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The Ultimate

Mystery Meat

Exposing the Secrets Behind Burger King and Global Meat Production

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Burger King, the world's second largest burger chain, sells 11 million Whoppers, Crispy Chickens Jr., Bacon Kings and other sandwiches every day. But what is the environmental impact of producing all of this meat? Burger King provides almost no information on how its meat is produced, or whether the food that goes into its meals is produced in an environmentally and socially responsible manner.

To be sure, Burger King isn't the only company whose lack of policies and practices are driving large-scale environmental problems. Both the fast food industry and other meat sellers, like supermarkets, get their raw materials from many of the same questionable sources as Burger King. But given its size and scale, extensive connections

to other major food companies, and seeming unwillingness to even start to address the challenge, it provides a fitting vehicle to tell the story of the global meat industry.

As this report shows, Burger King has a lot to hide: The fast food giant has failed to adopt any serious policies to protect native ecosystems in the production of its food. Despite pressure from consumers, it continues to rank dead last among its competitors, like McDonald's, when it comes to protecting the environment. Companies found in Burger King's supply chain have been linked to ongoing destruction of forests and native prairies – habitat for wildlife like sloths, jaguars, giant anteaters and other species.

Below: Mass soybean harvesting at a farm in Campo Verde, Mato Grosso, Brazil. Photo: Alf Ribeiro.



Unlike many of its competitors, Burger King has repeatedly turned down requests from civil society organizations to commit to only buying from suppliers who don't engage in destruction of forests, or to provide information about where its commodities originate. McDonald's has even shown leadership by committing to eliminate deforestation from its supply chains, and urging its

suppliers to do the same.

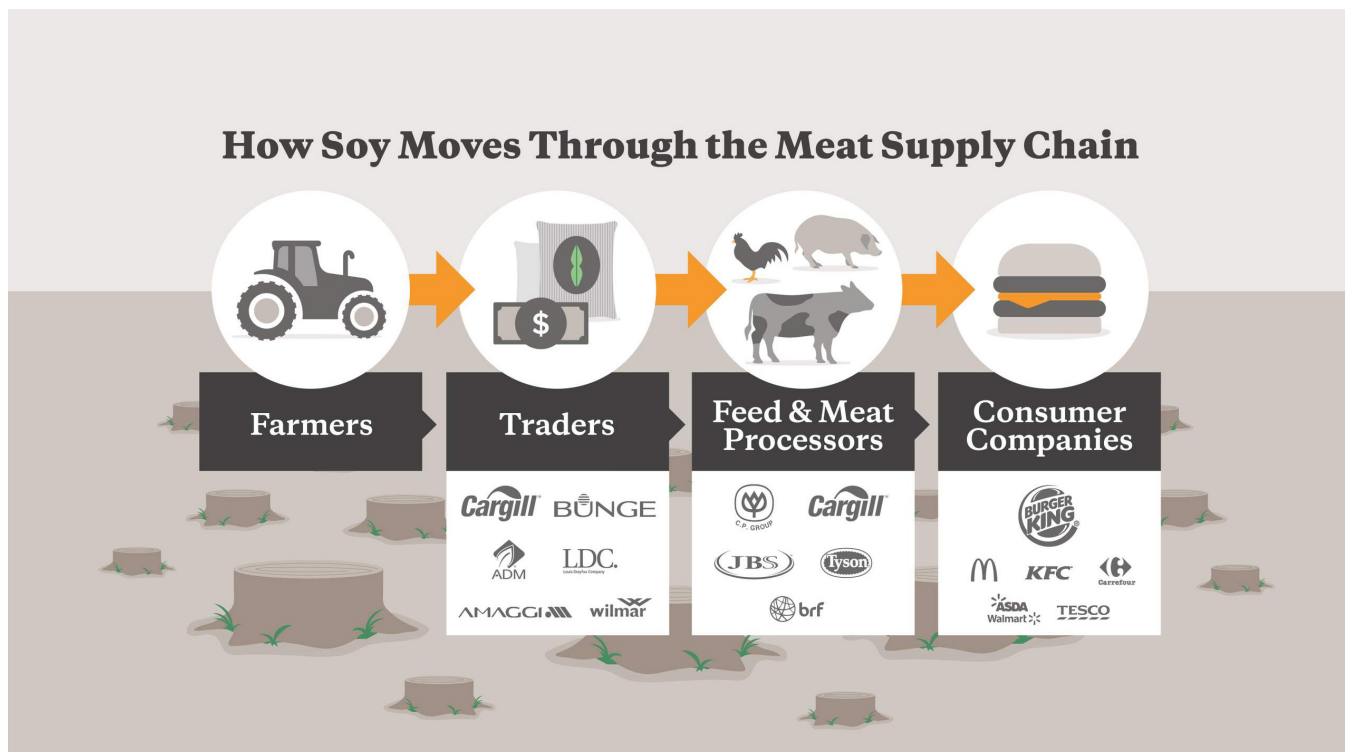
Burger King scored a zero on the Union of Concerned Scientists' 2016 scorecard of major beef sellers' deforestation profiles, significantly lagging behind other major players like Wal-Mart, McDonald's and Wendy's.

The Impact of Global Meat Supply Chains

To examine the impact of Burger King's operations, we focused on the ultimate source of much of its meat: the soybeans that feed the livestock that the company uses to make its meals. Soy is an important base ingredient of the world's meat. Approximately three quarters of the world's soy goes to animal feed.

This soy production has left an enormous scar on the Earth's surface. More than one million square kilometers of our planet - equivalent to the total

combined area of France, Germany, Belgium and the Netherlands - are dedicated to growing soy. In South America, soy and cattle interests have converted vast areas of the Amazon rainforest, Brazil's Cerrado, the Argentine Chaco, Bolivian lowland forests and the Atlantic Forest in Paraguay from diverse native ecosystems into soy monocultures. From 2001-2010, an average of approximately four million hectares of forests were destroyed each year, mostly for soy and cattle.





This report focuses on the impacts of agribusiness on South America's extraordinary ecosystems and biodiversity. Later in 2017, Mighty will release

a report that examines the practices of some of these same companies on the environment of the American Midwest.

Uncovering a Trail of Destruction

For this investigation, we visited 28 sites across 3,000 kilometers in Brazil and Bolivia, where soy production on an industrial scale is fueling massive deforestation. To overcome Burger King's lack of transparency, we used satellite mapping, supply chain analysis tools, interviews with soy growers and an extensive field investigation to uncover deforestation linked to agribusiness giants in the company's supply chain.

Across the South American frontier, we found the footprint of the major trading companies that sit astride global agriculture and supply Burger King and other food companies. Traders like the American companies Cargill, Bunge, and ADM buy grain, build silos and roads, provide farmers with fertilizer, and even finance land-clearing operations.

The Cerrado, Brazil's Savanna Forest

Chapada dos Veadeiros, Brazilian Cerrado. Photo: Willians Fausto.



Brazil's Cerrado is a 200 million hectare, wildlife-rich forested savanna. It is home to five percent of the world's biodiversity, including threatened species like the jaguar, giant anteater, fox, maned wolf, and marsh deer. The Cerrado's soils store significant amounts of carbon that are released when the ground is ploughed up for agriculture. The Cerrado is also a vital source of water for millions of people living in the region. Half of Brazil's watersheds have their sources there, including the Pantanal, which is the largest wetland in the world. The Cerrado even powers Brazil's economy: 90 percent of Brazilians rely on hydroelectric power generated from watersheds originating in the Cerrado.

But this vast savanna is in a state of emergency, largely because of soy and cattle companies' unsustainable practices. More than half has already been destroyed.

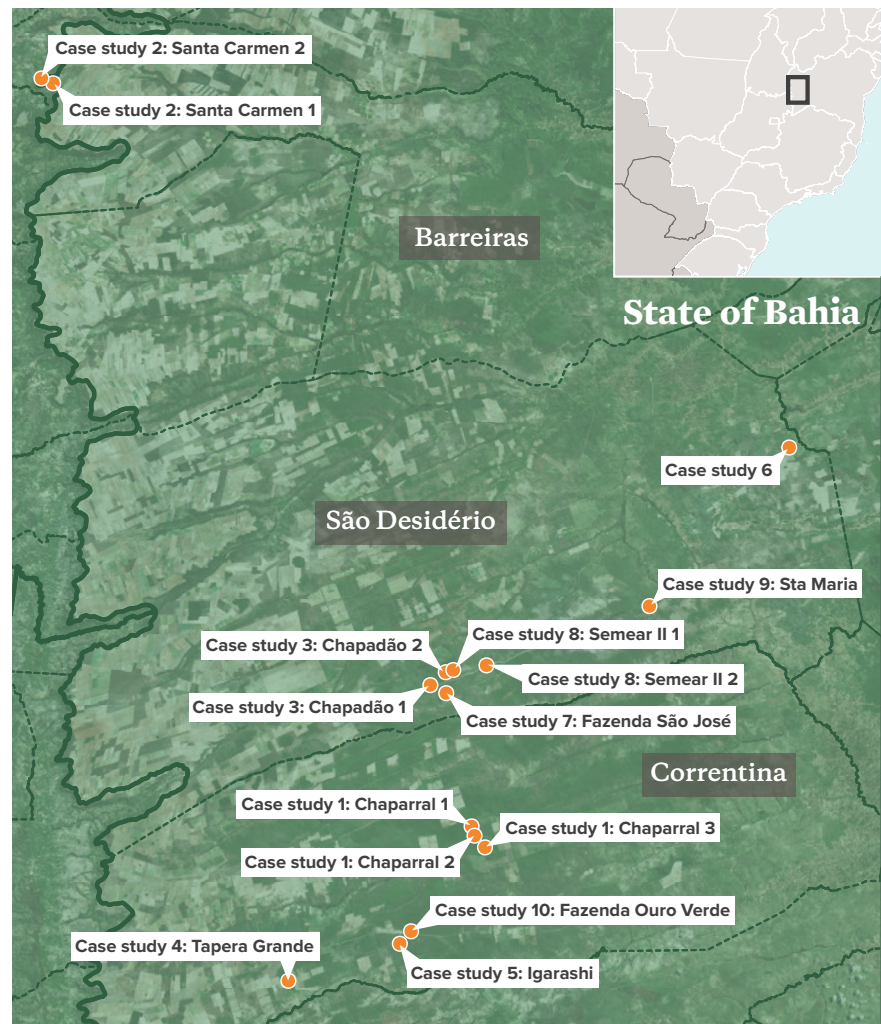
We sought to examine which companies are responsible for this ongoing crisis. To do so, we drew on data and analysis from Conab (Brazil's national agency for agricultural supply) to overlay companies' grain silos and other facilities with deforestation data drawn from satellite analysis conducted by the Lapig Research Group at the Federal University of Goiás in Brazil.

The Key Companies

While there are several soy companies that operate in the Cerrado, the analysis showed that Cargill and Bunge are the two soy traders most closely linked to deforestation. Both companies purchase soy from farmers, and then ship it around the world to feedlots, where chickens, pigs, and cows eat it before they are turned into chicken sandwiches, bacon, and burgers.

Cargill is the United States' largest privately held company, with revenues of \$120 billion, and is a global leader in trade of soy, palm oil, cattle, cotton, and other commodities. This American company has a decades-long history of destroying Brazil's natural resources.

Bunge, which is publicly traded, is based in the leafy New York City



suburb of White Plains, and is the biggest player in the Cerrado. It currently has the most installed infrastructure in Matopiba, made up of the states of Maranhão, Tocantins, Piauí and Bahia, the region with the most deforestation for soy in the Cerrado. Recently, Bunge has extended its network even further in the region.

In addition to buying soy, Cargill and Bunge finance roads and other infrastructure, and provide fertilizers and other resources to farmers, giving them a direct role in driving deforestation across the agricultural frontier. Bunge is the leading company linked to deforestation risk in the Cerrado over the last five years, with Cargill second.

The 29 municipalities in the Cerrado where Bunge was operating a commercial silo saw

almost 50,000 hectares of deforestation in 2015, and a cumulative 567,562 hectares from 2011 to 2015. The 24 municipalities where Cargill was operating a commercial silo saw 130,000 hectares of deforestation over that same five-year period. In addition, there are 12 municipalities where both Cargill and Bunge were operating silos; these areas saw a total of 90,129 hectares of total deforestation over the same period. Not all of the deforestation captured here is for soy; however, these companies are not taking sufficient steps to prevent the substantial amount of deforestation occurring in the regions where they operate, and in many cases are providing the financial incentives that spur the deforestation in the first place.

Across the Cerrado, we visited 15 locations that spanned hundreds of kilometers. Over and over

Below: Clearance on Fazenda São José, São Desidério, Brazil. Photo: Jim Wickens, Ecostorm



again, we found the same thing: vast areas of savanna recently converted to enormous soybean monocultures that stretch to the horizon. The farms were typically large commercial operations spread over thousands of hectares. We used aerial drones to follow tractors as they ripped up the ancient savanna, and watched soybean farmers use systematic fires to burn the debris and clear the land - sending acrid smoke across the whole region.

Many fires went out of control, and burned adjacent intact wildlands. Interviews with farmers confirmed that Cargill and Bunge were the two most common customers of soy from the sites we visited. The satellite images displayed here show exactly the extent of deforestation in each location over the past five years. Bunge has adopted a strong policy on paper to prohibit deforestation in its supply chain, but hasn't widely communicated the policy to its suppliers. Cargill's policy is notoriously weak. Unlike competitors whose bans on deforestation are effective immediately,

Cargill has given itself until 2030 to eliminate deforestation from its supply chains, giving soy growers and others almost 15 years to race to clear as much forest as possible. Regardless, neither company's policy seems to be having sufficient impact on the ground.

There is a lot at stake in these decisions. Across Brazil, agribusiness has had a long history of land grabbing, destruction and violence. A recent report by the international NGO Global Witness found that more indigenous forest defenders had been killed in Brazil than in any other country. Most of the murders took place in the regions with the most land-grabbing for cattle ranches and soy plantations. Hundreds of indigenous defenders have been murdered by hit men hired by unscrupulous agricultural interests. Stopping this cycle of violence will require action from the customers of these commercial agricultural producers.

Below: The Bare-tailed Woolly Opossum (*Caluromys philander*) makes its home in the Cerrado. Photo: Moisés Silva Lima



Bolivia

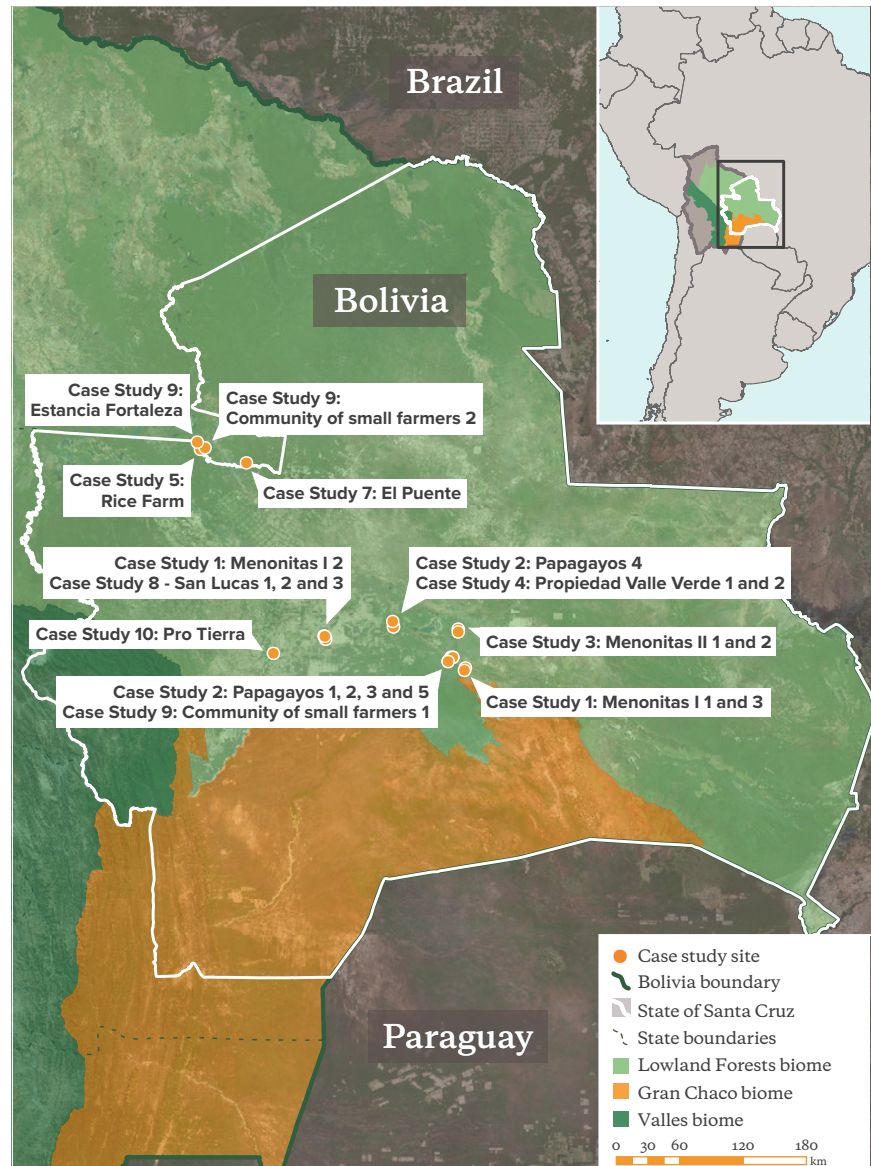
A male jaguar in the setting Bolivian sun. Photo: Vivian Nicholas



Our field team next traveled to Bolivia, another frontier for the global soy industry. Home to more than 14,000 plant, 325 mammal, 186 amphibian, 260 reptile, 550 fish and 1,379 bird species, Bolivia is one of the most biodiverse countries in the world. Three-toed sloths laze about in trees, sleeping so much that moss grows on them. Soaring macaws add a splash of bright color to the blue sky above the rainforest. Pink river dolphins fish the waters. Pumas rule over it all.

Sadly, Bolivia has also been a hub for unsustainable cultivation of soy for livestock feed, which is causing destruction of native ecosystems. Cargill and other traders are also connected to the clearing of this global biodiversity hotspot at a breakneck pace. Across the locations we visited in Bolivia, workers cited Cargill and Chicago-based Archer Daniels Midland (ADM) as the most common buyers of soy. According to a study by the International Institute of Social Studies in The Hague, Cargill's Bolivia silos and warehouses can store up to 27,000 tons of grain; the company also has partnerships with other silo owners in 12 locations. The same research shows that ADM controls 13% of Bolivia's soy exports.

Between 2010 and 2015, Bolivia experienced an average of





Above: An aerial view of one of the Mennonite communities our team visited in Bolivia. Each field is separated by a thin ribbon of trees. Photo: Jim Wickens/ Ecostorm

289,000 hectares per year of deforestation, according to a 2015 Food and Agriculture Organization report. A separate Bolivian study published in the international Plos One scientific journal found that Bolivia lost 430,000 hectares of forest per year over the previous decade. More than three quarters of this deforestation takes place in the Santa Cruz region, which is where we focused our Bolivian investigation. According to analysis by Forest Trends, up to nine-tenths of this deforestation is illegal.

Although Bolivia is one of the least economically

developed countries in South America, its greenhouse gas emissions levels per capita equal or exceed those of many European countries. More than 80% of those emissions come from deforestation.

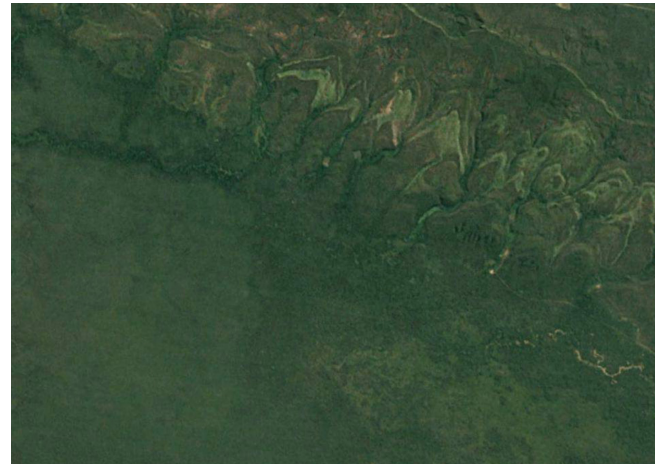
Upon reaching the outskirts of Santa Cruz, the agricultural capital of Bolivia, we quickly started to see the same type of extensive deforestation that we witnessed in Brazil. Massive, out-of-control fires raged through the landscape. Farm workers explained how blazes set by soy growers have dried out the landscape and made it vulnerable to fire.



Living Among the Soy Fields

Local and indigenous populations often suffer the consequences of deforestation. Bolivia has the largest proportion of indigenous people in all of Latin America. About 40 percent of its population identify as indigenous, according to the 2012 census. Much of the remainder of the population has mixed indigenous and European heritage. Many indigenous communities live in forests and rely on them for food, water, shelter and their cultural survival. Soy producers, ranchers, and illegal logging interests have often used violence to displace lowland groups like the Guaraní people from their ancestral land.

We visited the Ayoreo indigenous community in the village of Puesto Paz, a few hours east of Santa Cruz. Until recently, the Ayoreo were traditional hunter gatherers, traveling through the forests that stretched in every direction. Today, the forests have been cut down, and the Ayoreo community is isolated and surrounded by soy fields, with their traditional hunting lands now owned by foreign companies, and their crops exported overseas. When our team spoke with the village head, he described the fear his community experiences when planes fly overhead and spray pesticides for soy just a few hundred meters from the village. He spoke of an incident when several children died from drinking water from a discarded pesticide container brought back from a nearby soy field. Too often, this is where the global meat supply chain ends: with a community driven off their land, their forest cut down, living a precarious existence isolated from their past and without a clear future.



2010: Menonitas 1 site, prior to deforestation. The site is a frontier area one hour from the city of San Jose in the Department of Santa Cruz, Bolivia.



2011: The beginnings of clearance for soy production at Menonitas 1



2016: Extensive deforestation for soy production at Menonitas 1.

Spreading Success: The Soy Moratorium

The kind of deforestation we found in the Cerrado and Bolivia is not inevitable. In the Brazilian Amazon, Cargill, Bunge and other companies have figured out how to protect ecosystems and still grow their businesses.

After pressure from consumers who wanted sustainably produced meat, the major players in the soy industry teamed up and announced that they would no longer buy any soy grown on land deforested after 2006 (later amended to 2008) in the Brazilian Amazon. The results were dramatic: in the two years prior to the announcement, 30% of new soy plantations in the Brazilian Amazon came from destruction of forests. After the agreement, that number dropped to just one percent. Combined with other actions by the Brazilian government and civil society, including in the cattle sector, Brazil reduced its total Amazon deforestation by more than two-thirds, slashing its climate pollution by more than any other country in the world.

Meanwhile, the soy industry has still managed to grow at a tremendous pace: even as deforestation has plummeted, the area planted with soy in the Brazilian Amazon has more than tripled from one million hectares to 3.6 million in just ten years. This agricultural expansion without deforestation was possible because of Brazil's abundance of previously deforested lands, where agriculture expanded without threatening native



Above: Children from the Ayoreo indigenous community in the village of Puesto Paz. Photo: Jim Wickens/ Ecostorm

ecosystems by improving yields and by adopting more efficient agricultural practices. This example shows that a more responsible agriculture is possible at a large scale.

A similar revolution is possible throughout Latin America. Across the region, there are approximately 200 million hectares of degraded forest and grasslands, an area 15 times the size of England. Even if only a portion of this land can be productively developed for agriculture, it would still provide more than ample space to achieve both ambitious agricultural expansion plans, and still leave room for ecological restoration efforts that respect indigenous and local communities'

“Today, deforestation is much higher in the Cerrado than the Amazon. Increasingly, with the climate crisis, we need the forest standing, providing environmental benefits and keeping the water safe.”

—José Sarney Filho, Brazilian Minister of the Environment



legitimate land rights. Soy farmers and cattle ranchers can also manage the land more efficiently, growing more soy or raising more cattle on less land. The good news is that the opportunity for agricultural growth across Latin America without deforestation is gaining traction. On October 19th, 2016, Brazil's Environment Minister, José Sarney Filho, attended an event to commemorate the tenth anniversary of the Soy Moratorium. He cited the success in the Amazon, and called for an extension of the mechanism to the Cerrado.

Companies including McDonald's, ADM, Wilmar, and Louis Dreyfus have also supported further action. Everything is aligned for success. While it still has much to do, ADM has started to fully map its supply chains, work with the NGO The Forest Trust to communicate its expectations for sustainable production to suppliers, and take action against non-compliant growers. But so far, Burger King, Bunge and Cargill have refused to support extending the Soy Moratorium beyond the Brazilian Amazon. Abiove, the Brazilian soy

trade association that represents Cargill, Bunge and others, says it is not considering an extension of the Soy Moratorium to the Cerrado because it claims the Amazon mechanism was put into place during an "emergency situation," and that "there is no crisis situation that would justify a moratorium for the Cerrado."

It's hard to understand how what's happening in the Cerrado isn't an environmental emergency. More than half of the Cerrado's natural vegetation has already been cleared, compared to less than 25 percent of the Amazon. A recent study by Brazilian universities found that this deforestation is threatening the Cerrado's water supplies, which in turn can dry out the neighboring Amazon, making it more susceptible to large fires. Nonetheless, big soy companies like Cargill and Bunge that supply Burger King and many of the other top meat retailers haven't shown sufficient signs of letting up. We hope this report not only provides evidence that the emergency is real and widespread, but also that addressing it is possible.



Potential for Change

Burger King and its suppliers have an enormous opportunity to make a positive contribution to protecting the environment and indigenous communities. Burger King alone has significant influence within the food and agriculture industry. The company operates more than 15,000 restaurants in approximately 100 countries. It is managed by Brazilian investment firm 3G Capital, which also controls major stakes in Tim Horton's, Kraft Heinz, and Anheuser-Busch InBev, meaning that this one company's policies and practices have an outsized impact on the way everything from burgers to beer and macaroni and cheese are produced.

The firm was founded by Brazilian billionaires Jorge Paulo Lemann, Carlos Alberto Sicupira, and Marcel Herrmann Telles and is managed by Alexandre Behring da Costa. Lemann was listed in 2015 as the "Richest Man in Brazil" by Forbes, and as the 26th richest person in the world, with a net worth of over \$32.7 billion. 3G Capital is known for its focus on extreme cost-cutting measures. According to Cristiane Correa's book *Sonho Grande* (Big Dream) on the three partners, Sicupira's favorite phrase is: "Costs are like fingernails; you have to cut them constantly."

Burger King should use its wealth and influence in a positive way by joining others in the fast food industry to adopt and implement a strong

"No Deforestation, No Exploitation" policy. It should publish its suppliers and report on their compliance with sustainability policies. And it should join McDonald's and other companies in urging its suppliers – companies like Bunge and Cargill – to expand the Soy Moratorium to the rest of Latin America and work with governments, communities, and civil society to support sustainable agricultural expansion.

Brazil's Soy Moratorium has shown that commercial growth and environmental protection are not inherently at odds. Brazil's Environment Minister, along with large consumer companies, support action to spread it to the rest of Latin America.

Most importantly, consumers are demanding that their food is produced responsibly – free of links to deforestation or abuse of indigenous people. No one wants to have to think about sloths losing their homes to a soy plantation or cattle ranch while biting into a Whopper, a chicken sandwich, or a steak. People want affordable food that doesn't harm ecosystems or communities, a cornerstone for the creation of a truly sustainable food system.

Burger King, Cargill, Bunge and other companies have the opportunity to help end the era of deforestation in Latin America and move the world towards that vision of responsible food. It's time they seize it.



www.mightyearth.org

Photo: Jim Wickens, Ecostorm

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