietnam bought significant amounts of leather from Bertin (via Bracol, CE) in 2008 (Tong Hong: 682 tonnes; KZ Hong: 680 tonnes).[426] This accounts for approximately 5% of KZ Hong’s total leather consumption –Tong Hong’s supply is similar, according to company information.[427]

Tong Hong Group tanneries supply several manufacturers working for well-known shoe brands, including Nike, Adidas/Reebok and Clarks.

According to company information:

In Vietnam, Nike shoe manufacturers Chang Sin, Dona Pacific and Tae Kwang source leather from Tong Hong.[428] Tong Hong also supplies Adidas manufacturers Chi Hung JVC Ltd and Hwa Seung Vina.[429] Clarks manufacturer Freetrend also uses leather supplied by Tong Hong.[430]

KZ Hong claims to supply Clarks, Adidas/Reebok and Timberland manufacturer ShingTak Footwear and Reebok safety shoe supplier Shenzhen Sheng Feng Footwear.[431]

Bertin lists Clarks as one if its major leather customers.[432]

FURNITURE

FURNITURE – IKEA, NATUZZI (BERTIN)

HTL International Holdings (China) claims to be one of the world's leading manufacturers of leather sofas.[433] HTL is a considerable importer of Brazilian leather, and a significant customer of Bertin SA in Lins (SP) and other facilities.

IKEA is HTL's third largest customer in the USA, importing over 340 tonnes of furniture in 2008. Ethan Allen (USA) and Leon's (Canada) are the two main HTL customers in North America.[434]

The Italian-based Natuzzi Group claims to be the world's leading producer of leather sofas and Italy's largest furniture manufacturer.[435] Natuzzi exports its furniture to 123 markets on five continents.[436]

Natuzzi has four manufacturing plants in Italy, three in China, one in Brazil and one in Romania.[437]

While trading under its own brands such as Natuzzi, Divani&Divani and Italsofa,[438] Natuzzi also supplies IKEA and Macy's.[439]

FASHION

FASHION VICTIMS – GUCCI, PRADA, GEOX (BERTIN)

Italy is the centre of high-quality leather production for the fashion market. It mostly imports wet-blue (unfinished) leather, with a large proportion of it coming from Brazil.[440]

The two leading Italian leather processors, Rino Mastrotto Group (RMG) and Gruppo Mastrotto (GM), receive regular supplies of leather from Bertin's Lins (SP) and Cascavel (CE) facilities in Brazil.[441]

In 2008, company sources confirmed Boss, Geox, Gucci, Hilfiger, Louis Vuitton and Prada as some of Rino Mastrotto's customers;[442] Geox was also a customer of Gruppo Mastrotto in 2008.[443]

Several models of Prada shoes (men's loafers, ankle boots, slip ons) are made with Gruppo Mastrotto's Rilux calf leather.

Shoeintelligence ranks Geox as the number one footwear brand in Italy and second worldwide in the lifestyle and casual footwear segment in 2007.[444]

Geox is one of the most important clients of Gruppo Mastrotto in the shoe sector.[445] Rino Mastrotto also figures as a supplier. In 2004, the Mastrotto groups supplied 10% of Geox leather.[446]

CAR INTERIORS

HONDA TOYOTA BMW

CAR INTERIORS – HONDA, TOYOTA, BMW (BERTIN)

The global automobile industry consumes considerable amounts of leather. Production of leather interiors is outsourced to leather processors such as Eagle Ottawa or the Italian Mastrotto groups.

US-based Eagle Ottawa claims to be the world's largest supplier of premium leather for the automobile industry and to supply 'more than 100 current vehicle models'.[447] Eagle Ottawa has important production facilities including three in the USA, and one each in Mexico, China, Hungary and Brazil.[448]

GM has a production facility in Indonesia as well as subsidiary Duma Automotive in Italy producing leather automobile interiors.[449] Duma apparently supplies companies including Audi, Lancia, Mercedes, General Motors, Ferrari and Ford.[450]

RM has production facilities in Italy and Vietnam. RM supplies leather for manufacturers including General Motors/Opel and Volvo, according to 2005 company information.[451]

Brazilian export data and US customs import data confirm the link between all of these production facilities and Bertin's principal export leather divisions in Lins (SP) and Cascavel (CE).[452] Bertin is an 'exclusive supplier' to Eagle Ottawa,[453] which buys 30% of Bertin's leather exports.[454]

DOG CHEWS

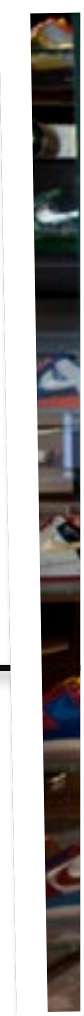
Hartz

HARTZ (BERTIN)

Bertin is Brazil's leading producer of dog chews from its facility in Lins (SP).

Bertin's Água Boa (MT) unit also supplies Bertin's dog chew facility in Guaiçara (SP).

Bertin is exclusive supplier to Hartz Mountain, one of the leading brands of dog chew in the USA.[455]



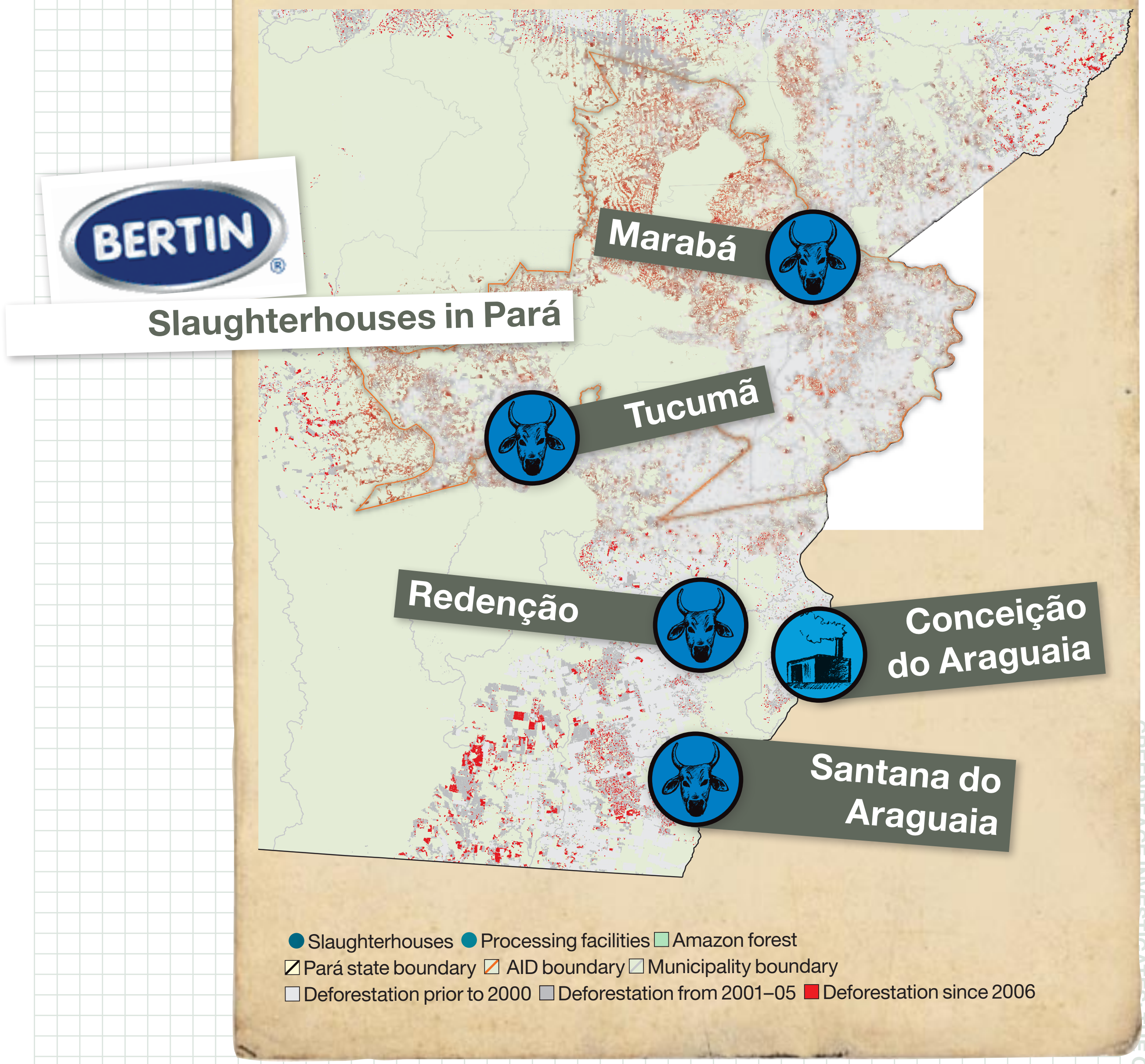
‘During the appraisal period, IFC identified a set of procedures for the purchase of cattle from Bertin’s suppliers that will require them to comply with Brazilian legislation and World Bank Group policy in relation to:

- *Environmental licensing, including illegal deforestation*
- *Defence of human rights (related to agrarian conflict)*
- *Illegality in land acquisition*
- *Infringement on indigenous people’s land*
- *Labour conditions, including slave labour’*

IFC ‘FAQ: Brazil Bertin project

THE FRONTIERS OF AMAZON DESTRUCTION:

MAPPING THE CRIME SCENE



'Almost all of the landholders in the immediate vicinity of the plant are grossly out of compliance with the regulation that they maintain 80% of their land under forest, in addition to maintaining riverine forests. Satellite photos document near total deforestation in the area.'

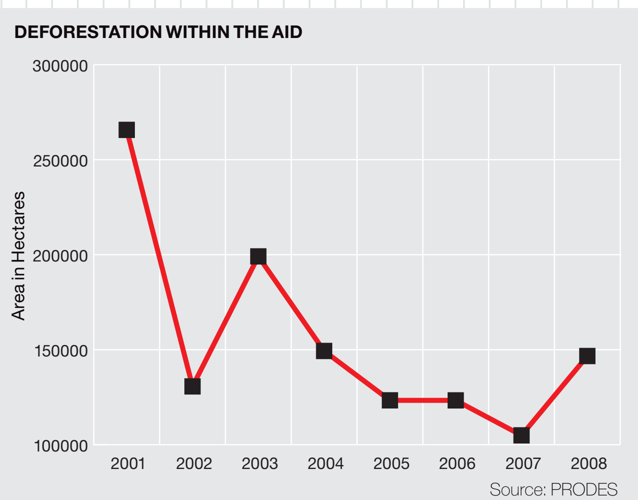
World Bank IEG (Independent Evaluation Group)

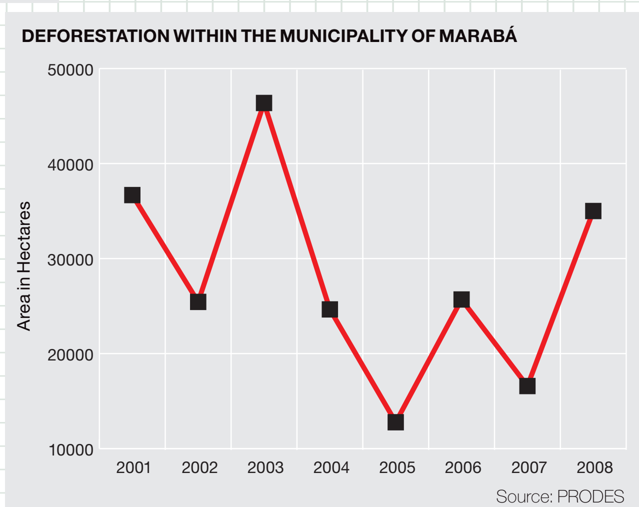
'If this increased demand is accomplished via a business-as-usual expansion of pasture without effective controls, it would imply deforestation of about 10,000km².'

World Bank IEG (Independent Evaluation Group)

'Illegal land acquisition and land holding issues are endemic in various areas of Brazil, particularly in the state of Pará. Numerous ranchers in Bertin's supply chain have no legal title to land or have fraudulent documentation.'

IFC 'Summary of proposed investment - Bertin Ltd' 2007





In March 2007, the IFC granted Bertin a loan of $90 million for the expansion of slaughtering capacity in its slaughterhouse in Marabá (PA).[456]

As a condition of the loan for the expansion, the IFC and Bertin agreed an action plan 'to ensure that the activities of the slaughterhouse do not promote deforestation in the Amazon'.[457]

In 2006, at the time the loan for expansion of the facility was being assessed by the IFC, the direct cattle supply area for the plant was concentrated within 16 municipalities (the so-called AID – area of direct influence). This supplied nearly 90% of cattle at the time.[458]

Greenpeace analysis of satellite data has found that the deforestation rate within the AID has risen 40% since the Bertin loan was granted.[459] In the municipality of Marabá, the increase in the deforestation rate was 111%.[460]

By July 2008, more than 80% of the original forest within the AID area outside legally protected areas had been cleared.[461] Legally, landholders may deforest no more than 20% of forested area.

Concern expressed by the World Bank itself, at the time the loan was granted, was that expansion of the Marabá facility ('installation of a large, additional local source of demand') will mean that it becomes financially viable for cattle to be supplied from a greater distance ('extending the area that can profitably transport beef to market'). 'This would put pressure on the expansion of the Amazon frontier at the edge of the slaughterhouse's catchment area.'[462] The auditor notes the risk that the slaughterhouse will recruit suppliers from frontier regions, resulting in increased deforestation.[463]

Pará land titling is in disarray, making it extremely difficult without insider knowledge to track cattle supply and assess the legal and environmental standing of any given supplier, as the IFC recognised in its initial assessment.[464]

However, Greenpeace analysis of available government trade data[465] backed by field investigations has allowed us to identify 377 of Bertin's current suppliers (at the time the IFC loan was granted, the Marabá slaughterhouse had 615 suppliers[466]).

Greenpeace analysis supports the World Bank's fear that the supply chain for cxmpany facilities in the state increasingly comes from frontier forest regions and areas of heavy deforestation.

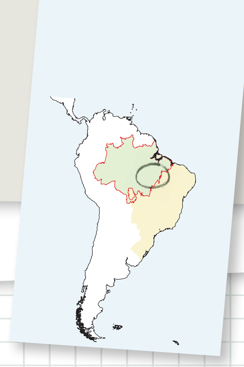
Greenpeace analysis of current identified suppliers to the Marabá slaughterhouse identifies 15 suppliers from seven municipalities outside the AID area.[467] Over two-thirds of identified suppliers are in five municipalities that have been 'embargoed' by the government in an effort to crack down on authorities granting deforestation permits for unregistered ranches.[468] Three of these embargoed municipalities are inside the AID,[469] from which the facility continues to source most of its cattle.

However, at Bertin's Tucumã (PA) facility – which Bertin has agreed with the IFC will only use the Marabá plant's approved suppliers)[470] – 75% of identified suppliers are in embargoed municipalities.[471] At least 25% of identified suppliers come from outside the AID area, with the remaining identified suppliers all being located within São Félix do Xingu, a government 'embargoed' municipality only partially inside the AID.[472]

In an effort to curb illegal deforestation in the cattle supply chain, the IFC stipulated the adoption of a 'cattle purchasing procedure' for Bertin as part of its loan agreement. 'Fundamental' conditions for a supplier to trade with Bertin's Marabá and Tucumã slaughterhouses include:[473]

- Absence of illegal deforestation from the beginning of 2006.
- That the producer does not possess lands or ranching activities in properties that invade indigenous lands.

However, where Greenpeace has been able to identify the coordinates of a given ranch supplying Marabá, Tucumã or Santana do Araguaia slaughterhouse facilities – using government trade data,[474] satellite analysis, field investigations and information from the Ministry of Labour (MTE) – our evidence indicates a lack of compliance with even the fundamental conditions of the IFC loan.



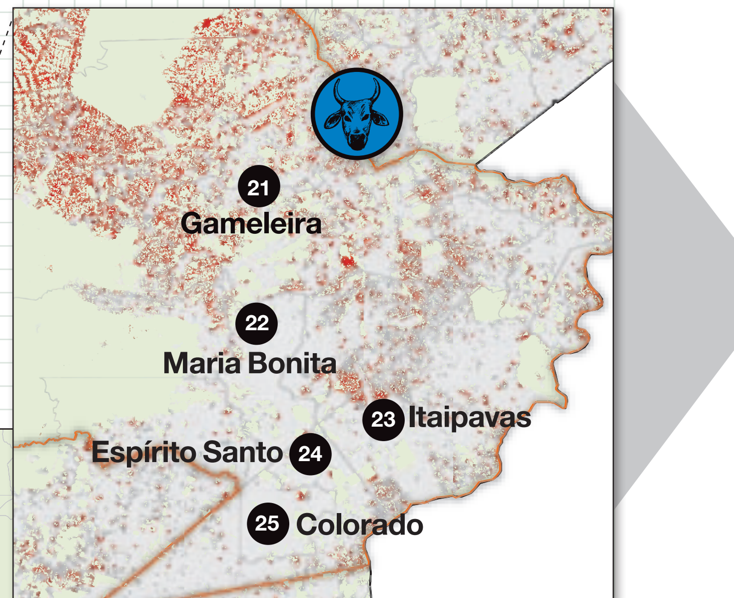
ILLEGAL DEFORESTATION SINCE 2006:

MARABÁ

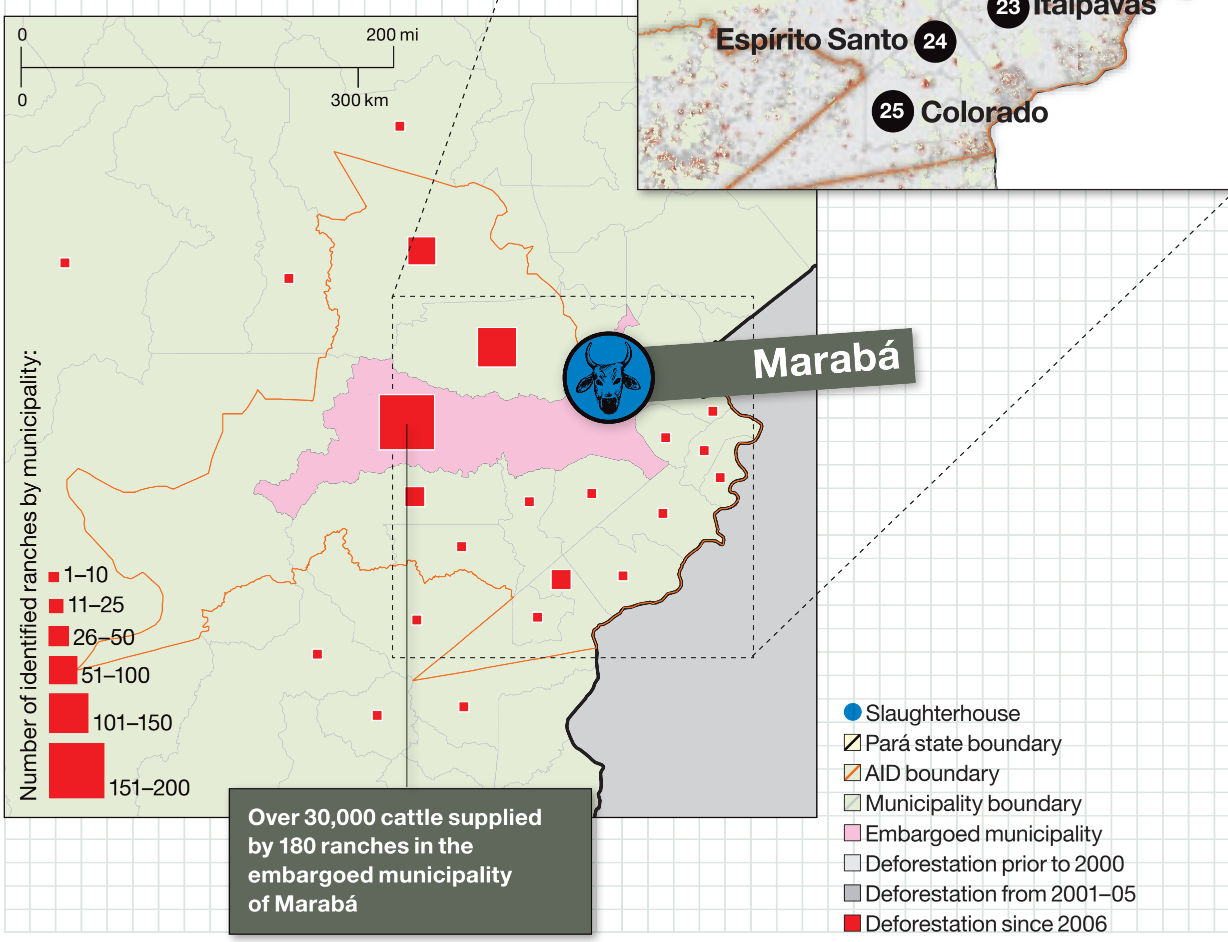
Of the six identified ranches supplying the Marabá facility in 2008 for which Greenpeace obtained access to data on registered boundaries, all far exceed the legal limits for deforestation.[475] Satellite data reveal continued deforestation after July 2005 on all six ranches and continued deforestation after July 2006 on four of the six.

Of the four identified ranches supplying the Santana do Araguaia facilities in 2008 for which Greenpeace obtained access to data on registered boundaries, all far exceed the legal limits for deforestation. Satellite data reveal continued deforestation after July 2005 on all four ranches and continued deforestation after July 2007 on three of the four.

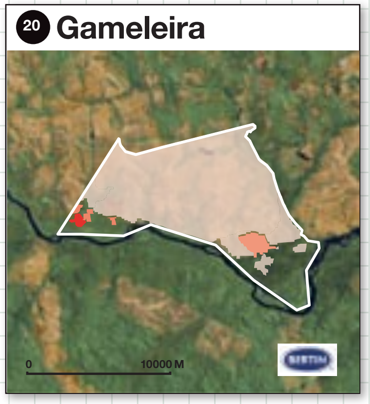
On one identified ranch supplying the Tucumã facilities in 2008 for which Greenpeace obtained access to data on registered boundaries, the ranch exceeds the legal limits for deforestation.[476] Satellite data reveal continued deforestation after July 2007 on the ranch.



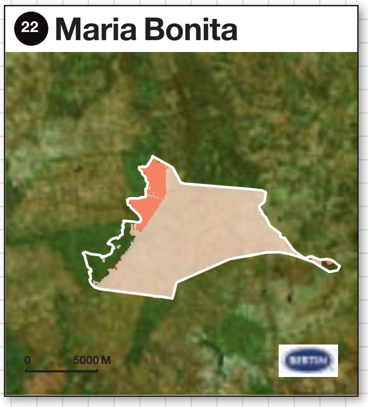
BERTIN'S CATTLE SUPPLY AREA FOR THE MARABÁ SLAUGHTERHOUSE

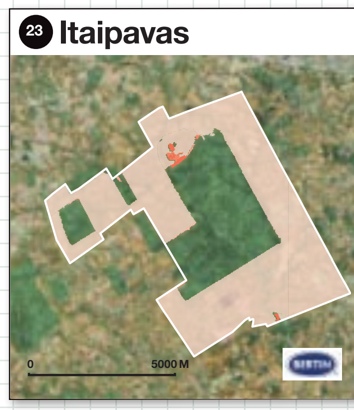


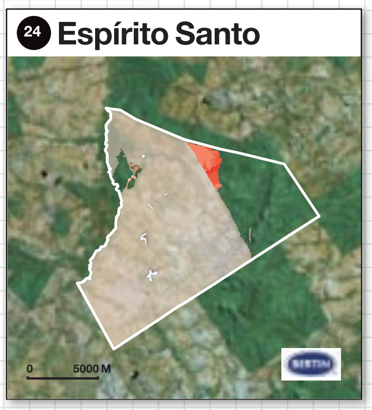
THE SATELLITE VIEW: IDENTIFIED RANCHES SUPPLYING BERTIN IN MARABÁ

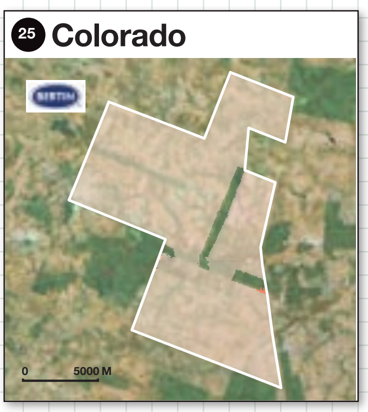


Deforestation:
- to 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- Lake
- Ranch boundary
- Forest









ANALYSIS OF DEFORESTATION ON IDENTIFIED RANCHES SUPPLYING BERTIN IN MARABÁ

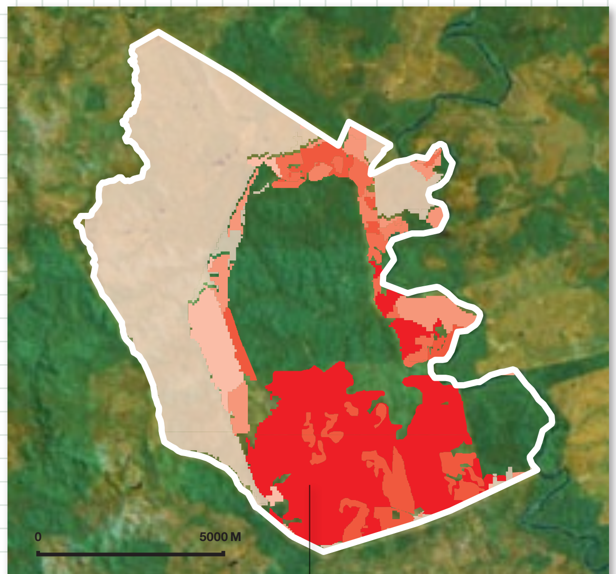
	Ranch name	Ranch owner	Location in Pará	Size of Ranch (hectares)	Deforestation class (% of Ranch)	Supplying slaughterhouse (Group / location)	Identified trade (head of cattle / date) *
21	**Gameleira**	João Luis Avancini / Aroldo Pinto Amorim Filho	Marabá	3,292	70-80	Bertin, Marabá	67 (August 2008)
22	**Maria Bonita**	Agropecuária Santa Barbara Xinguara SA	Eldorado dos Carajás	16,727	90-100	Bertin, Marabá	2,912 (May 2008) + 4 (January 2009)
23	**Itaipavas**	Companhia Agropecuária do Arame	Piçarra	27,066	60-70	Bertin, Marabá	1,056 (January-June 2008)
24	**Espírito Santo**	Agropecuária Santa Barbara Xinguara SA	Xinguara	13,898	70-80	Bertin, Marabá	76 (May 2008) + 380 (January 2009)
25	Colorado	Roque Quagliato e outros	Sapucaia	6,272	90-100	Bertin, Marabá	330 (March 2008)

NOTE: * Access to data limited

26 Itacaiunas

THE SATELLITE VIEW: ITACAIUNAS RANCH WHICH SUPPLYS BERTIN IN MARABÁ

Deforestation:
- to 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- Lake
- Ranch boundary
- Forest



1,565ha deforested in 2008 – the largest area on any registered ranch in Marabá in 2008

ANALYSIS OF DEFORESTATION ON ITACAIUNAS AND SÃO ROBERTO RANCHES SUPPLYING BERTIN IN MARABÁ							
	Ranch name	**Ranch owner**	**Location in Pará**	**Size of ranch (hectares)**	**Deforestation class (% of ranch)**	**Supplying slaughterhouse (Group / location)**	**Identified trade (head of cattle / date) ***
26	**Itacaiunas**	Agropecuária Santa Barbara Xinguara S.A.	Marabá	10,066	65-75	n/d	Trading calves to São Roberto, Santana do Araguaia
27	**São Roberto**	Agropecuária Santa Barbara Xinguara S.A.	Santana do Araguaia	no data	no data	Bertin, Marabá	880 (January 2009)
NOTE: * Access to data limited							

FARM TO FARM TRADE:

THE 'LAUNDERING' OF CATTLE FROM DEFORESTATION

It is well known that there is a high level of movement of cattle between ranches within and beyond the Amazon rainforest biome.

In Mato Grosso – the centre for cattle production in Brazil – government trade data[477] show nearly 11 million head of cattle were transported within the state for the purposes of rearing, fattening, or reproduction.

According to a field survey for the IFC, about half of cattle ranchers in Pará trade cattle at some point in the production cycle – breeding, grazing and fattening for slaughter.[478] Live animals for breeding or fattening are traded over a range of up to 400km, with an average range of 86km.[479] Range for sale of animals for slaughter reaches 3,000km, with 530km the average distance for such sales.[480]

One of the objectives of the IFC loan to Bertin for the expansion of its slaughterhouse at Marabá (PA) was 'to guarantee that the cattle purchased by Bertin's slaughterhouse in Marabá does not derive, direct or indirectly, from properties involved in […] recent illegal forest clearing.'[sic][481] The Environmental and Social Impact Assessment (ESIA) states: '[Sorting out the entire cattle supply chain] is a matter of urgency given that the unit is located in the Legal Amazon where deforestation has traditionally been used to open land for cattle grazing, and where there are still serious social problems involving unscrupulous cattle ranchers.'[482]

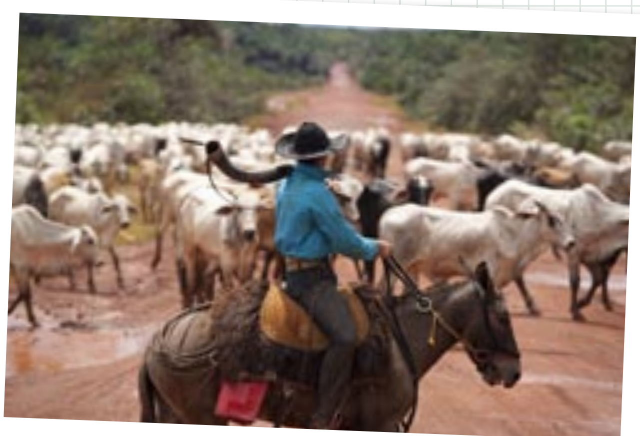
Greenpeace investigations, however, show that Bertin sources cattle indirectly from properties involved in recent illegal forest clearing.

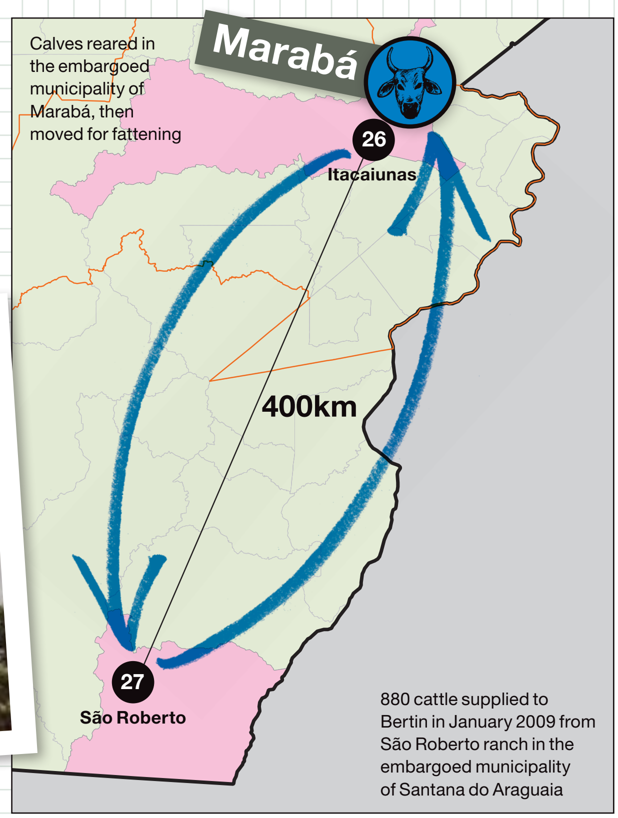
Government trade data[483] and personal communications with company insiders reveal the Santa Bárbara Xinguara group is a significant supplier to Bertin's slaughterhouses at Marabá, Santana do Araguaia and Tucumã. Reportedly, the group controls more than 500,000 hectares[484] with a cattle herd of over 500,000 head.[485]

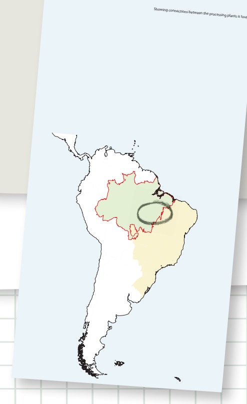
Through government trade data,[486] Greenpeace has identified eight ranches[487] controlled by the Santa Bárbara Xinguara group. This includes the São Roberto ranch, which supplied cattle to the Bertin's Marabá slaughterhouse in 2008 and early 2009.

The Itacaiunas ranch, in the embargoed municipality of Marabá, is a 'nursery' ranch, focusing on the breeding and rearing of beef calves; it then transports these calves to the São Roberto ranch for fattening prior to slaughter.[488]

Greenpeace analysis of satellite data reveals that in 2008 the Itacaiunas ranch deforested the largest area of any single registered ranch in Marabá, a total of 1,565 hectares.[489]







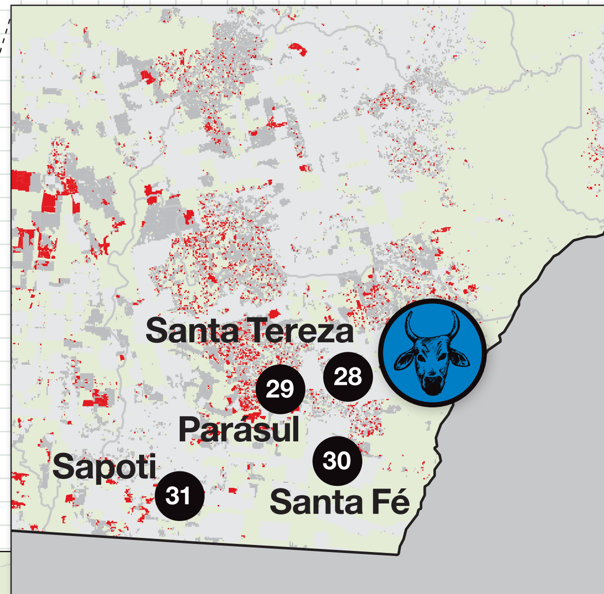
TRADING WITH CONVICTS: SANTANA DO ARAGUAIA

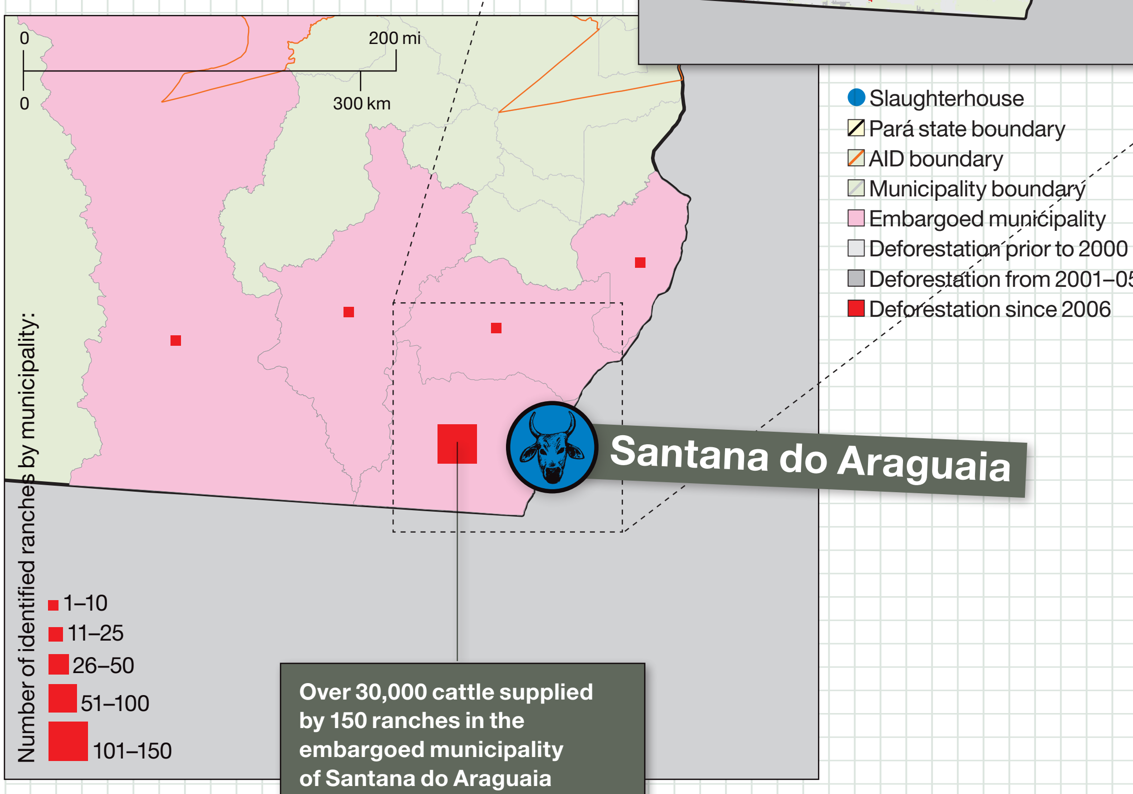
Absence of illegal deforestation from the beginning of 2006 is a critical criterion for a ranch to supply cattle to Bertin's Marabá and Tucumã slaughterhouses. The IFC loan agreement stipulates that Bertin must verify whether ranchers have been charged with illegal deforestation by checking the list of those fined published in the Official Gazette or at the State Secretariat for the Environment (SECTAM).[490] Any listed producer 'will not be able to sell cattle to Bertin'.[491]

In August and September 2008, the Brazilian environmental agency, IBAMA, raided Santa Bárbara do Xinguara group ranches in the Santana do Araguaia region including Santa Ana, Caracol and Rio Tigre.[492] All of these ranches had been fined for illegal deforestation exposed during previous inspections between 2006 and June 2008, and ordered to reforest illegally deforested areas.[493] The raid revealed that no reforestation had taken place, and ranching continued on the illegally deforested areas.[494] Government trade data[495] seen by Greenpeace reveal that Bertin slaughterhouses in Marabá and Santana do Araguaia have continued to source cattle from these ranches since the raid.

Government trade data[496] seen by Greenpeace reveal that Bertin's slaughterhouse also trades with cattle sourced from in Tucumã also trades with cattle sourced from a ranch fined for illegal deforestation in 2006.[497]

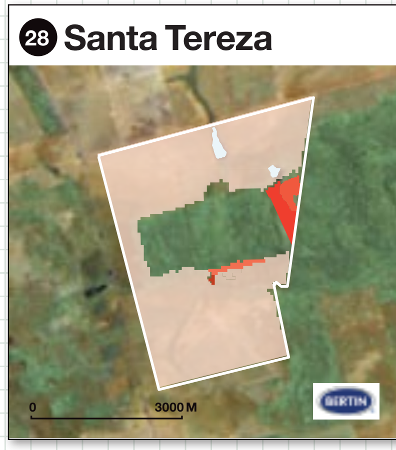
BERTIN'S CATTLE SUPPLY AREA FOR THE SANTANA DO ARAGUAIA SLAUGHTERHOUSE

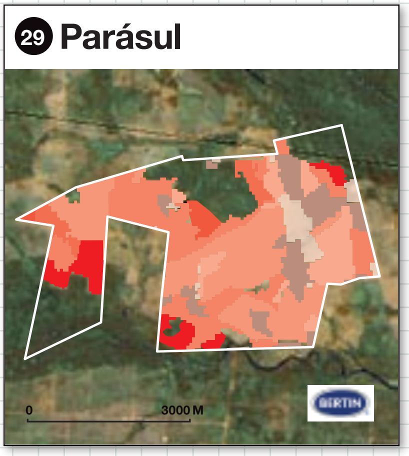


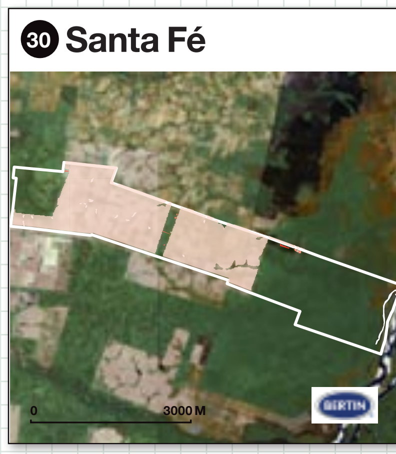


THE SATELLITE VIEW: IDENTIFIED RANCHES SUPPLYING BERTIN IN SANTANA DO ARAGUAIA

Deforestation:
- to 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- Lake
- Ranch boundary
- Forest







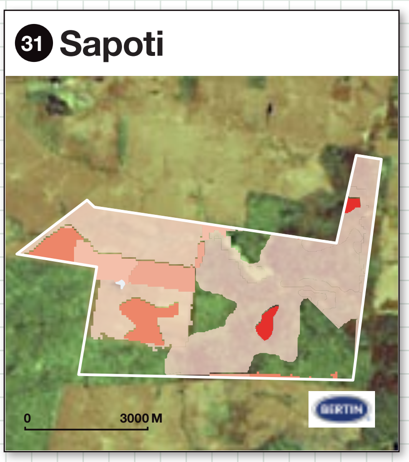


TABLE 8: ANALYSIS OF DEFORESTATION ON IDENTIFIED RANCHES SUPPLYING BERTIN IN SANTANA DO ARAGUAIA

	Farm name	Farm owner	Location in Pará	Size of farm (hectares)	Deforestation class (% of farm)	Supplying slaughterhouse (Group / location)	Identified trade (head of cattle / date) *
28	Santa Tereza	Francisco Benedito Gianetti	Santana do Araguaia	1,521	70-80	Bertin, Santana do Araguaia	234 (January-February 2008)
29	Parásul	Sebastião Alves Araujo	Santana do Araguaia	2,211	70-80	Bertin, Santana do Araguaia	126 (March 2008)
30	Santa Fé	Agropastoril do Araguaia Ltda.	Marabá	35,064	40-50	Bertin, Santana do Araguaia	236 (February 2008)
31	Sapoti	Marconi de F. Castro	Santana do Araguaia	2,989	70-80	Bertin, Santana do Araguaia	378 (January-March 2008)

NOTE: * Access to data limited

'I am concerned about invasion of our reserve. We have recently been out and seen many intruders. I am trying to make the government authorities aware of this, it is very difficult for us to resolve ourselves […] I'm tired of waiting. […] I believe the ranchers are wrong to destroy the forest. […] If the forest is destroyed, there will be no more air for us to breathe.'

Taimye Parákanã, Apyterewa village chief, Apyterewa Indian Land, March 2009

COWBOYS AND INDIANS:

HOW BERTIN IS DRIVING ILLEGAL EXPANSION AT THE FRONTIERS

BERTIN®

'Bertin agrees that it will only process cattle at the Tucumã plant from suppliers of its Marabá plant which are currently included in the "cattle purchasing procedure" under implementation at that plant.'

Letter from IFC to Mr Douglas Oliveira, Chief Financial Officer at Bertin 3 March 2008

'Cattle farming is land intensive and thus poor management of grazing activities may lead to an expansion of the frontier forest, potentially leading to impacts on natural habitats and cultural sites, and/or on indigenous communities. This is of special concern considering Bertin's supply chain and the potentially further/past illegal deforestation by some of its cattle suppliers. This may be of special concern in Bertin's cattle activities associated with food processing facilities and tanneries in the state of Pará, which is in the Amazon area. Furthermore, there are a number of indigenous peoples' reserves in the area of influence of Bertin's operations […]. Concerns are increased considering Bertin's extensive supply chain.'

Inter-American Development Bank (IADB) 'Bertin capital expenditure and refinancing program environmental and social strategy' 2007

The IFC's 2006 environmental and social impact assessment report on Bertin singles out the municipality of São Félix do Xingu as 'more susceptible to deforestation' as it is part of 'the State's new frontiers' and has significant areas of unprotected forest.[498]

The study notes that 'increase in the demand for animals for slaughter, mainly upon opening for external markets, shall press for increase of pasture areas in [São Félix do Xingu]. Therefore, eventual extension of deforestations in the […] west direction [São Félix do Xingu] are expected'.[499]

São Félix do Xingu is an embargoed municipality. Satellite imagery analysis conducted by the Brazilian Ministry of the Environment reveals that the municipality of São Félix do Xingu had the largest area of deforestation in 2008 of any municipality in the Amazon: some 76,300 hectares.[500] Greenpeace analysis of recent satellite imagery shows recent deforestation in the municipality.[501]

In September 2007, Bertin informed the IFC that it was in negotiations to lease (with an option to buy) the slaughterhouse at Tucumã (capacity 500 head per day), near the municipality of São Félix do Xingu in the state of Pará.[502]

Given the 'known social and environmental risks associated with meat processing in the region',[503] the IFC and Bertin signed a protocol stipulating actions Bertin must take to mitigate the environmental impact of the plant.

Critically, Bertin agreed only to process cattle at the Tucumã plant from approved suppliers within its Marabá supply chain, conforming with the 'cattle purchasing procedure' that was a condition of the IFC loan.[504]

Greenpeace has obtained data on registered boundaries for Eldorado do Xingu, one of the largest ranches and cattle suppliers in the São Félix do Xingu region. Although outside the AID for Bertin's Marabá slaughterhouse, government trade data indicate that the ranch supplied several hundred head of cattle to Tucumã in November and December 2008.[505] Nearly 27% of the 127,560-hectare ranch has been deforested.[506] In 2006, Eldorado do Xingu was fined for illegal deforestation.[507] In a recent surveillance flight, Greenpeace documented several newly deforested areas inside this ranch.[508]

ANALYSIS OF DEFORESTATION ON IDENTIFIED RANCHES SUPPLYING BERTIN IN TUCUMÃ								
	Ranch name	**Ranch owner**	**Location in Pará**	**Size of Ranch (hectares)**	**Deforestation class (% of Ranch)**	**IFC agreed supply area (AID)**	**Supplying slaughterhouse (Group / location)**	**Identified trade (head of cattle / date) ***
32	**Eldorado do Xingu**	Eldorado do Xingu S.A. Agrícola Pastorial e Industrial / Agropecuária Santa Barbara Xinguara S.A.	São Félix do Xingu	127,563	20-30	Outside	Bertin, Tucumã	396 (December 2008-January 2009)
33	**Vale Verde**	Rafael Saldanha de Camargo	São Félix do Xingu	n/d	n/d	Outside	Bertin, Tucumã	1557 (June 2008-January 2009)
34	**Tapete Verde**	Helio Moreira Alves	São Félix do Xingu	n/d	n/d	Inside	Bertin, Tucumã	49 (October-December 2008)
NOTE: * Access to data limited								

BERTIN SUPPLIED FROM ILLEGAL CATTLE RANCHES IN PROTECTED AREAS.

Brazilian law prohibits any cattle ranching on indigenous land; it also forbids any non-indigenous person from occupying land within recognised Indian Lands.[511] Thus, any cattle ranches within Indian Land are illegal.

Greenpeace investigations based on government trade data, government audits, confidential industry intelligence and surveillance flights have documented trade between an illegal cattle ranch inside the Apyterewa Indian Land and the Bertin slaughterhouse at Tucumã.[512]

Government trade data[513] seen by Greenpeace reveal that the Parágoiás ranch supplied cattle in September 2008 to the Bertin unit in Tucumã. The 374-hectare ranch, controlled by Edson Américo de Melo, is situated in the Apyterewa Indian Land.[514]

According to 2006, 2007 and 2008 audits by the Brazilian National Indian Foundation (FUNAI), the government agency with responsibility for management of indigenous peoples' affairs, there are 1159 occupied areas within the Apyterewa land.[515]

Analysis by INPE shows that more than 55,500 hectares of the Apyterewa land (some 7% of its area) has been deforested. Satellite analysis shows that much of this deforestation is recent.[516]

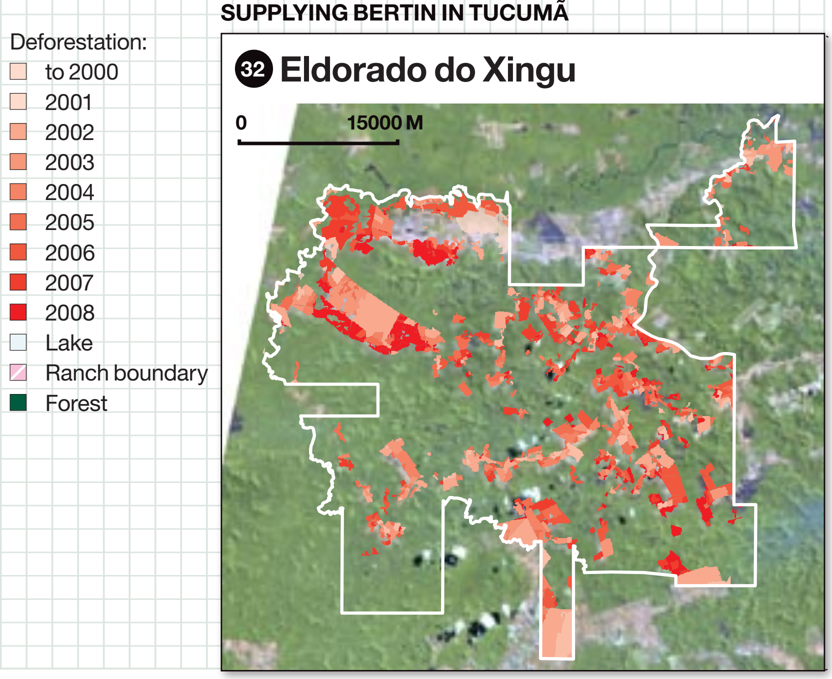
Greenpeace flights over the region show that most of the cleared land is occupied by cattle ranches.

Linking official government trade data with government publications listing fines for illegal deforestation allows Greenpeace to determine approximate locations for other suppliers, though not the boundaries that would allow a deforestation analysis.

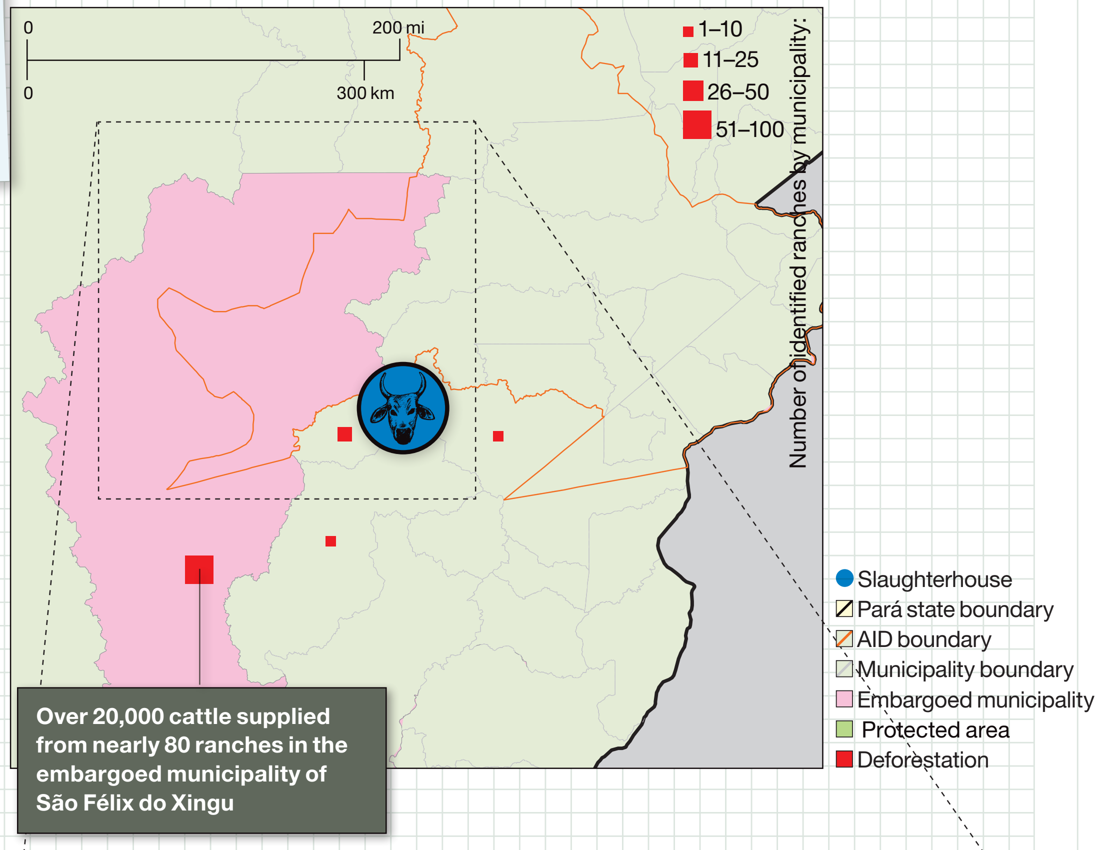
The largest of the identified suppliers to Tucumã from the embargoed municipality of São Félix do Xingu, Vale Verde, which supplied over 3,000 head of cattle in the second half of 2008 and early 2009,[509] is outside the AID. Vale Verde has been fined for illegal deforestation at least once since 2003.[510]

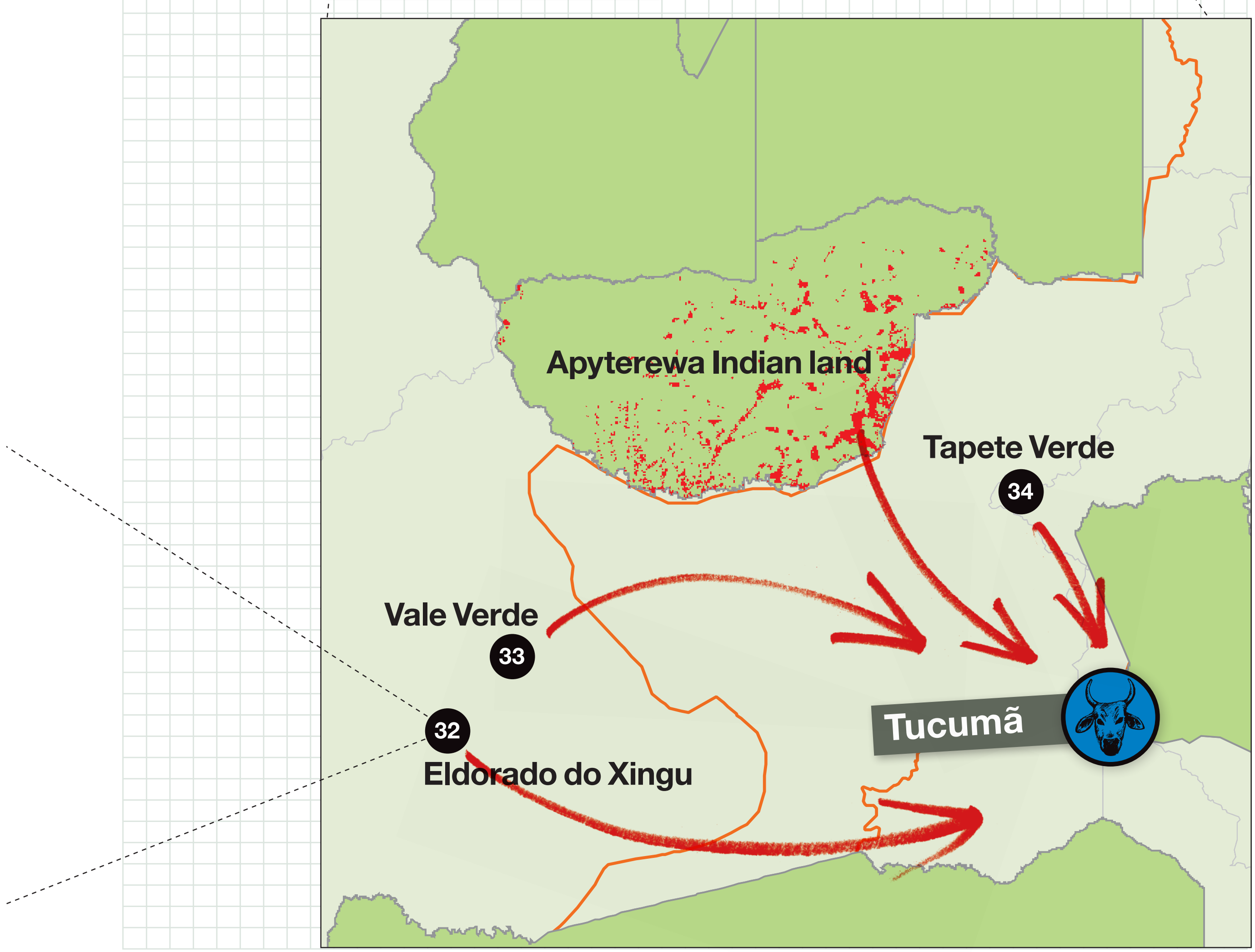
Further, through field investigations and aerial surveillance flights, Greenpeace has been able to document ranches supplying cattle to the facility from the illegal clearance of protected forest areas.

THE SATELLITE VIEW: IDENTIFIED RANCHES AND AREAS SUPPLYING BERTIN IN TUCUMÃ



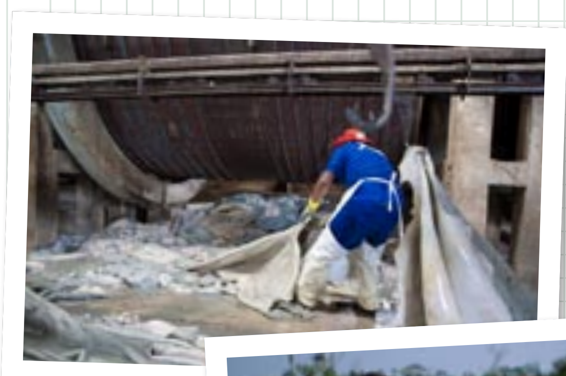
BERTIN'S CATTLE SUPPLY AREA FOR THE TUCUMÃ SLAUGHTERHOUSE





Cattle ranch in the Apyterewa's Land, Pará.
May 8 2009

BERTIN AND JBS LINKS TO SLAVE LABOUR[517]						
Slaughterhouse	**Supplier**	**Ranch name**	**City, State**	**Date entered 'Dirty List'**	**Date of identified sales to slaughterhouse**	**Direct buyers from slaughterhouse (Brazil only)**
Independência (Juína)	Gilson Mueller Berneck	Paráná	Brasnorte, MT	July 2008	March to November 2007, July and November 2008	Sadia (Varzea Grande/MT), International Food Company (Tupeva/SP)
Independência (Juína)	Gilson Mueller Berneck	São Bernardo	Brasnorte, MT	July 2008	April to November 2007, July and October 2008	Sadia (Varzea Grande/MT), International Food Company (Tupeva/SP)
Marfrig (Tangará da Serra)	Antenor Duarte do Valle	Maringá	Comodoro, MT	June 2004	January to December 2007	Carrefour (Brazil) Brazil, Makro Brazil
Marfrig (Tangará da Serra)	Renato Bernardes Filgueiras	Santa Eulália	Tapurah, MT	December 2006	June 2007, December 2007	Carrefour Brazil, Makro Brazil
Bertin (Água Boa)	Daniel de Paiva Abreu	Santa Terezinha	Santa Terezinha, MT	December 2008	April 2007, January 2008	Bertin (Lins, SIF 337); Bertin (Guaicara - dog chew factory)
JBS (Barra do Garças)	Daniel de Paiva Abreu	Santa Terezinha	Santa Terezinha, MT	December 2008	June to October 2008	Carrefour Brazil, Makro Brazil



GREENPEACE INVESTIGATES

PART THREE: A SLAVE TO FASHION

In the course of tracking company links to illegal deforestation, investigations by Greenpeace have uncovered trade between farmers implicated in slavery cases and the top beef and leather exporters.

The Brazilian government launched a national action plan against forced labour in 2003. In May 2005, a National Pact against Forced Labour, coordinated by the International Labour Organisation (ILO) and the Ethos Institute for Social Responsibility, was signed by a large number of public and private enterprises in which they agreed not to buy products made from slave labour.[518] Bertin, Independência, JBS and Marfrig are all members of ABIEC [519] – the Brazilian Association of Beef Exporters – which is a signatory to the Pact.[520] Bertin and JBS are also direct signatories.[521]

INDEPENDÊNCIA'S LINKS TO SLAVE LABOUR

In July 2008, Gilson Mueller Berneck was added to the 'Dirty List'. He was convicted of keeping 47 labourers in conditions of slavery at two of his ranches: Paráná and São Bernardo, both in Brasnorte (MT).[522] Reportedly, Paráná is a 40,000ha ranch with 20,000 head of cattle and a teak plantation.[523] The area of São Bernardo and its herd size are undocumented. However, the ranch has been fined R$2.77 million ($1.35 million) for the illegal deforestation of 1,850 hectares.[524]

The Labour Ministry raid was in April 2007.[525] Reportedly, some of the labourers had been at the ranches without regular salary since 2005. [526]

Confidential industry intelligence reveals that Independência continued buying cattle from Berneck until November 2008. [527]

Export data indicate that in 2008 the Independência unit in Juína supplied the export-oriented leather processing facilities in Nova Andradina (MS) that supply leather to Gruppo Mastrotto, TanTec Leather, Natuzzi, HTL and Prime Asia. In 2008, the Independência unit in Juína supplied the export-oriented beef processing facilities in Cajamar (SP) that supplied beef directly to Cremonini (Inalca & Marr Russia) and International Food Company, whose customers include the beef jerky manufacturer 'Jack Links'.[528]

MARFRIG'S LINKS TO SLAVE LABOUR

In June 2004, Antenor Duarte do Valle was added to the 'Dirty List'. He was convicted of keeping 188 labourers in conditions of slavery at his cattle ranch Maringá. [529]

Antenor Duarte do Valle remains on the 'Dirty List' today.[530]

Marfrig's unit in Tangará da Serra is known to buy cattle from Antenor Duarte do Valle's ranches in Mato Grosso. From January to December 2007, he supplied 3689 head of cattle from Maringá to Marfrig in Tangará da Serra.[531]

Government trade data[532] reveal that in 2007 Marfrig's unit in Tangará da Serra was supplied with cattle from Renato Bernardes Filgueiras.

In December 2006, Renato Bernardes Filgueiras' ranch Santa Eulália in Tapurah (MT) was added to the 'Dirty List'. He is accused of keeping ten people in conditions of forced labour at his ranch.[533]

BERTIN AND JBS LINKS TO SLAVERY

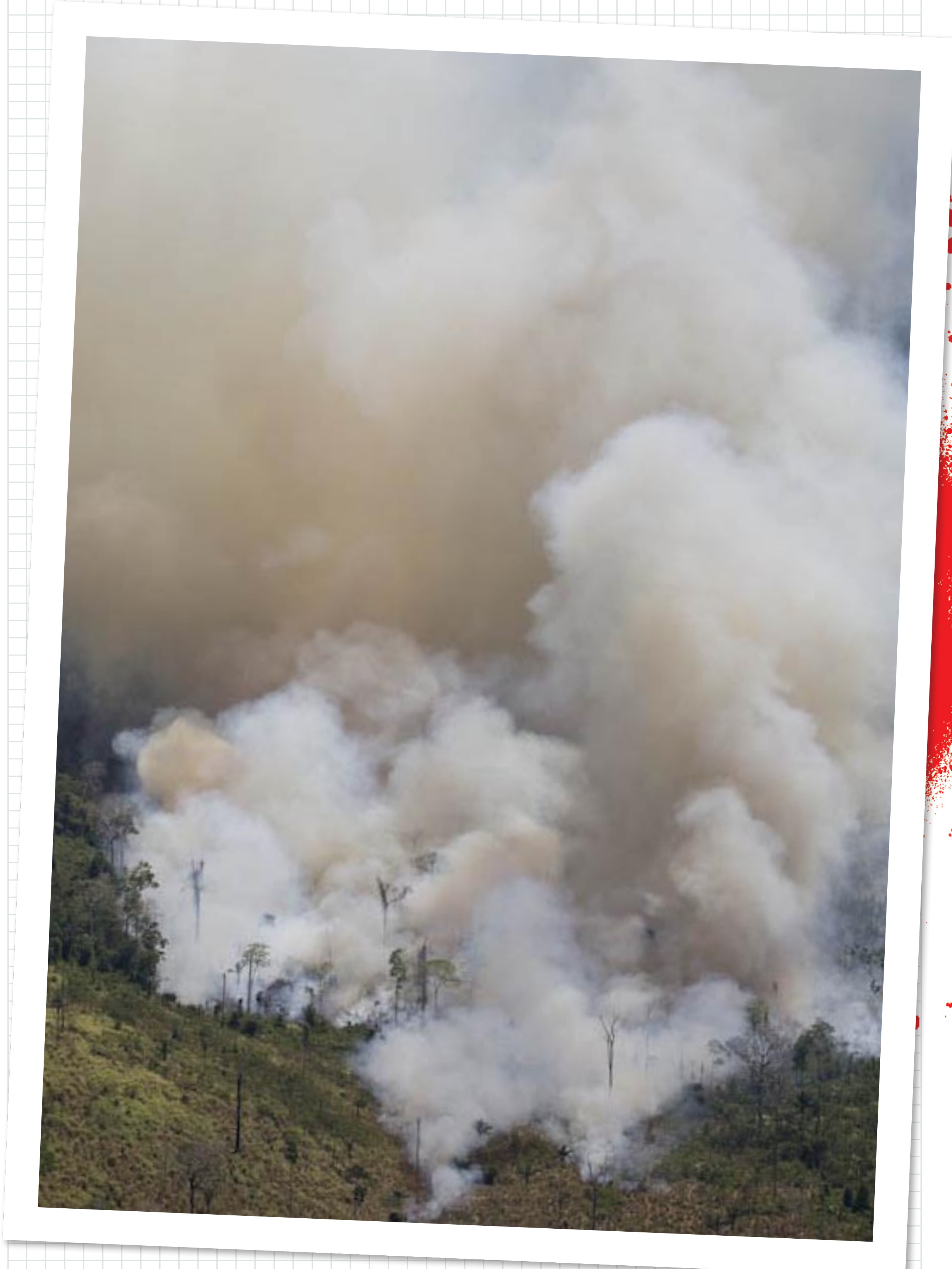
In December 2008, Daniel de Paiva Abreu was added to the 'Dirty List'. He was convicted of keeping nine labourers in conditions of slavery at his cattle ranch Santa Terezinha in Santa Terezinha (MT).[534]

The Labour Ministry raid was in July 2006.[535]

Government trade data[536] reveal that Bertin's unit in Água Boa (MT) and JBS' unit in Barra do Garças (MT) buy cattle from Daniel de Paiva Abreu. In April 2007, he supplied 308 head of cattle to Bertin Água Boa. In January 2008, he supplied 52 head of cattle to Bertin Água Boa. Between June and October 2008, he supplied 889 head of cattle to JBS Barra do Garças.

Government trade data[537] reveal that Bertin's unit in Marabá (PA) buy cattle from suppliers who do not appear on the February 2009 'Dirty List', but do appear on earlier lists.[538]

In 2008, Bertin Marabá slaughterhouse bought cattle from Colorado, controlled by Roque Quagliato and others.[539] In 2003, Roque Quagliato was charged with keeping 81 people in conditions of forced labour at this ranch.[540]



TIME FOR ACTION

‘Brazil does not wish to shy away from its responsibilities.’

President Lula, The Guardian, 1 June 2007

IN CONCLUSION:

WHAT KIND OF WORLD LEADER IS BRAZIL?

'The fight against deforestation is a central plank of our Action Plan Against Climate Change. It outlines clear targets for reducing illegal deforestation in the Amazon – a 72% cut by 2018. Brazil will thus prevent the emission of 4.8 billion tonnes of carbon dioxide.'

President Lula, The Guardian, 28 March 2008

'Private companies in developing countries can play a significant role in combating climate change.'

IFC, 'IFC promotes climate-friendly investments' November 2006

'Now is the time to reduce pressures on tropical forests through a comprehensive framework that integrates sustainable forest management into the global strategy for mitigating climate change and preserving biodiversity […] In areas beyond the agricultural frontier, such as the Amazon, […] quick action to head off the social and environmental impacts of future agricultural expansion is the main challenge.'

The World Bank, 'World Bank advises better forest governance and use of carbon markets to save tropical forests' 23 October 2006

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 Poznàn, Poland, the Brazilian government announced its National Climate Change Plan, including a pledge to pursue 72% cuts in the rate of deforestation by 2018, largely by tackling illegal deforestation, which it claims will prevent the emission of 4.8Gt CO_2.[541]

However, the Brazilian government is a funder and shareholder in the major players in the cattle sector in the Amazon[542] – the single largest driver of global deforestation. The Brazilian government has over $2.5 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.

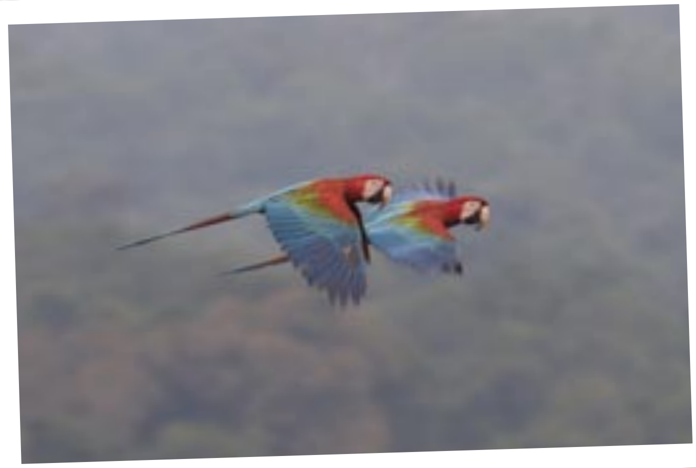
Additionally, legislation before the Brazilian Congress seeks to grant land grabbers legal property rights[543] and to more than double the percentage of forest that can be cleared legally within a property.[544] Rather than cutting deforestation rates, this will lead to increased legal deforestation.

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.[545]

Given the global trade in agricultural commodities driving deforestation, considerable responsibility for action lies with Blue Chip corporations behind reputable global brands whose blind consumption of raw materials in their supply chain 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 International Finance Corporation (IFC), has financed expansion by Bertin at the 'agricultural frontier' of the Amazon rainforest destruction.



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.[546] Brazil needs to raise $21 billion for the fund by 2020 ($2 billion a year),[547] but current totals are far short of this goal. In 2008, only $110 million was made available – the government of Norway having announced a donation of $1 billion to the fund, to be paid by instalments until 2015. As of the end of March 2009, Germany is the only other donor to the fund, announcing a contribution of €18 million ($24.7 million).[548]

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'[549] that the climate challenge will be met.

Halting global deforestation is key to meeting this challenge.

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.

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.[550] 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.

The current global economic downturn, collapse in agricultural commodity prices and the resultant fall in deforestation rates in the Amazon is a once-in-a-lifetime opportunity for Brazil and the international community to support a truly visionary recovery based on zero deforestation, carbon neutral industry and a transition to a limits-to-growth development model.

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

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 must also be tackled.

Copenhagen is a critical opportunity to agree measures and mechanisms including funding to combat global deforestation.

If it 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:

APPENDIX:
COMPANY PROFILES

'We see 2008 as the conclusion of an acquisition cycle that positioned Marfrig to become the "food producer with the most diversified meat base" [...] Gains in operational efficiency will be decisive for profitability and we expect the global crisis to create new opportunities [...] We believe this period of adjustment through which the global economy is undergoing represents an opportunity for us to continue to grow by taking advantage of the synergies between our companies and positioning the Marfrig Group as a global food company.'

Marcos Antonio Molina dos Santos, CEO and Chairman, Marfrig 2008 Management Report

BERTIN

Bertin is an industrial conglomerate operating in the agribusiness sector (meat, leather, food processing, cosmetics, pet products and biodiesel production).[551]

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers link Bertin slaughterhouses or processing units through to beef products in the EU and USA.[552]

GOVERNMENT INTEREST – 27%

In April 2008, the BNDES injected capital funds worth R$1 billion ($485 million) into Bertin in exchange for a 13% equity stake.[553] By the close of 2008, BNDES had injected further funds worth R$2.37 billion ($1.15 billion) into Bertin, raising its stake in the company to 27%.[554] The funds are to be used for capital expenditures related to the expansion of operations.[555]

MULTILATERAL FINANCIAL SUPPORT

IFC – $90 MILLION

In March 2007, the IFC approved a $90 million loan to Bertin.[556]

The loan was designed to help the company supply growing demand for beef from international markets including the EU and the Middle East and increase production of leather for China.[557]

Specifically, Bertin would double beef production capacity at its facility in Marabá, on the Tocantins River in the Amazon region of Pará state. Additionally, it would construct a tanning operation in the vicinity of a slaughterhouse in Marabá.[558]

GLOBAL PROFILE

The company has been expanding rapidly, in a context of dramatic consolidation within the sector. In 2005-2007, Bertin's revenue increased by almost 40% per year.[559]

With cattle slaughter capacity of 11,850 head per day in 2008, Bertin has the second largest installed slaughtering capacity in Brazil, after JBS. From 2007 to 2008, the net sales of Bertin's beef division rose by 50% from R$3 billion to R$4.5 billion ($1.5 billion to $2.2 billion).[560] By the publication of its 2008 third quarter results, it estimated a slaughter volume increase of 51% year-on-year.[561] Bertin's estimate of the number of its Brazilian beef suppliers rose from 8,500 in December 2007[562] to 14,900 in June 2008.[563]

EXPORT ORIENTATION

Export trade accounts for almost half of Bertin's revenue.[564]

Bertin is Brazil's second-largest beef exporter, covering over 40% of Brazilian processed beef exports by value according to a December 2008 company presentation.[565] According to a confidential company document, Bertin's top beef customers include General Mills (USA), Burger King (USA), Kraft Foods (Italy), Nestlé (Switzerland) and Princes (UK).[566]

Bertin is one of the world's largest suppliers of leather and Brazil's number one exporter, accounting for 17% of Brazil's exports in 2008.[567] By December 2008, Bertin had the capacity to process 20,500 hides/day.[568] Much of this capacity will be supplied from third party slaughterhouses, as it outstrips its own current slaughter capacity of 11,850 head per day.

More than 69% of Bertin's leather production is for export.[569] According to a company document, Italy, the USA and China are top import countries. Automobile, furniture and footwear sectors are the key end-uses. Bertin lists direct leather customers including Clarks, Eagle Ottawa, Gruppo Mastrotto, HTL International (Domicil), Natuzzi (Divani & Divani), Chateau d'Ax and Timberland.[570]

With 40% of Brazil's export market share, Bertin is the country's leading exporter of dog toys (rawhide dog chews).[571] Its growth strategy has included the construction of two new dog toy factories, one of which is in Conceição do Araguaia (PA) in the Amazon.[572] 2003-2007 saw a year-on-year increase in gross revenue of almost 30%.[573] A confidential company document notes that Bertin is exclusive supplier for Hartz Mountain Corp (Sumitomo Corporation).[574]

Bertin also manufactures health and beauty products and raw materials for key customers including Colgate Palmolive, Johnson & Johnson and Unilever.[575]

BRAZILIAN KEY PROCESSING INFRASTRUCTURE

Bertin's major export-orientated facilities for beef and leather products are in Lins (SP) (SIF: 337).[576] Government trade data[577] reveal that supplies included beef and hides from the Amazon region including slaughterhouses in Rendenção (PA), Santana do Araguaia (PA) and Água Boa (MT) (SIF: 4121).

Bertin opened a biodiesel plant in Lins (SP) in August 2007 with capacity to produce 110 million litres of biodiesel per year from beef tallow. Suppliers of tallow for this facility include Água Boa (MT). The glycerine left over in the production process is used as raw material in the cosmetics industry.[578] Bertin also produces health and beauty products in Lins. BNDES refers to this unit as a 'continuous plant of hand soaps, soaps and glycerin.'[579]

GLOBAL INFRASTUCTURE IN KEY EXPORT REGIONS

Bertin owns Trump Asia (Hong Kong) and Wonder Best (HK/factory in Guangdong, China) in Asia.[580] Trump is a trader, while Wonder Best is a tannery supplying the shoe and upholstery industries. Wonder Best produces its own range of finished leather goods including handbags and camera cases under the 'Natural' and 'Pirano' brands.[581] Main export markets for Wonder Best are Asia and the USA, with Germany and the UK being important markets in Europe.[582]

Bertin lists Gruppo Mastrotto as a major customer in Italy.[583] Bertin started the Brazilian tannery Bermas as a joint venture with the Italian Rino Mastrotto Group.[584]

Bertin is 'exclusive supplier' to Eagle Ottawa,[585] the world's largest leather car interior manufacturer.[586]

DEFORESTATION AND SLAVERY IN BERTIN'S SUPPLY CHAINS

Greenpeace analysis of government trade data[587] and field investigations reveal that Bertin's cattle supply chain includes significant supplies from within the Amazon rainforest. The company sources from suppliers whose ranches are grossly in breach of deforestation limits and who actively continue to clear remaining forest within ranch boundaries.[588]

In the course of tracking links to illegal deforestation, Greenpeace has also uncovered trade between Bertin and ranchers implicated in forced labour.

Greenpeace investigation findings are detailed in relevant sections of this report.

Independência

Until the end of 2008, Independência Alimentos was one of Brazil's leading meat processing companies and meat and leather exporters.[589]

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers link Independência slaughterhouses or processing units through to beef products in the EU and USA.[590]

GOVERNMENT INTEREST – 14%

BNDES provided Independência with a capital investment of R$250 million ($121 million) in exchange for 14% preferred shareholding.[591]

GLOBAL PROFILE

Independência has 43% of its slaughter capacity concentrated in the states of Mato Grosso, Goiás and Rondônia, areas with 'significantly lower cattle prices'.[592]

As of December 2008, it had a slaughter capacity of 11,800 head per day and a leather processing capacity of 10,000 hides.[593]

Exports accounted for 45% of total beef revenue in second quarter 2008.[594] Exports accounted for more than 80% of total leather revenue. China and Italy were the largest destinations.

In early 2009, Independência was hit hard by the economic crisis and had to reduce capacity. As of 16 May 2009, the company had only one operational facility in the Amazon, with the majority of its operations elsewhere suspended.[595]

BRAZILIAN KEY INFRASTRUCTURE

Prior to the economic crisis, Independência in Brazil operated thirteen slaughterhouses (five in Mato Grosso), three tanneries, three meat-processing plants, three biodiesel factories and distribution centres in Cajamar, Itupeva and the port of Santos (SP).[596] Directly from its tannery in Nova Andradina (MS) or through its logistic hub in Santos (SP),[597] Independência supplies global leather customers in the footwear and furniture sectors. Exports of beef products are mainly realised by the processing plant in Cajamar (SP) (SIF: 556).[598]

KEY CUSTOMERS

In 2008, Independência exported beef products to customers in Russia (GPK Ruberg, Marr Russia/ Cremonini) and Hong Kong (Regal Star, Hason Int), while its leather went to Italy (Gruppo Mastrotto) and China (TanTec Leather, Haining Mengu Group).[599]

SLAVERY IN INDEPENDÊNCIA'S SUPPLY CHAIN

In the course of tracking links to illegal deforestation in the cattle sector, Greenpeace has uncovered trade between Independência and ranchers implicated in forced labour.[600]

Greenpeace investigation findings are detailed in relevant sections of this report.

JBS

'We will be [...] vigilant towards investment opportunities which could add value to our balance sheet.'

JBS President Joesley Mendonça Batista, 'Consolidated results for 2008' 19 February 2009

JBS is the world's largest producer and global exporter of processed beef.[601] The company controls at least 10% of global beef production.[602]

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers link JBS slaughterhouses or processing units through to beef products in the EU and USA.[603]

GOVERNMENT INTEREST – 13%

BNDES holds a 13% share in the company and sits on the JBS Board of Directors.[604] BNDES has provided nearly R$1.5 billion, ($728 million) in capital investment.[605]

GLOBAL PROFILE

With a global slaughter capacity of 65,700 head per day,[606] JBS generated R$30.3 billion ($14.7 billion) in earnings in 2008.[607] The company's operations include 22 beef slaughterhouses located in nine Brazilian states, six in Argentina, eight in the USA, ten in Australia and eight in Italy.[608]

JBS is Brazil's largest exporter of processed beef, with revenues of $1.1 billion in 2007.[609]

In Brazil, from 2001 to 2009, JBS' slaughter capacity increased from 5,800 head per day to 18,900 head per day.[610] The company has over 12,000 suppliers in Brazil, located within a 500km radius of the slaughterhouses.[611]

The company's top export markets for its Brazilian production are Europe, Russia, the Middle East and the USA.[612]

The company's key customers include its own subsidiaries Tupman Thurlow and Friboi in the USA and Europe, and joint venture partners include Inalca in Italy. Other key clients include Heinz, Americana (a supplier to KFC, Burger King, TGI Friday's and Pizza Hut) and Kraft Foods.[613]

JBS beef products also go directly to retail outlets in Europe and the USA, mainly from the JBS processing plant in Andradina (SP), but also from the JBS unit in Barra do Garças (MT).[614]

On 2 March 2009, JBS issued a statement to investors: 'JBS is in the process of growth in Brazil',[615] has not suffered any financial losses and is studying further expansion at some of its Brazilian plants, with the possibility of hiring of up to 5,000 people during the first half of 2009.[616]

BRAZILIAN KEY INFRASTRUCTURE

JBS has its largest slaughterhouse in Mato Grosso – the unit in Barra do Garças (SIF: 42) with a slaughter capacity of over 1,700 head per day.[617] Barra do Garças exports directly to Europe.[618] However, government trade data[619] reveal that beef from the Amazon region including Barra do Garças, Cáceres and Araputanga (MT) (SIF: 2979) goes to other JBS units for further processing,[620] including the São Paulo based, export-orientated units in Andradina (SP) (SIF: 385), Barretos (SP) (SIF: 76), São Paulo (SP) (SIF: 3327) and Presidente Epitácio (SP) (SIF: 458).[621] The Andradina facility is one of the largest factories in the world for cooked and frozen beef and ready meals.[622]

GLOBAL INFRASTUCTURE IN KEY EXPORT REGIONS

In December 2007, JBS entered into a strategic alliance with the Italian company Gruppo Cremonini. The alliance encompasses the whole beef production and beef by-products division of Cremonini (Inalca SpA and Montana Alimentari SpA) in which JBS has a 50% stake[623] for which it paid €225 million ($308 million).[624] Inalca produces 260,000 tonnes of beef per year, of which 50,000 tonnes is ground beef for hamburgers.[625]

Cremonini claims that 'the Group is the leader in Italy in the production of beef and meat-based transformed products (Inalca SpA) as well as the leader in Italy in the distribution of food to the catering sector (Marr SpA). It is also amongst one of the most important Italian cured meat producers (Montana Alimentari SpA).'[626]

Cremonini's corned beef brand 'Montana' has the second highest market share in the canned beef sector, behind Kraft's Simmenthal brand and ahead of Manzotin of the Bolten Group[627] – brands also linked to Brazilian beef suppliers active in the Amazon.[628]

Cremonini is exclusive supplier to the Italian Railway (including EuroStar Group) and also supplies the French railway companies SNCF and Thalys International.[629] The Group is the second largest Italian motorway caterer through its 'ChefExpress' service stations.[630]

DEFORESTATION AND SLAVERY IN JBS' SUPPLY CHAIN

Greenpeace analysis of government trade data[631] and field investigations reveal that JBS' cattle supply chain includes significant supplies from within the Amazon rainforest. The company sources from suppliers whose ranches are grossly in breach of deforestation limits and who actively continue to clear remaining forest within ranch boundaries.[632]

In the course of tracking links to illegal deforestation, Greenpeace has also uncovered trade between JBS and ranchers implicated in forced labour.

Greenpeace investigation findings are detailed in relevant sections of this report.

'JBS continues its growth process in Brazil [through] the expansion of the market share of the Company in the beef sector.'

JBS website (2009)

According to company documents, Marfrig is the fourth largest producer of beef and beef products in the world.[633]

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers link Marfrig slaughterhouses or processing units through to beef products in the EU and USA.[634]

GOVERNMENT INTEREST – 15%

As of the end of December 2008, BNDES held 3% shares (R$102 million) ($49.5 million) in Marfrig.[635] In September 2008, BNDES increased its stake to 15%.[636]

GLOBAL PROFILE

Marfrig runs 57 plants in nine different countries across North and South America and in Europe. These include 18 beef slaughterhouses (half of which are in Brazil) and 16 further slaughterhouses for sheep, pigs and poultry. It also includes 30 processing plants. Marfrig's global beef slaughter capacity is 21,100 head per day and its industrialised and processed products capacity is 2,208 tonnes per day.[637]

Marfrig presents the fiscal year 2008 as a year in which it concluded its cycle of expansion and acquisitions, positioning Marfrig as 'the most diversified food company in different meats'.[638]

Marfrig's strategy includes:[639]

- Acquisition opportunities in a highly fragmented market
- Further processed beef products
- Expansion of food business

Marfrig exports its products to over 120 countries. The EU accounts for 45% of export revenue and 30% of export volume. [640]

The company has a Brazilian slaughtering capacity of 13,300 head per day (as of fourth quarter 2008) and a further meat processing capacity of 465 tonnes/day. However, it only has capacity to process 1,500 hides/day (São Paulo),[641] therefore the majority of hides resulting from slaughter must be sold on to third parties. The company sees industrialised meat processing as its niche, and estimates that processed products will account for up to 40% of its 2009 sales.[642]

In March 2009, Marfrig announced plans to increase slaughter capacity in second quarter 2009, when it expects fewer players in the market.[643] The crash in the price of cattle in the region is already increasing slaughter volume in Mato Grosso.[644]

CUSTOMERS

International trade data show key customers for Marfrig include:

Supermarkets: Tesco (UK), Metro (DE), Makro (NL), Aldi (DE), LIDL (UK), Spar (NL), Wal-Mart (US)

Brands: Inalca/Cremonini (IT), Kraft (IT), Princes (UK), Tupman Thurlow (US)

Ready meal and catering sector: Northern Foods (UK), Oakfield Foods (UK)

BRAZILIAN KEY INFRASTRUCTURE

Marfrig's export-orientated processing units are at Bataguassu (MS) (SIF: 4238), Promissão (SP) (SIF: 2543) and the Pampeano unit at Hulha Negra (RS) (SIF: 226).[645] Government trade data[646] reveal that supplies included beef from the Amazon region[647] including Marfrig's slaughterhouse in Tangará da Serra (MT) (SIF: 1751).

The slaughterhouse in Tangará da Serra (MT) supplies most of its beef to a Marfrig processing unit in Promissão, with smaller volumes also ending up at company units in Bataguassu, Santo André and Hulha Negra (Pampeano) in the southeast and south of Brazil.

In 2007, Marfrig bought Pampeano Alimentos,[648] with a processing capacity of 300 tonnes per day.[649] Its customers include the principal importers and distributors of canned meat products in more than 40 different countries.[650] PIERS export data reveal that in 2008 over 40% of production for export from this facility was destined for the UK, with 26% going to the USA. The Netherlands and Germany were the third and fourth largest destinations.[651]

GLOBAL INFRASTUCTURE IN KEY EXPORT REGIONS

Marfrig Europe does business with all 27 EU countries.[652] The company anticipates increased beef product sales in the UK starting from third quarter 2009.[653]

In 2008, Marfrig bought Moy Park and CDB Meats in the UK.[654]

Moy Park supplies a large variety of chicken products to retailers throughout the UK, Ireland and Europe.[655] In 2009, the company signed new contracts with 'some UK supermarkets' for beef from Brazil. It expects to start marketing sliced fresh and cooked beef in June 2009.[656]

CDB Meats is a leading European importer and distributor of branded and own-label food products including corned beef and canned ready meals to the retail, food service and food manufacturing sectors. It trades under brands including Meteor, Concord, Caprice and Channel Maid.[657]

DEFORESTATION AND SLAVERY IN MARFRIG'S SUPPLY CHAIN

Greenpeace analysis of government trade data[658] and field investigations reveal that Marfrig's cattle supply chain includes significant supplies from within the Amazon rainforest. The company sources from suppliers whose ranches are grossly in breach of deforestation limits and who actively continue to clear remaining forest within ranch boundaries.[659]

In the course of tracking links to illegal deforestation, Greenpeace has also uncovered trade between Marfrig and ranchers implicated in forced labour.

Greenpeace investigation findings are detailed in relevant sections of this report.

'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

Minerva is now the leading exporter of live cattle from Brazil, with 41% market share in the first half of 2008.[660] All exports of live animals by the company go through the port of Belém in the Amazon state of Pará.[661]

Brazilian Federal Inspection Service (SIF) numbers show the company and plant origin of exported goods. SIF numbers link Minerva slaughterhouses or processing units through to beef products in the EU and USA.[662]

GOVERNMENT INTEREST

In January 2009, Minerva signed a financing agreement with BNDES for a R$122 million ($59.2 million) loan to modernise and expand the company's units.[663] BNDES does not hold any shares in Minerva.[664]

Minerva also signed a financing agreement with the federal bank Banco da Amazônia for projects to modernise and expand its slaughterhouses in Araguaína (TO) and Rolim de Moura (RO): R$39 million ($19 million) and R$54 million ($26 million) respectively.[665]

GLOBAL PROFILE

Live exports have increasedalmost seven-fold since 2005.[666]

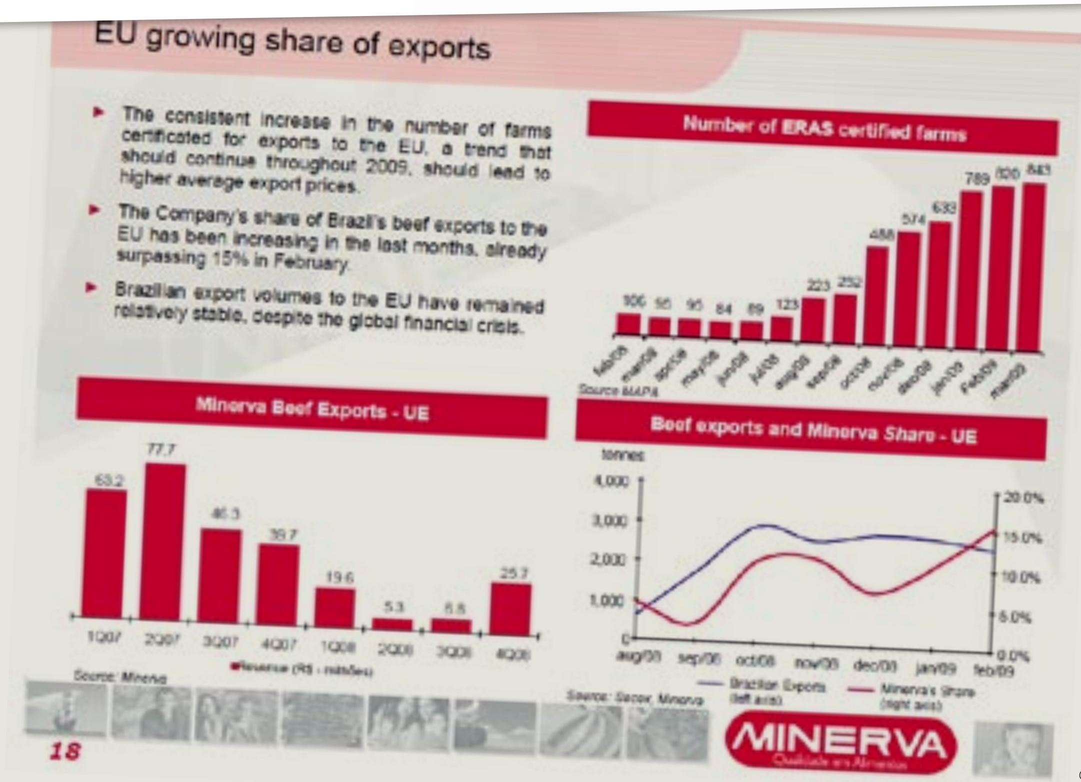
The company has slaughter capacity of 6,600 head per day, processing capacity of 1,300 tonnes per day and leather capacity of 5,000 hides per day.[667]

Some 14% of Minerva's Brazil slaughter capacity is in the Amazon region.[668]

'The Brazilian government has signalled strong support to our sector, this support probably turning into the creation of new working capital financing lines.'

'March margins improving due to reduction in raw material costs, mainly from cash purchases. Low inventory levels in the main export markets should lead to improved prices in new contracts. The company increased its production by 20% in March, with capacity utilization converging to near historical averages of 80%. Average monthly sales are also increasing'

Minerva (2009) fourth quarter 2008 Results Conference Call 26 March 2009



Source for Minerva graphic: Minerva (2009a)

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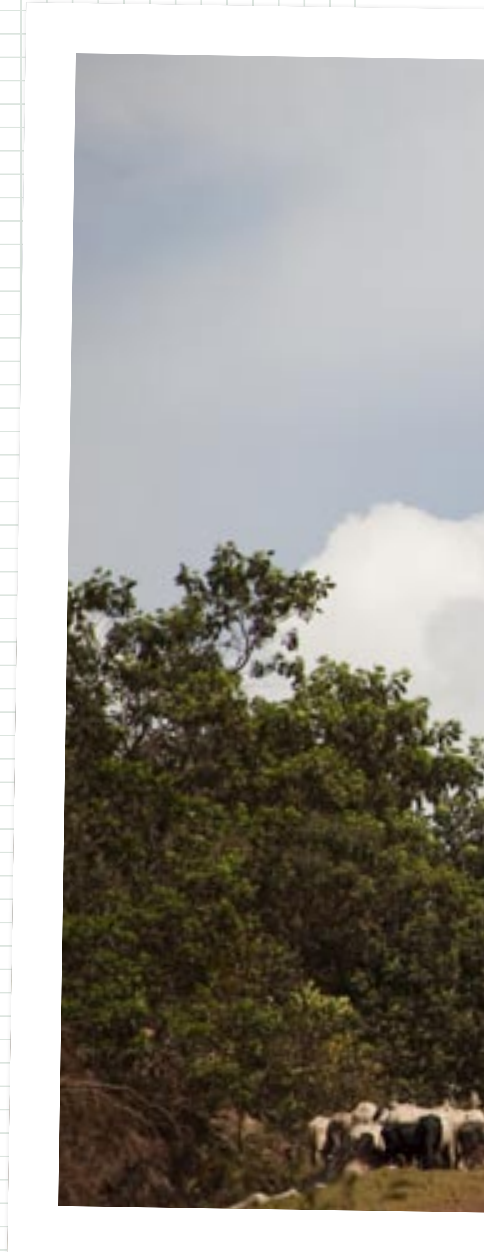

ENDNOTES

1 WRI CAIT Version 6.0 – figure for 2000 (the most recent figure available)

2 IPCC (2007c)

3 World Bank (2006)

4 Cattle in the Brazilian Amazon cause more deforestation than any other country total except Indonesia, where there are multiple drivers of deforestation:

a) Indonesia has the second largest deforestation rate, by area, after Brazil (1.87 million ha/yr, 2000-2005). Source: FAO (2009) 'Table 2 ftp://ftp.fao.org/docrep/fao/011/i0350e/i0350e04b.pdf

b) Deforestation in Indonesia has multiple drivers. For instance:

IIED estimate the percentage share of land-use on deforested land to be oil palm (32%), rubber (30%), rice (19%) and Cassava (19%). Source: Grieg-Gran, M (2006): 13

Wetlands International estimate that concessions granted for oil palm and timber (mostly for pulpwood) were key drivers of deforestation in Indonesia, particularly on peatland: 42% (7.48 million ha) for oil palm and 58% (10.34 million ha) for timber. Source: Hooijer et al (2006) Table 4 Concessions on peatland in Indonesia

5 The cattle sector in the Amazon accounts for nearly 14% of annual deforestation (1.72 million ha/yr Amazon deforestation attributable to cattle and 12.57 million ha/yr of world gross deforestation):

a) Amazon deforestation average 2000-2005, 2.15 million ha/yr. Source: INPE PRODES (2009)

b) 80% of Amazon deforestation (1,72 million ha/yr) is attributable to cattle. Sources for 80%: Chomitz and Thomas (2001): 14; Grieg-Gran (2006): 13; Presidência da República (2004): 10; Barreto et al. (2008): 20 citing IBGE (2006b); Greenpeace (2008a)

c) World gross deforestation 2000-2005, 12.57 million ha/yr. (12.57 million ha deforested - 5.26 million ha reforestation = 7.31 million ha net deforestation). Source: FAO (2009) 'Table 2' ftp://ftp.fao.org/docrep/fao/011/i0350e/i0350e04b.pdf

6 WRI (2005)

7 Saatchi et al (2007)

8 The CO_2e of carbon is 3.6667. Thus the CO_2e for the estimated carbon store within the Amazon is 293–440Gt. US GHG emissions for 2000 including LULUC and international bunkers is 6.57Gt CO_2e. Source: WRI CAIT Version 6.0

9 Amazon deforestation average 2000-2005 (from PRODES): 21,550.7km^2; Rest of world deforestation (net): 7,317,000 hectares/year world total. Largest deforestation by area after Brazil = Indonesia –1,871,000 hectares. Source: FAO 'State of the world's forests 2009' www.fao.org/docrep/011/i0350e/i0350e00.HTM Table 2 ftp://ftp.fao.org/docrep/fao/011/i0350e/i0350e04b.pdf

10 80% of Amazon deforestation (1,72 million ha/yr) is attributable to cattle. Sources for 80%: Chomitz and Thomas (2001): 14; Grieg-Gran (2006): 13; Presidência da República (2004): 10; Barreto et al. (2008): 20 citing IBGE (2006b); Greenpeace (2008a)

11 Presidência da República (2004): 10

12 Amazon deforestation average 2000-2005 (from PRODES): 21,550.7km^2; 80% of this attributable to cattle: 17,241km^2 (1,724,100 hectares)

13 The cattle sector in the Amazon accounts for nearly 14% of annual deforestation (1.72 million ha/yr Amazon deforestation attributable to cattle and 12.57 million ha/yr of world gross deforestation):

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15 PSDOnline database

16 PSDOnline database

17 UN (2007)

18 MAPA (2009): 4

19 de Melo Saab (2008)

20 1998 304Mt, 2008 1,801Mt. Source: PSDOnline database

21 MAPA (2009). PSDOnline database gives slightly different figures

22 in this report, $ indicates US dollars, R$ indicates Brazilian real.

23 Leather represents 27%, processed 12%, fresh/frozen 61% of export trade value. Source SECEX (2009) covering HS code 16025000

24 USDA FAS (2008a)

25 USDA FAS (2009a): 2

26 Chomitz and Thomas (2001): 14 attributes up to 90% to pasture including abandoned land; Grieg-Gran (2006): 13 extrapolates from Chomitz/World Bank figures that 77% of deforested land is grazing + ~10% abandoned pasture land; Presidência da República (2004): 10 states that cattle is responsible for 80% of deforested land in the Amazon region; Barreto et al. (2008): 20 citing IBGE (2006b) conclude that 75%–81% of land deforested up to 2005 has been occupied by cattle; and Greenpeace (2008a) concludes from analysis of satellite data that in 2006 cattle occupied nearly 80% of the land already in use in the Amazon region (77% or 79.5% if Maranhão excluded).

27 Eg Barreto et al (2008) – see main report

28 The analysis compared satellite imagery revealing the total area of Amazon deforestation between July 2006 and July 2007 with the area of deforestation granted in permits issued by IBAMA and local environmental protection agencies within the Amazon region (excluding Tocantins and Maranhão). The calculation excludes issues of land tenure. Source: Greenpeace (2008c): 7
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39 Letters to Greenpeace from companies sourcing beef or leather products from Brazil from suppliers including Bertin, JBS and Marfrig. Companies include producers of branded processed beef products, supermarkets, food processors and vehicle manufacturers
40 NHS Supply Chain website
41 PIERS South American Trade Database January-December 2008; International Center for Foodstuffs website, 'Clients' www.international-center.com/clients.htm accessed May 7th 2009
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55 Halliday (2009)
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57 Eurostat, including all HS codes included in 160250, downloaded 16 April 2009
58 PIERS South American Trade Database January-December 2008
59 Unilever Chief Financial Officer Jim Lawrence, 2008
60 French retailer Casino Guichard-Perrachon SA owns a 34.3% stake in Cia. Brasiliera de Distribuição, part of Grupo Pão de Açúcar.
61 French retailer Casino Guichard-Perrachon SA owns a 35.4% stake in Cia. Brasiliera de Distribuicao source: Groupe Casino (2009)
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79 FAO (2009) Table 2 ftp://ftp.fao.org/docrep/fao/011/i0350e/i0350e04b.pdf
80 WRI CAIT Version 6.0 – figure for 2000 (the most recent figure available)
81 Government of Brazil (2008)
82 Government of Brazil (2008)
83 Phillips (2008)
84 eg BNDES (2009):64, 267-269; Minerva (2009b)
85 100 tonnes/hectare – the Brazilian government's preferred figure carbon stored per hectare of forest (Government of Brazil (2008)) this gives 366.7 tonnes CO_2 emissions per hectare of forest lost

1,953,300 hectares – average annual deforestation in the Legal Amazon 1996-2005 (INPE PRODES figures) This is the period the Brazilian government's National Plan on Climate change uses as a baseline for calculating deforestation reductions.

716Mt CO_2 – Average annual CO_2 emissions from Amazon deforestation 1996-2005, based on above figures.

80% of Amazon deforestation (1,72 million ha/yr) is estimated to be attributable to cattle. Sources for 80%: Chomitz and Thomas (2001): 14; Grieg-Gran (2006): 13; Presidência da República (2004): 10; Barreto et al. (2008): 20 citing IBGE (2006b); Greenpeace (2008a)

573Mt CO_2 = 80% of 716Mt CO_2 – emissions attributable to the cattle industry in the Legal Amazon

377.24 Mt CO_2 – Fossil fuel consumption emissions Brazil (2006) Source: IEA (2008) Table H.1 CO_2 'World carbon dioxide emissions from the consumption and flaring of fossil fuels, (million metric tons of carbon dioxide), 1980-2006' www.eia.doe.gov/pub/international/iealf/tableh1co2.xls accessed 7 May 2009

So emissions attributable to the cattle industry in the Legal Amazon are equivalent to one-and-a-half times Brazil's entire fossil fuel CO_2 emissions for 2006.

While it is unclear what the government figure of 100 tonnes of carbon per hectare is based on, it is likely to be a conservative estimate – scientific sources suggest the carbon content of Amazon forests may be considerably higher, eg Saatchi et al (2007) suggest an average figure of 150 tonnes/hectare for above and below-ground live biomass in terra firme forest. A higher carbon content per hectare would indicate proportionally higher emissions per hectare lost.
86 MAPA (2009): 4
87 Top performing stock-listed companies
88 Government of Brazil (2008)
89 MAPA (2009)
90 80% of Amazon deforestation (1,72 million ha/yr) is estimated to be attributable to cattle. Sources for 80%: Chomitz and Thomas (2001): 14; Grieg-Gran (2006): 13; Presidência da República (2004): 10; Barreto et al. (2008): 20 citing IBGE (2006b); Greenpeace (2008a)
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96 BNDES website 'The Company' www.bndes.gov.br/english/thecompany.asp accessed 12 May 2009

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99 USDA FAS (2009a): 2

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108 USDA FAS (2009a): 1

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110 UN (2007)

111 Valdes (2007)

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113 391 million hectares. Source: Bertin confidential document (June 2008): 5

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115 Rocha (2008) and MAPA (2009)

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117 USDA FAS (2008a)

118 MCT (2006)

119 WRI CAIT Version 6.0 – figure for 2000 (the most recent figure available)

120 716Mt – Average annual CO_2 emissions from Amazon deforestation 1996-2005, based on the Brazilian government's preferred figure of 100 tonnes of carbon stored per hectare of forest (Government of Brazil (2008):14) – ie 366.7 tonnes CO_2 emissions per hectare of forest lost – and average annual deforestation 1996-2005 of 1,953,300 hectares (INPE (2009)).

121 Data for 2006 (Coal consumption emissions Mt CO_2): France 51.95, Germany 318.51, Italy 62.48, Netherlands 41.55, Spain 72.74, United Kingdom 158.22 Total - 705.45 MT CO_2
Source: IEA (2008). Table H.4co2 'World carbon dioxide emissions from the consumption of coal (Million metric tons of carbon dioxide), 1980-2006' www.eia.doe.gov/pub/international/iealf/tableh4co2.xls accessed 17 April 2009

122 Greenpeace analysis of INPE PRODES annual deforestation rates

123 80% of Amazon deforestation (1,72 million ha/yr average 2000-2005) is estimated to be attributable to cattle. Sources for 80%: Chomitz and Thomas (2001): 14; Grieg-Gran (2006): 13; Presidência da República (2004): 10; Barreto et al. (2008): 20 citing IBGE (2006b); Greenpeace (2008a)

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125 USDA FAS (2008a)

126 USDA FAS (2008a)

127 'Brazil also has around 100 million hectares of unexplored or underused agricultural frontiers, without its use meaning deforestation, especially of the Amazon. They are degraded pastures or savannah areas.' Rocha (2008)

128 Imazon, Paulo Barreto, senior researcher, personal communication

129 391 million hectares. Source: Bertin confidential document (June 2008): 5 and 340 million hectares according to Neves (2008): 26

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151 MAPA (2009). PSDOnline database gives slightly different figures
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156 IBGE (2006a)
157 IBGE (2006a)
158 IBGE (2006a)
159 IBGE (2006a)
160 IBGE (2006a)
161 IBGE (2006a)
162 In 1996, in the Legal Amazon (excluding Maranhão which is not part of the Amazon rainforest biome) total area occupied by cattle ranches was 23,424,117 hectares and in 2006 it was 55,439,553 hectares. In the same period the number of ranches increased from 300,880 to 367,590. Thus, the average size of individual ranches increased from about 78 hectares to 151 hectares. Data from IBGE (2006a)
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170 Meat & Livestock Australia (2009b)
171 Cost of deforestation for new pasture: R$800/ha vs cost of restoring degraded pasture: R$1,500/ha Source: Imazon, Paulo Barreto, senior researcher, personal communication
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173 Greenpeace (2008a)– In 2006, cattle occupied 77% of land in use, or 79.5% if Maranhão excluded
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176 9.1 million ha out of 23.8 million ha in the Legal Amazon. Source: INPE PRODES website
177 IBGE (2006a)
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Since 1998, Greenpeace has been working alongside Amazon communities to investigate and expose the threats to the Amazon, and to confront the major actors driving the criminal destruction of this globally critical rainforest.

In order to improve our effectiveness, we set up a satellite mapping team in the Amazon to track and identify those responsible for driving deforestation. This work is coupled with on-the-ground investigations and aerial surveillance.

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 critical role in the preservation of wildlife diversity – over half of the world's land-based plant and animal species are found in forests.[669]

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

Forests are a crucial carbon store: forest ecosystems globally hold about one-and-a-half times as much carbon as is present in the atmosphere.[670] Deforestation of tropical forests is responsible for up to 20% of global GHG emissions, more than the world's entire transport sector.[671]

The Amazon is estimated to store 80-120 billion tonnes of carbon.[672] If this is destroyed, some fifty times the annual GHG emissions from the USA could be emitted.[673]

The Amazon Basin covers an area of approximately 650 million hectares across nine South American countries, 5% of the Earth's surface.[674]

It holds the largest river system on the planet, about one-fifth of the total volume of fresh water in the world.

The Amazon forest influences regional weather patterns. Moisture in the rainforest regulates rainfall over the main agricultural production areas of Brazil.[675]

The region is home to more than 20 million people including over 200,000 indigenous people belonging to 180 different ethnic groups.[676] The rainforest is central to their culture, providing them food and shelter, tools and medicines.

Studies estimate that the Amazon supports 40,000 plant species; 427 mammals; 1,294 birds; 378 reptiles; 427 amphibians and 3,000 species of fish.[677]

GREENPEACE

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Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

Greenpeace is committed to stopping climate change.

We campaign to protect the world's remaining ancient forests and the plants, animals and peoples that depend on them.

We investigate, expose and confront the trade in products causing forest destruction and climate change.

We challenge governments and industry to end their role in forest destruction and climate change.

We support the rights of forest peoples.

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