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Palm Oil Production in Brazilian Amazon Threatens NDPE Commitments

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Oil palm growers in Brazil have argued that palm oil production is a "green solution" to safeguard the Amazon as a result of planting on areas already degraded and cleared only before 2008. While palm oil production in the Brazilian Amazon has relatively lower environmental impacts than soy and beef, this paper shows how also palm oil expansion can be linked to deforestation, fires, exploitive labor conditions, and land disputes.

Key Findings:

- **The Brazilian government's incentives for palm oil-based biodiesel have increased pressure on the Amazon.** Roraima, known for its tropical rainforest, is the latest area seeing oil palm expansion. Agropalma, Brasil BioFuels (BBF, formerly Biopalma), and Palmaplan are among Brazil's major palm oil producers, with the latter two increasingly shifting operations to Roraima.
- **Chain Reaction Research (CRR) found 1,224 hectares (ha) of deforestation between 2008-2021 on the plantations of nine key palm growers.** Seventy-four percent occurred in areas designated as legal reserves and/or in permanent preservation areas. BBF is responsible for 91 percent of all deforestation (667 ha) on the combined properties of three assessed companies, with the majority cleared in 2019 and 2020. CRR detected a peak of 165 fire alerts on BBF's oil palm plantations in 2020. Deforestation on Agropalma's farms has been negligible since 2008, with no new plantings.
- **Oil palm expansion is not only taking place in already degraded areas, but also in deforestation frontier areas.** CRR also found indications of indirect deforestation around oil palm plantations, adding to existing pressure on the Amazon rainforest from cattle production, soy cultivation, hydroelectric dams, and mining.
- **Oil palm expansion is linked to land disputes and exploitive labor conditions.** Assessed palm growers have been involved in unresolved land conflicts with local communities and private individuals. Moreover, poor working and exploitive labor conditions are reported on plantations.
- **Numerous commodity traders and FMCG companies with NDPE policies buy from BBF and are therefore exposed to deforestation, pollution, and social impacts.** They include Bunge, Cargill, General Mills, Mondelez, Nestlé, Upfield, Kellogg's, and Grupo Bimbo. Moreover, General Mills is also associated with illegal deforestation through its sourcing relationship with Vila Nova Agroindustria. Current and upcoming EU regulations will force these FMCGs and their financiers to be more selective or otherwise face financial and future legal risk.



Incentives for palm oil-based biodiesel increase pressure on Brazil's Amazon

While Brazil is a minor global producer and is largely dependent on imported palm oil, oil palm cultivated area in the Brazilian Amazon has expanded rapidly in recent years. In 2020, Brazil imported [460,000](#) metric tons (MT) of palm oil and palm kernel oil (PKO), and exported 18,800 MT. The country produces around [550,000 MT](#) of palm oil annually, about 0.7 percent of worldwide production. Compared to the world's largest producers Indonesia and Malaysia, which jointly produce around [84 percent](#) of the worldwide production, Brazil's market share and scale are minimal. Nevertheless, between 2004-2010, the oil palm cultivated area [doubled](#) and is forecasted to grow further. The Brazilian palm oil producers' association, Abrapalma, currently estimates the palm oil area in Pará at 535,493 ha, with [226,834 ha](#) planted with oil palm. To meet the impact target of becoming the world's largest producer of biodiesel by 2028, Brazil aims to expand the planted area to [350,000 ha](#), an increase of 54 percent in Pará alone.

Brazil primarily [uses](#) palm oil as an edible oil and for the production of lubricants and greases. PKO is used for cosmetics, confectionary fats, and detergents. The Brazilian government is increasingly promoting oil palm cultivation for palm oil-based biodiesel.

Brazil's RenovaBio biofuel policy increases demand for edible oils-based feedstocks, including palm oil.

After a wave of oil palm investments in Pará state for biofuels production in 2005, several companies divested from biofuels in response to the [collapse](#) of oil prices in 2014-2016. They include [ADM](#), [Petrobras](#), and [Vale Group](#). However, the 2017 RenovaBio program, implemented in 2020 and formalized as Brazil's National Biofuels Policy, revitalized the production of palm oil-based biodiesel. The use of palm oil as feedstock for biodiesel has continuously increased in recent years, from 0.8 percent in 2017 to 2.6 percent in 2020, and saw an almost five-fold increase in volume to [160,000 MT](#).

Environmentalists fear that the recently adopted incentives by the Brazilian government for the use of renewable energy will drive deforestation in the Amazon.

In 2019, President Jair Bolsonaro [lifted](#) a ban on sugarcane cultivation in the Amazon to boost Brazil's biofuel production. Moreover, the government [invested](#) in several thermoelectric power plants in the Amazon state of Roraima which [use](#) palm oil as a major feedstock. This has spurred the use of sugarcane, and increasingly palm oil, for power generation.

Expansion of Brazilian biofuel production has the [potential](#) to support the country toward a low- carbon economy. But in other countries with a longer history of palm oil production for biofuels, the use of palm oil as a primary source of fuel by power plants has been [controversial](#) due to its links to deforestation. Also in Brazil, [environmentalists](#) fear that recent measures to promote biofuels will drive deforestation, adding to the already large pressure on the Amazon rainforest from cattle production, soy cultivation, hydroelectric dams, and mining.

Most actors in Brazil's palm oil industry are not meeting their promises of sustainability, such as reducing pressure on tropical rainforests along with more economic activity and employment. Instead, the industry is linked to [deforestation](#), [pollution](#), [encroachment](#) of traditional territories, [land grabbing](#), and [exploitive](#) labor relations.

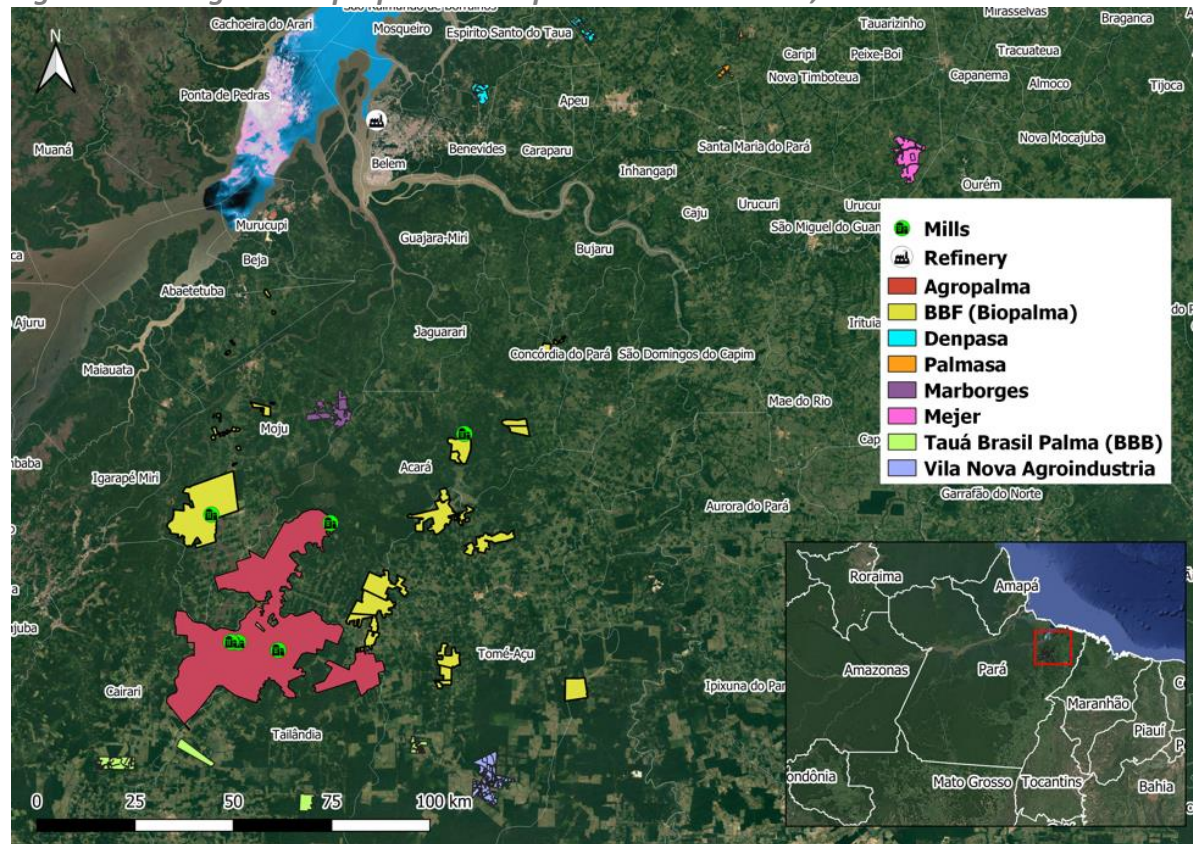
Largest palm producers move to new agricultural frontier in Amazon: Roraima

Agropalma, Brasil BioFuels (formerly Biopalma), and Palmaplan are among Brazil's major palm oil producers, with the latter two increasingly shifting operations to Roraima. CRR reached out to these companies for feedback for this report and has incorporated their responses. Agropalma and Brasil BioFuels (BBF) largely occupy land and operate in Pará (Figure 1). While Palmaplan does not belong to the group of the three largest Brazilian palm growers (Agropalma, BBF, and Belém Bioenergia Brasil), the company, together with BBF, increasingly cultivates oil palm for biofuel production in Roraima.

Agropalma, BBF, and Palmaplan jointly own 265,000 ha of area in both states, with 109,500 ha planted with oil palm (Figure 2). Pará is still responsible for about 82 percent of the total palm oil production in Brazil.

Other notable Brazilian oil palm growers include Belém Bioenergia Brasil (BBB), Marborges Agroindústria, Mejer Agroflorestal, Dendê do Pará (Denpasa), Dendê do Tauá, Vila Nova Agroindustria, and AgroIndustrial Palmasa. BBB, one of the three largest Brazilian oil palm growers, used to be a joint venture between Brazilian petroleum company Petrobras and Portuguese petroleum company Galp. The Petrobras part was acquired by Tauá Brasil Palma and Banco Opportunity after Petrobras withdrew from the company in 2019. The company currently trades under the name of Tauá Brasil Palma.

Figure 1: Palm growers' properties and palm oil mills in Pará, Brazil



Source: CRR analysis based on Aidenvironment, maps using formal cadaster data (SIGEF, SNCI, SNCR), self-declared rural environmental registry - CAR- data in Pará, and palm oil company websites. Note: Since Brazilian palm growers use different land arrangements, such as lease arrangements or outgrowers' schemes, this map may not represent a complete overview of all possible cultivated area under control by these companies. The palm area of Dendê do Tauá could not be located and is not included.

Agropalma is the largest exporter of Brazilian palm oil and exports around 15 percent of its production, mainly to Europe. The company, founded in 1982 in Tailândia (Pará) under the name Companhia Real Agroindustrial (CRAI), operates five palm oil mills in Pará (Figure 1), two refineries in Pará and São Paulo, and fractionation plants plus two fats and shortenings production units. Of the total 17,057 MT of palm oil shipped in 2020, Agropalma exported 90 percent, with Olenex (7,016 MT) and an unknown customer (7,050 MT), both in Germany, as its main clients. The majority of its production (85 percent) is destined for Brazil's domestic market.

Agropalma is a wholly-owned subsidiary of the Alfa Group, a conglomerate with business segments in finance, hotels, retail, and construction. It was founded by Brazilian billionaire Aloysio de Andrade Faria, who passed away in 2020. The commercial bank Banco Alfa, in which Faria held a [majority share](#) through Alfa Holdings, was linked to [unusual movement](#) of shares (USD 3.4 thousand), particularly on June 21, 2019. In response, Alfa Holdings said that *“it was not aware of any particular fact that could justify the variation on the number of transactions and quantity of shares negotiated on this date in comparison with the previous days. The Brazilian authorities did not request any further information regarding this particular event.”* On another occasion, Faria’s bank Delta National Bank Trust was connected to a [FIFA](#) bribery scandal in 2015 and fined in the United States for failing to file suspicious activity reports in 2003 linked to a Colombian drug cartel. Agropalma told CRR that the *“Colombia case is now closed as none of the five Colombian clients were indicted and their money was released.”* The FIFA case is still under investigation by the U.S. Department of Justice.

Agropalma is the only Brazilian palm oil producer selling palm oil certified by the Roundtable on Sustainable Palm Oil (RSPO). The entire group, including its refineries and other downstream operations, is [certified](#) under the RSPO. In 2020, the company sold [50 percent](#) of its crude palm oil (CPO) produce as RSPO-certified and 44 percent of its PKO. In 2012, Agropalma ranked first on Greenpeace’s palm oil [scorecard](#) for its efforts on forest and peatland protection and for certifying half of its palm oil under the RSPO label. The only other Brazilian palm growers with RSPO membership are Mejer Agroflorestal and Marborges Agroindústria. However, [none](#) of their palm oil is sold as RSPO-certified.

In 2020, BBF acquired Biopalma da Amazônia, the palm oil arm of mining company Vale, making it the largest producer of palm oil in Latin America. The transaction fits BBF’s [plans](#) to expand oil palm cultivation in the states of Roraima (where it is headquartered) and Pará. The company [said](#) that all of its oil palm is intended for power generation. In Pará, BBF [reports](#) it has planted 56,000 ha of oil palm on its own land, mainly in Acará and Moju, and 6,800 ha “in partnership with family farming.” It also has two extraction plants in this region. The company [states that](#) in Roraima municipality São João da Beliza, it cultivates 5,400 ha of oil palm plantations. CRR could confirm only a formal registration of the 542-ha Fazenda União farm in this municipality, as the self-declared rural environmental registry (CAR) system is not publicly available for Roraima.

Biopalma’s former owner, Brazilian mining company Vale, is linked to significant negative environmental and social impacts. Leading palm oil producer Biopalma was founded in 2007. Biopalma sold [41 percent](#) of its stake to Vale in 2009, which in turn increased its stake to 70 percent two years later. Vale is [linked](#) to some of the major environmental disasters in Brazil, including two deadly [dam collapses](#) since 2015. [Alleged](#) violations range from environmental impacts, e.g., pollution of groundwater, deforestation in conservation areas, to social impacts including land grabbing, tax evasion, water contamination, and illegal labor practices. Vale began [exploring](#) opportunities to divest from Biopalma in 2014 when petroleum prices dropped and sold Biopalma to BBF at the end of 2020. The deal was [contested](#) by rival and interested stakeholder Marborges Agroindústria, which said the process was not transparent.

BBF is expanding its power generation capacity with palm oil as feedstock in the Amazon basin, particularly in Roraima. In June 2021, a [16-MW thermoelectric plant](#) became operational in São João da Baliza in Roraima state, with palm oil as its main feedstock. The company was already active in sugarcane in Roraima, and also aims to use [soy](#) as feedstock for its 57-MW thermal power plant in Roraima’s capital city Boa Vista. Working with North American company ICM, BBF is also [implementing](#) a corn ethanol plant in Roraima, with an initial investment of BRL 220 million (USD 39 million).

Palmaplan is part of Oleoplan, the second-largest biodiesel company in Brazil in terms of installed capacity and sales. In October 2020, Oleoplan requested [authorization](#) to carry out an initial public

offering (IPO) registration. Along with Oleoplan’s plans to build two biodiesel plants (one in Rondônia and the other in Pará), new warehouses, and two glycerin refining plants, the company is in the process of [installing](#) a 10,976-MW thermoelectric power plant in Rorainópolis municipality in the state of Roraima.

Palmaplan has acquired [30,000 ha](#) of land in Roraima and will produce oil palm to be used as [feedstock](#) for the Palmaplan Energia Thermoelectric Power Plant in the state. CRR could only confirm 1,625 ha of properties of Palmaplan in Rorainópolis and 6,095 ha in Bonfim, as self-declared properties in the CAR could not be assessed for the Roraima state. The company’s properties in Bonfim municipality (Fazenda Paineira, Fazenda Expedito, and Fazenda Sucuri) are unlikely to grow oil palm. Visual satellite imagery did not point to any oil palm cultivation in the farms, and there are indications that [soy](#) is grown in those fields.

All three oil palm growers stated that they would act in accordance with existing Brazilian legislation. They claim they comply with the Forest Code, the National Biofuels Policy, and the Agroecological Zoning for Oil Palm Culture in the Deforested Areas of the Legal Amazon (ZAE Palma), which restricts the expansion of oil palm onto forested land. This appears to hold true for Agropalma.

Deforestation, illegal fires, and pollution linked to oil palm plantations

Deforestation occurred after 2008 in legal reserves and permanent preservation areas

CRR found **1,224 ha** of deforestation on the oil palm plantations of the major Brazilian palm growers between 2008-2021 (Figure 2). The native vegetation clearing has occurred since [July 22, 2008](#), when Brazil’s Forest Code, which requires private landowners in the Amazon to maintain 80 percent of land as legal reserves, was implemented. While the total amount of deforestation inside oil palm plantations in all these years is relatively small compared to land clearing driven by cattle, soy, or other commodities, 74 percent (906 ha) occurred in areas designated as legal reserves and/or in permanent preservation areas (APP). Therefore, this deforestation is likely illegal.

Figure 2: Deforestation on palm growers’ properties in Brazil

Palm grower	Planted area/ Total controlled area*	Extraction capacity (MT FBB/h) **	Deforestation (ha) Aug 2008*** -Sept 2021	Of which in legal reserves/APP (ha)
Brasil BioFuels	68,000 / 128,000	285	734	568 (77%)
Agropalma	39,000 / 107,000	266	50	38 (76%)
Palmaplan	2,500 / 30,000	12	5	1 (20%)
Mejer	12,000 / 16,370	90	46	6 (13%)
Marborges	33,635 / 58,401	44	-	-
Tauá Brasil Palma (BBB)	40,000 / n.a	n.a.	-	-
Dendê do Pará (Denpasa)	5,376 / 11,290	n.a.	-	-
Vila Nova Agroindustria	n.a. / 6,220	n.a.	378	293 (78%)
Palmasa	7,000 / 7,000	30	11	0 (0%)
Total	207,511 / 404,281	727	1,224	906 (74%)

Source: Aidenvironment, based on Prodes and Deter deforestation [data](#), palm oil company websites. *The difference between total area and planted area is largely explained by the area that is kept as a mandatory legal reserve. For instance, Agropalma’s legal reserve is 64,000 ha, while the legal reserve area of BBF is 60,000 ha. ** FBB stands for Fresh Fruit Bunch. *** The date of 22 July 2008 is the precise [cut-off date](#) of the

Brazilian Forest Code, therefore all deforestation after that date was included. With Abrapalma records of 226,834 ha of oil palm cultivated area in Pará alone, the total planted area from this table of 207,511 ha in the whole of Brazil will likely be incomplete. Notable is that not all properties of BBF and Palmaplan could be assessed, as there is limited information on their exact locations in Roraima. Also, the palm area of Dendê do Tauá was not included for this reason.

Evidence showing that native Brazilian forests have been replaced by oil palm plantations is mounting.

While palm growers claim they only plant oil palm in areas cleared before 2008, an [estimated](#) four percent of the area used to grow oil palm in Roraima was cleared between 2008-2019. With the expansion of oil palm area in Pará between 2006-2014, approximately [8 percent](#) replaced natural vegetation, including intact and secondary forests. A more detailed UNESP [study](#) on the municipality of Acará in Pará found that 4,800 ha of forest were cleared between 2007-2018 to make way for oil palm plantations. Likewise, in other Latin American countries, such as [Peru](#), [Colombia](#), and [Ecuador](#), evidence shows that palm oil companies can be linked to illegal deforestation of native forests.

Palm oil-linked deforestation and fires are increasing under Bolsonaro's administration

Palm oil-linked deforestation has increased since mid-2018 and peaked around President Bolsonaro's inauguration in January 2019. Taking the oil palm properties of BBF, Agropalma, and Palmaplan as exemplary cases, with their combined properties covering 53 percent of the oil palm cultivated area (Figure 2), the following trend is visible: Deforestation rates are still relatively high shortly after the implementation of the Forest Code between 2008-2010 (see Figure 3). Rates were minimal between 2010-2017, but they climbed to even higher levels starting in August 2018.

Detected fire alerts inside oil palm plantations show a similar pattern, with peak fire alerts in 2020. A record of 257 fire alerts on properties of the three palm growers were [detected](#) in 2020 (Figure 3). The fire alerts mostly follow recent deforestation, an [indication](#) that fires are used as a means to clear recently deforested area for commodity production.

Figure 3: Palm-linked deforestation rates 2008-2020 in BBF, Agropalma, and Palmaplan oil palm plantations (left); Fire alerts on their properties 2008-2021 (right)

Period	Deforestation (ha)	Year	BBF	Agropalma	Palmaplan	Total fire alerts*
August 2008 – July 2009	108	2008	69	48	2	119
August 2009 – July 2010	85	2009	48	17	2	67
August 2010 – July 2011	3	2010	30	13	1	44
August 2011 – July 2012	23	~	~	~	~	~
August 2012 – July 2013	14	2019	78	5	1	84
August 2013 – July 2014	0	2020	165	17	75	257
August 2014 – July 2015	2	2021**	23	7	14	44
August 2015 – July 2016	24	Total	413	107	95	615
August 2016 – July 2017	47					
August 2017 – July 2018	81					
August 2018 – July 2019	204					
August 2019 – July 2020	140					
Total	731					

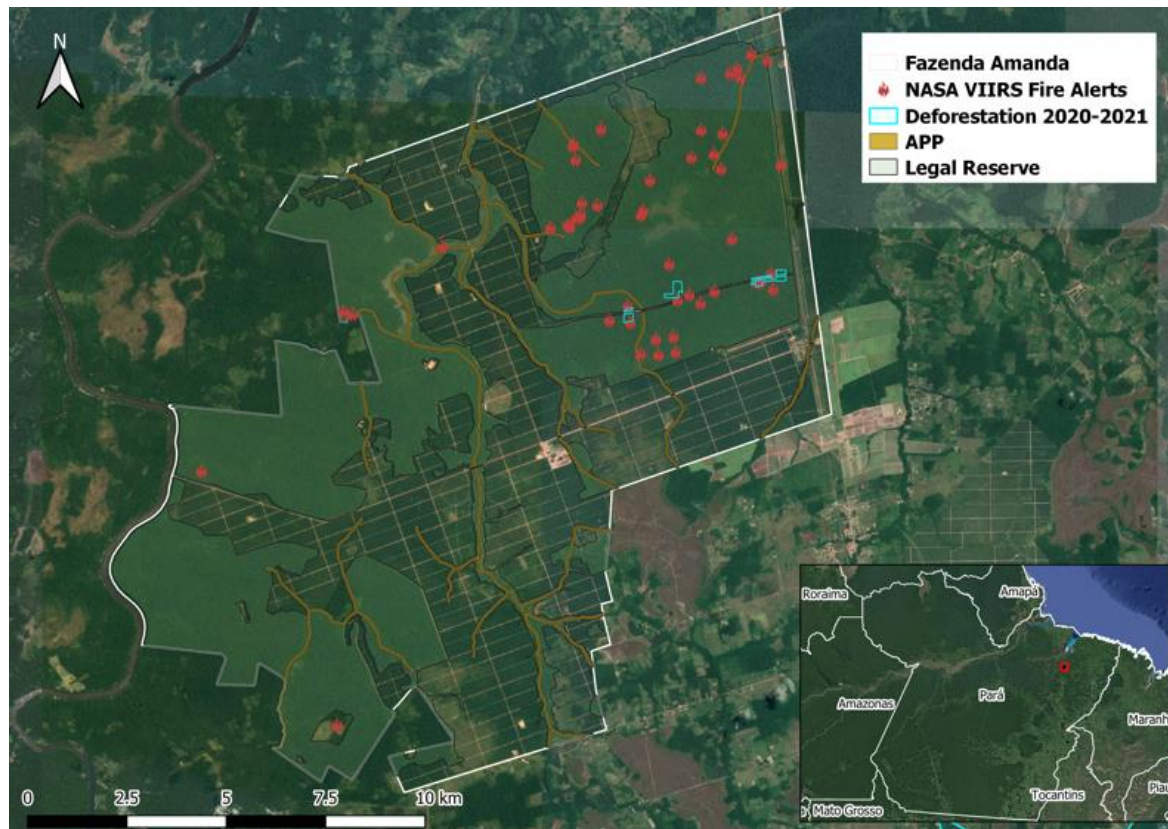
Source: Aidenvironment, based on Prodes deforestation [data](#); NASA VIIRS fire [alerts](#) * For the fire analysis, CRR followed the deforestation trend by only checking fire alerts in the period shortly after the implementation of the Forest Code, 2008-2010, and from the period since Bolsonaro’s inauguration, from 2019-2021. NASA VIIRS fire alerts have a very high resolution, implying that a fire alert can also reflect a campfire, or sometimes even no actual fire. However, numerous fire alerts in one spot, and/or fires following recent deforestation, are an indication of large fires as a means to clear recent deforested areas. ** Data for 2021 only covers January-October 2021, therefore the number of fire alerts for 2021 will likely be higher at the end of 2021.

BBF oil palm plantations show most recent deforestation and fires, Agropalma rates negligible

BBF is responsible for 91 percent of all deforestation on the combined oil palm plantations of BBF, Agropalma, and Palmaplan, with the majority cleared in 2019-2020. A total of 667 ha (out of 731 ha) were cleared on BBF’s properties between August 2008 and July 2020 (Figure 3), with 76 percent (506 ha) of the total deforestation taking place in reserved and permanent preservation areas. Also, 51 percent of the deforestation on their plantations has occurred in recent years, in 2019 (200 ha) and in 2020 (139 ha). This explains all but five ha of the recent oil palm-related deforestation taking place on the plantations of the three growers during this period. Also, fire analysis confirms that most violations of the Forest Code were done by BBF, with 413 fire alerts (67 percent) detected on its properties in the selected years of 2008-2010 and 2019-2021 (Figure 3).

Figure 4 below shows one declared property of BBF in the [CAR](#), Fazenda Amanda in Moju (Pará), where 28 ha of deforestation inside a legal reserve took place between August 2020 and September 2021. There were also numerous fire alerts in the oil palm plantation between June and October 2020. In response, BBF clarified that it safeguards the environmental preservation and legal reserve areas through satellite monitoring, drones, and forest guards in collaboration with “partner companies.”

Figure 4: Recent deforestation and fire alerts in legal reserves and APP of BBF farm Fazenda Amanda



Source: Aidenvironment, based on Deter deforestation [data](#); NASA VIIRS fire [alerts](#); [Pará CAR system](#). Planet - Imagery © 2020 Planet Labs Inc. Fazenda Amanda can be traced in the [Pará CAR system](#) under protocol number PA-1504703-E51605513CE44671A8CD21B822E812C7.

Since 2008, deforestation on Agropalma’s oil palm plantations has been negligible, and CRR did not find any oil palm plantings of Agropalma in areas deforested after 2008. While Prodes [detected](#) 38 ha of deforestation in Agropalma's legal reserve, Agripalma states this area was cleared before 2008. CRR visually confirmed that no oil palm was planted in these areas. The number of fires in Agropalma’s farms remained limited (Figure 3).

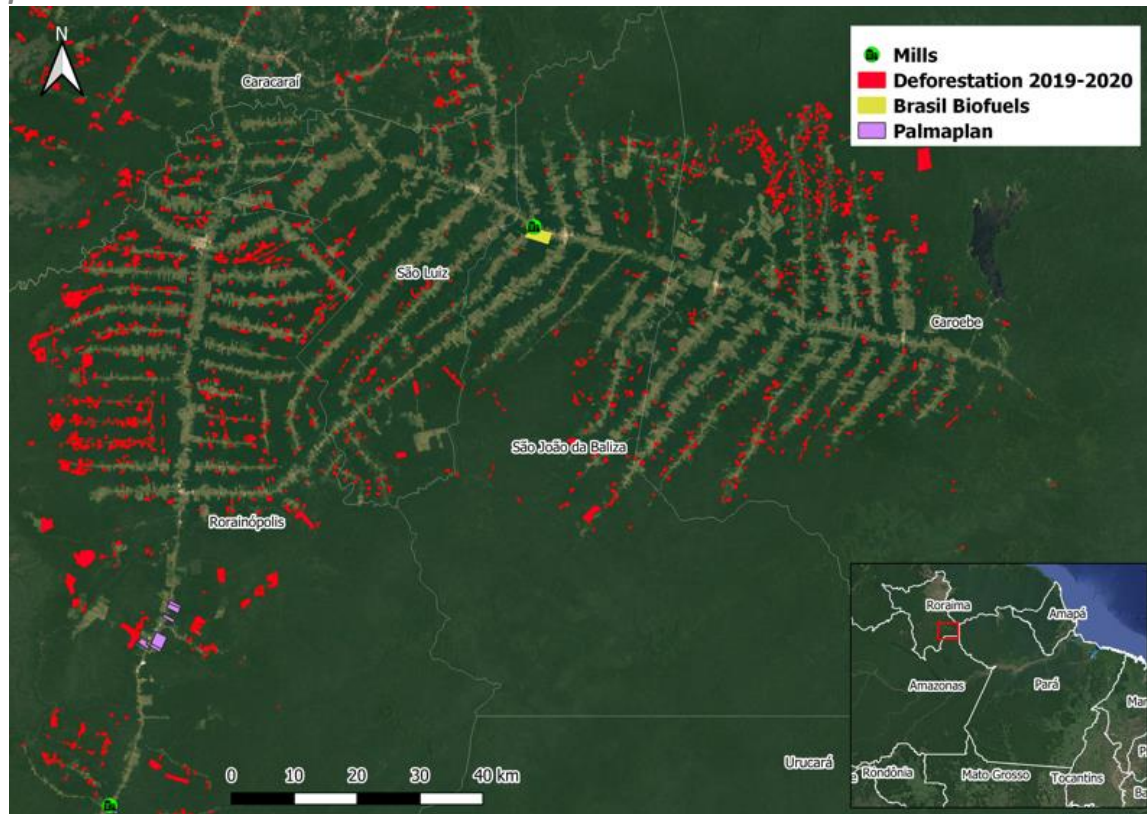
Palmaplan and BBF expand in deforestation frontier Roraima

Palmaplan and BBF will considerably scale up their oil palm production in Roraima, Brazil’s latest oil palm expansion area. The northernmost Amazon state is known for its tropical rainforest. In 2020, oil palm plantations [reportedly](#) covered 10,107 ha in the state’s municipalities of Rorainópolis and in the southern regions São João da Baliza, Caroebe, and São Luiz. The largest palm oil producers in Roraima -- Palmaplan and Brasil BioFuels -- will considerably [scale up](#) their production in the state in the coming years. Palmaplan [reports](#) that it now possesses over 30,000 ha of land in Rorainópolis.

Oil palm expansion is not only taking place in areas that were long ago degraded, but also in deforestation frontier areas. This is in contrast with palm growers [claiming](#) that oil palm planting occurs only in areas that have already been degraded. While CRR detected no clearing of native vegetation on the Palmaplan and BBF oil palm plantations in the Rorainópolis and São João da Baliza municipalities (Roraima) after 2009, their properties are located in the middle of a new agricultural frontier in the Amazon that has had significant recent deforestation (Figure 5). Deforestation in frontiers follows a typical

[fishbone pattern](#), arrayed along the edges of roads. In response, Palmaplan states that the fishbone patterns in this area are “family farming settlements, existing in the region since times prior to the beginning of Palmaplan’s operations.” While the fishbone infrastructure has been observed for years, the structure has become larger and extended with recent deforestation (Figure 5).

Figure 5: Fishbone structure of recent deforestation near Palmaplan and BBF palm oil palm plantations



Source: Aidenvironment, based on Prodes and Deter deforestation [data](#); company websites (mills locations), cadaster [data](#) (SIGEF, SNCI, SNCR). Planet - Imagery © 2020 Planet Labs Inc.

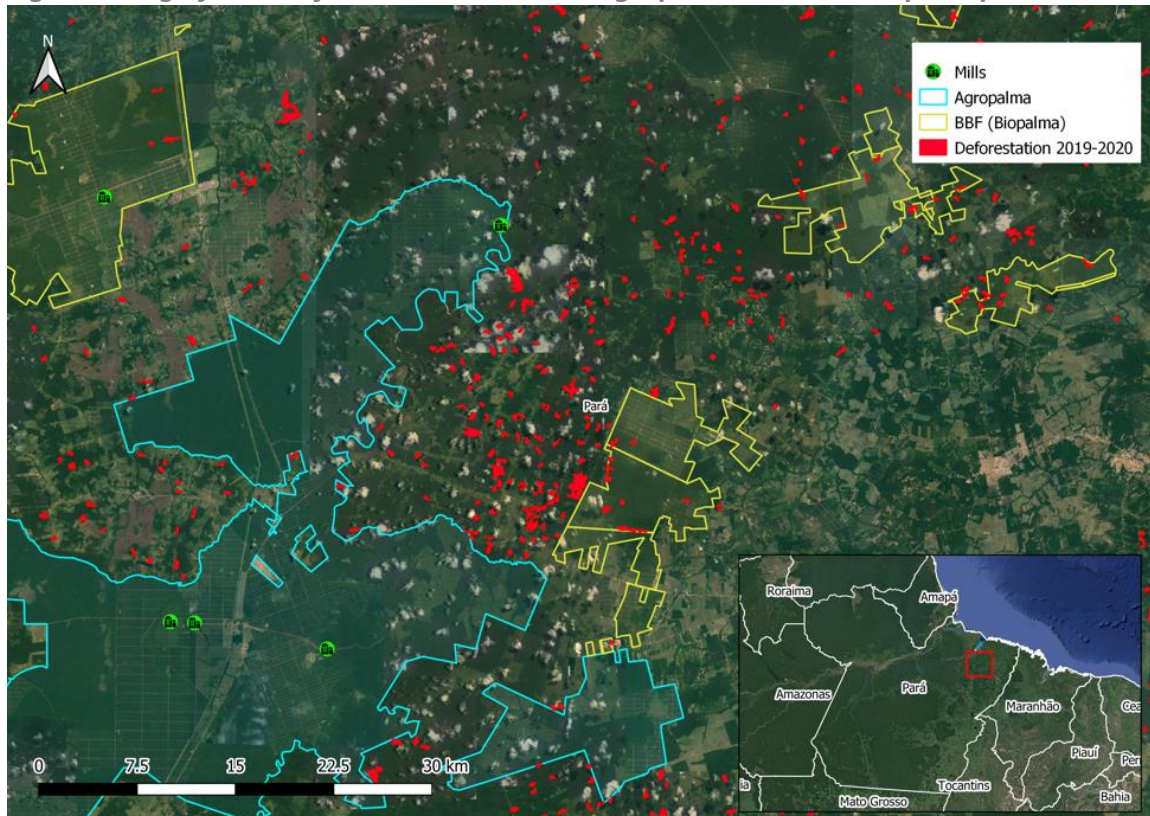
Evidence of indirect deforestation around palm oil plantations

Palm oil development is also pressuring surrounding areas to clear land. The Brazilian National Institute for Research in Amazonia (INPA) [warns](#) that the surge for cleared land pushes cattle ranchers, soy producers, and land developers deeper into the Amazon. Oil palm plantations have the potential to reduce pressure on the Brazilian rainforest compared to other oilseeds such as soy, as oil palm places less direct demand on Brazilian land due to high productivity. While most oil palm expansion in Brazil has occurred on converted pasturelands, CRR visualized deforestation patterns close to palm oil plantations (Figure 6) that hint at indirect forest clearing. However, for a full and comparable study, which was not carried out for this report, a similar analysis could be executed in an analogous area without oil palm plantations.

The increased pressure on land is linked to farmland investment dynamics. The [rise](#) in land prices and speculation has been significant since the arrival and expansion of palm oil companies in Pará. In Roraima, similar dynamics are now [seen](#), with land becoming an attractive investment for producers looking to expand, as the land is relatively cheap and plentiful. Cattle ranchers that have earned large sums of money from selling their land in the region now migrate to areas that have not yet been deforested. There, they

start new projects that lead to deforestation. The global interest in Brazilian farmland has created new [business models](#) among estate firms and agribusinesses that aim to produce value from land appreciation by acquiring land, clearing its native vegetation, and transforming it into farmland.

Figure 6: Significant deforestation between Agropalma and BBF oil palm plantations



Source: Aidenvironment, based on Prodes and Deter deforestation [data](#); cadaster [data](#) (SIGEF, SNCI, SNCR), self-declared rural environmental registry -CAR- data in Pará, and palm oil company websites. Planet - Imagery © 2020 Planet Labs Inc.

Palm oil production in Brazil is linked to water and soil contamination

Since 2014, federal prosecutors have [charged](#) Brazil's leading palm oil producers with **contaminating rivers, poisoning soil, and harming the health and livelihoods of local communities**. Most notorious is Biopalma's [case](#) of alleged pesticide contamination of the Turé-Mariquita Indigenous Reserve (Tomé-Açu, Pará), the home to the indigenous Tembé population. An estimated [27,000 people](#) are affected by this conflict, with Biopalma allegedly illegally dumping chemicals in the river and [causing](#) environmental, health, and socio-economic impacts to the nearby local communities which are dependent on the river resources. In 2019, the conflict further [escalated](#) with the [associated murder](#) of "quilombola" (slave descendants) leader Nazildo dos Santos Brito, who was "[threatened](#) with death for denouncing environmental crimes committed by the company Biopalma da Amazônia S/A."

Marborges and Agropalma have also been accused of environmental pollution. The quilombolas communities of the Jambuaçu Territory in Pará specifically [refer](#) to Marborges as a main instigator of the pollution of their waterways. Moreover, in 2018, the Federal University of Pará [determined](#) the presence of the chemical atrazine in waterways near Agropalma's oil plantations in Tailândia (Pará). Agropalma "has [denied](#) that the chemicals came from its operations, but it does use glyphosate and has been linked to multiple oil spills in the area."

Oil palm expansion is linked to land disputes and exploitive labor conditions

Land appropriation is commonplace in Brazil's palm sector development

Forced dispossession of land and related land disputes were [commonplace](#) during early palm oil sector development in Pará, and they are likely to extend to new development areas, notably in Roraima. A 2015 [study](#) on the state of oil palm development in the Brazilian Amazon of the Center for International Forestry Research (CIFOR) reveals: "None of the surveyed companies [these are Agropalma, ADM, BBB, Biopalma, Marborges, Mejer, Denpasa, Dentauá, and Palmasa, eds.], with the exception of Agropalma, has been able to access the LAR, a mandatory license to operate in Pará, across their entire landholdings. Complications include not having adequate legal reserves of forests on certain properties and the existence of unresolved conflicts."

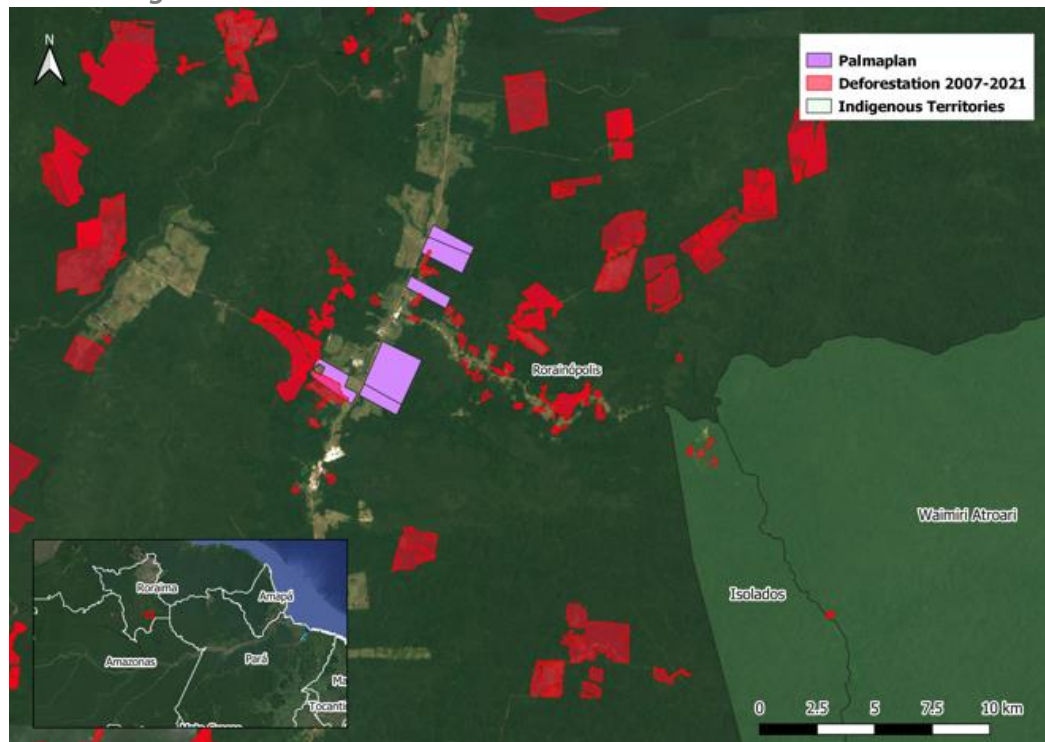
Biopalma lands that are now part of BBF were bought from intermediaries that did not have legitimate claims on the lands, leading to numerous [conflicts](#) with local communities. The estimated [17,000 ha](#) of Biopalma's landholdings in Moju, Acará, Concórdia do Pará and Tomé-Açu are "undocumented or have illegitimately acquired land titles." Similarly, a report of the Instituto Nacional de Colonização e Reforma Agrária (INCRA) estimates that [37 percent](#) of Biopalma's oil palm plantations in Concórdia do Pará were formerly owned by smallholder farmers. This has resulted in land [conflicts](#) with farming, indigenous and quilombola communities, reports of [threats](#) to farmers since BBF overtook Biopalma, falsification of documents, and even alleged [torture](#) of farmers by an armed group of BBF. In response, BBF states that it had to hire a security team to protect its staff from "constant attacks and threats," reportedly "from isolated leaders who do not represent the communities."

While the RSPO has verified that Agropalma has [no history](#) of unresolved conflicts with local communities, the company has been in an unsettled land conflict with the Tabaranã family since 2014. The RSPO's complaints panel officially [dismissed](#) and [closed](#) the complaint in February 2021, as "the dispute is of private nature" and "is best left to the wisdom of the Brazilian Courts to determine the complainants' claim." The plaintiffs state that Agropalma acquired land through fraudulent means, while the Pará state land institute (Iterpa) [said](#) that the 12 registrations under investigation occupied by Agropalma are in fact owned by the federal state of Pará. Agropalma [allegedly](#) bought the land from the brother of a known land grabber named Jairo Mendes Sales. In July 2019, a first degree [court decision](#) in favor of Agropalma granted the legal rights of the land to Agropalma. However, later decisions went against the company, resulting in a registry office [blocking](#) the 12 Agropalma land registrations. The story has continued, and in the latest [news](#), the family accused the governor of Pará of favoring Agropalma in 16 administrative proceedings pending at Iterpa.

Other palm growers are linked to troubled land acquisition processes and community land conflicts, as cases connected to [Marborges](#) (formerly REASA), [Mejer](#), and [Denpasa](#) show.

As the demand for land increases, invasions into traditional populations' territories close to oil palm plantations are [on the rise](#). With Roraima being the latest oil palm expansion area, land conflicts will likely extend to the region. Figure 7 shows 2008 deforestation of 58 ha in Palmaplan's oil palm plantations, which are only about 10-15 kilometers from two indigenous territories, Waimiri-Atroari and Pirititi (isolated population). This is in contrast to a [claim](#) from Palmaplan that states that "its plantations in Rorainópolis were some 50 km from the nearest protected territory." There are [records](#) of increased deforestation and the encroachment on these two indigenous territories, as well as the Waiwai territory. Another risk [mentioned](#) is that outsiders may introduce COVID-19 to vulnerable communities.

Figure 7: Palmaplan in Vila do Ecuador, Rorainópolis, and proximity to Waimiri-Atroari and Pirititi Indigenous Territories



Source: Aidenvironment, based on Prodes and Deter deforestation [data](#); cadaster [data](#) (SIGEF, SNCI, SNCR); [Funai 2020](#) Indigenous lands. Planet - Imagery © 2020 Planet Labs Inc.

Exploitive labor conditions linked to Brazilian palm growers

Oil palm growers have several strategies to gain access to land. Lease contracts with farmers and outgrowers are [seen by some](#) to include exploitive labor conditions and [land grabbing](#). The companies encourage farmers to rent their land and sign a long-term (25 years) contract. While long-term supply contracts can be [beneficial](#) to farmers, as they can guarantee long-term market access and access to inputs and credit, there is [evidence](#) in the palm oil sector that the benefits “are not necessarily clear cut” and “in many [cases](#), the farmers get indebted with the company that provides them with supplies, such as fertilizers and seed.”

Agropalma, the company which engages mostly in contract farming, sees [25 percent](#) of its oil palm fruits come from family farmers and integrated outgrowers. Scientists [say](#) this integration and palm oil production models are based on large monocultures and a dependence on a single buyer.

Apart from these dependency working relationships, actual slave labor has also been linked to the Brazilian palm oil sector. A well-known [case](#) is tied to Agropalma: An Agropalma outgrower, Altino Coelho de Miranda, who also at that time was the vice mayor of Moju (Pará), appeared on a 2013-2015 [blacklist](#) for slave labor. He was caught twice keeping employees in slave-like conditions, and in 2007 the authorities [released](#) 15 slave laborers on his farm, and a further 10 in 2012. In response, Agropalma [excluded](#) the supplier from its supplier base in 2013. Since [January 2014](#), Agropalma started leasing the plantation from Miranda and continues to [do so](#).

Reports point to very poor working and labor rights conditions on oil palm plantations run by Agropalma and Biopalma in Pará. Despite the positive reports from palm oil companies on working conditions that

highlight high standards of living conditions offered to workers, the reality is very different, [according to](#) a lawyer on behalf of the Committee to Combat Forced Labor of the OAB/PA. Poor working conditions and labor rights violations found on oil palm plantations in Pará in 2015 were linked to Agropalma, Biopalma, and BBB. A recent palm oil [sector analysis](#) in Latin America concludes that significant gaps exist between palm oil refiners' labor policies (which are in line with the ILO Fundamental Principles) and the identification and addressing of labor rights violations at the plantations from where they source. In response, Agropalma states that its public POIG Verification Audit [reports](#) on labor conditions never revealed "any indication that the company is not following ILO standards."

Numerous commodity traders, FMCGs at risk from link to Brazilian palm oil

CRR has identified numerous large commodity traders and fast-moving consumer goods (FMCGs) companies that source palm oil from Brazilian growers. They include AAK, Bunge, Cargill, General Mills, Hershey, Mondelez, Nestlé, Unilever, Upfield, Kellogg's, Grupo Bimbo, and BLC Global (Figure 8). They run the risk of being associated to illegal palm oil-linked deforestation and social impacts from palm oil expansion in Brazil. This would not be compliant with their NDPE policies.

BBF, which CRR has particularly linked to deforestation, pollution, and social impacts from its palm oil expansion in Brazil, is connected to several large commodity traders and FMCG companies. Biopalma (now BBF) scored only [13.6 percent](#) on SPOTT's 2020 sustainability palm oil assessment, compared to 91.4 percent of Agropalma. Recent buyers of BBF's palm oil supply include [Bunge](#), [Cargill](#), [General Mills](#), [Mondelez](#), [Nestlé](#), [Upfield](#), [Kellogg](#), and [Grupo Bimbo](#). Moreover, since BBF's main customers are in biofuels and power generation, they likely source palm oil from BBF as well. CRR could not confirm this, however, since biofuel and power generation companies do not publish public palm oil mill lists.

Figure 8: Commodity traders and FMCG companies sourcing palm oil from Brazilian growers

Palm growers	AAK	Bunge	Cargill	General Mills	Hershey	Mondelez	Nestle	Unilever	Upfield	Kelloggs	Grupo Bimbo	BLC Global
Brasil BioFuels*	X	X	X	X		X	X		X	X	X	
Agropalma**		X	X	X	X	X	X	X	X	X	X	X
Palmaplan												
Mejer	X	X		X			X			X		
Marborges	X	X		X								
Tauá Brasil Palma (BBB)		X		X	X	X	X		X			X
Denpasa		X		X			X			X		
Vila Nova Agroindustria				X								
Palmasa		X	X	X	X	X	X	X	X		X	
Total												

Source: Latest public palm mill suppliers lists of major commodity traders and FMCG companies. * Even in the most updated palm mills supplier lists of 2021, BBF is still referred to as Vale Group/Biopalma. ** Apart from all listings in this table, Agropalma is also listed in the palm mill supplier lists of ADM, Avon, BASF, Danone, Ferrero, FrieslandCampina, KLK Oleo, L'Oréal, Mars, Olenex Holding, Oleon, Pepsico, PZ Cussons, Reckitt Benckiser, Sime Darby, and Vandemoortele.

Through its supply from Vila Nova Agroindustria, General Mills is exposed to the risk of being linked to illegal deforestation. This is in addition to the risk that the U.S.-based food company purchases from BBF. While there is little information on Vila Nova Agroindustria, its operations in Tome-Acu (Pará) have been linked to 378 ha of deforestation since 2008 (Figure 2). This palm oil supplier is featured in General Mills' 2021 palm [mill list](#), connecting the company to the likely illegal clearing of 113 ha of native vegetation in September 2020 in the legal reserves of Vila Nova Agroindustria's oil palm plantations.

Largest financial risks for FMCGs and their financiers

Companies and financiers active in the palm oil supply chain that do not have NDPE policies or are non-compliant with their NDPE policies face financial risks. Legal risk is a future threat. These risks can be categorized as stranded asset risk, market access risk, regulation risk, financing risk, and reputation risk. The monetized values of these risks can lead to material negative returns for financiers (banks and investors). Moreover, current and upcoming EU regulation, on [sustainable financing](#) and [supply chain due diligence](#), may force companies and their financiers to become more selective, or otherwise face financial risk and future legal risk.

Of the assessed Brazilian palm oil plantations (BBF, Agropalma, and Palmaplan), BBF is most exposed to deforestation. BBF could be confronted with market access risk from NDPE buyers, stranded asset risk, and financing risk if financiers become more reluctant to finance BBF.

BBF's financing risk appears relatively limited. The company is owned by private shareholders, while public data is limited. [Forests & Finance](#) found USD 1.6 million in financing (adjusted data), all from the John Deere Bank (USA). This financing is linked to the acquisition of machinery and equipment under the Brazilian Development Bank (known as BNDES) finance programs.

In total, USD 9.5 million financing could be identified for the three oil palm growers, with the remaining USD 7.9 million financing for Agropalma and Palmaplan from Brazilian financial institutions (FIs) Itaú Unibanco and Banco do Brasil. Both have lagging ESG and deforestation policies. The three palm growers are not publicly listed, and transparency about their financing is limited. Oleoplan, which is the parent company of Palmaplan (see also above), received USD 81.5 million in underwriting services for its 2021 bond issue from BTG Pactual (Brazil).

BBF may be confronted with market access risk, although its main biofuel clients do not publish palm oil sourcing lists. A large part of BBF's palm oil is likely sourced by biofuel clients such as power generation and fossil fuel companies. Purchases by FMCGs that are transparent with their sourcing could bring about a market access risk for BBF. However, this might have a limited impact on BBF as the company could re-route its FMCG-related sales to the leakage biofuel market.

The main risk surrounds the reputation value for FMCGs and their financiers. Legal risk is a future threat to companies. Bunge, Cargill, General Mills, Mondelez, Nestlé, Upfield, Kellogg, and Grupo Bimbo have been linked to BBF (see above). These companies and their financiers face reputation risk and may engage with BBF as the latter's activities appear to be in conflict with the FMCGs' deforestation and NDPE policies. As most of these FMCGs and a large part of their financiers have business relations (headquarters, affiliates, exports) with the EU, legal risk from EU regulation is a future threat.

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