

# Palm Oil Frictions

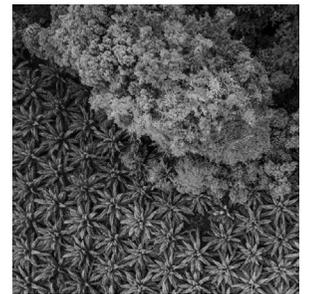
*in Kalimantan, Indonesia*

Dries Carmeliet

## **Palm oil is everywhere.**

It is in our food, our cosmetics, toothpaste, soap, medicine and fuel. Palm oil is the fastest growing source of vegetable oil and already dominates for 37% of the global market. Its use and production however, are not without controversy. Palm oil is made from the fruits of the oil palm, a tree endemic to central Africa that favours a warm and humid climate. Because both the flesh and the stones of the palm fruits can be used, the crop is almost 10 times more productive as other oil crops, like soybeans or rapeseed. Today, the oil palm is cultivated mainly on plantations in South-East Asia. Indonesia provides 57% of the global palm oil production. Its oil is mainly exported to India, Pakistan, Kenya and Egypt. To a lesser extent, palm oil is exported to Europe, where it accounts for 30% of vegetable oil consumption. The global demand and price for vegetable oils has steadily increased over the past 20 years, which continues to make the oil palm an attractive crop. The Indonesian government has welcomed palm oil as a driver for development, economic growth, job generation and energy security (De Vos, 2013) [1]. Because of its high yields, the government considers the oil palm an efficient land use. In financial gains, it outcompetes other agricultural crops, agroforestry and rubber farms. Indonesia has an abundance of natural resources, but during the last century, this abundance has started to decrease as natural resources were over-exploited to feed the demands of global economic growth (De Vos, 2013).

**01** Rosanne Elisabeth, de Vos. "Palm Oil Land Disputes in West-Kalimantan: The Politics of Scale in Processes of Dispute Resolution: An Empirical Research on Dispute Resolution Strategies in Sambas District." Wageningen, September 20, 2013.



**B** The interface between palm oil plantations and primary forests. Source: Meijaard, IUCN, 2018

**02** Meijaard, E., J. Garcia-Ulloa, D. Sheil, S.A. Wich, K.M. Carlson, D. Juffe-Bignoli, and T.M. Brooks. "Oil Palm and Biodiversity." WildCats Conservation Alliance (blog), June 27, 2018.

**03** Gilbert, David. "Duta Palma's Filthy Supply Chain: A Case Study of a Palm Oil Supplier in Indonesia." Rainforest Action Network, October 2009.



**A** Peatland drainage. Source: Ian Singleton

The expansion of oil palm plantations in Indonesia has been an ecological disaster. The deforestation process emits immense amounts of green house gases into the atmosphere. This includes logging and burning primary forests, and draining and burning tropical peatlands. Fifty percent of all deforestation on the island Kalimantan has been driven by oil palm plantations (Meijaard et al, 2017) [2]. The impact of draining peatlands remains vastly underrepresented in contemporary climate policies. Peatlands only cover only 3% of the earth's surface, but sequester twice as much carbon as the 30% of land area covered by forests (Meijaard et al, 2017). As a result, greenhouse gas emissions caused by peat and forest fires have established Indonesia as the third largest GHG emitter in the world. Each hectare of rotting rainforest releases 500-900 tonnes of CO2 into the atmosphere (Gilbert, 2009) [3]. Smog level in Singapore and Malaysia have been elevated, caused by land burning practices in Indonesia (de Vos, 2013).

Deforestation also results in a dramatic loss of habitat and biodiversity of endemic species. Palm oil plantations are monocultures that favour generalist species and tarnish specialists. After losing their habitat, many endangered species, like Orangutans, Gibbons, Bornean bears and rhinos are not able to sustain find sustenance on the plantations. Direct human-animals conflicts also contribute to the further decline of the species. On the other hand, plantations, due to their endless food supply, are home to pests of pigs and rats. Preying on the rodents, snakes, leopard cats and Malay civets thrive as well. The African weevil was introduced in Indonesia to stimulate pollination. Yields are reported to have increased by as much as 53%, though the impact of the weevil on the environment remains unclear (Meijaard et al, 2017). Several secondary effects of forest clearance and plantation management have also been reported. Rivers downstream of plantations have become polluted by the fertilizers of the plantations and by acids seeping into the ground water from peatland drainage.

While there is ample outrage over the climatic and ecological ramifications of palm oil plantations, the loss of the forest as a human habitat has been overlooked. The forest is inhabited, and so are the plantations.

### The forest is a city.

The Indonesian rainforest is branded as a wilderness untouched by human civilization. It is a place where tourists pay good money for to get a glimpse of a Gibbon during a jungle excursion. But these are wilfully naive simplifications of the forest. Almost 70 million indigenous people, or Masyarakat Adat, depend on the forest for their livelihoods in Indonesia (Nnoko-Mewanu, 2019) [4]. One of the tribes, the Iban Dayak populate the primary forests in West-Kalimantan. Their traditional agriculture includes rice cultivation, tapping jungle rubber, and harvesting of fruits and nuts from communal fruit groves, or tembawang (Potter, 2008) [5]. Agroforestry is deeply rooted in their culture and vital for their survival. The Dayak see the forest as a shared space. "*The forest landscape is social*", writes Anna Tsing, "*the forest they showed me was a terrain of personal biography and community history*" [6]. The Dayak do not attribute monetary value to their land and hold no official land-ownership paperwork. Their claim on the land depends on their ancestors ways of life. Although almost a quarter of the Indonesian population lives in the forest, only 0.2% of the national territory classified as forest has been allocated to communities under the law (Colchester, 2011) [7]. Since the 1970s, the Indonesian government has tried to homogenize and unify the Indonesian people under the credo of progress and civilization. The government actively undermined the customary institutions and traditional religions of the Masyarakat Adat in an attempt to 're-educate' them (Colchester, 2011). These denials and simplifications of the rainforest and its people, paved the way for resource extraction.



**C** Agroforestry in primary forests. Source: Philip Manalu

**04** Nnoko-Mewanu, Juliana. Oil Palm Plantations and Rights Violations in Indonesia. Vol. Human rights watch, 2019.

**05** Potter, Lesley. Dayak Resistance to Oil Palm Plantations in West Kalimantan, Indonesia, 2018.

**06** Tsing, Anna. Friction: An Ethnography of Global Connection. Princeton University Press, 2005.

**07** Colchester, Marcus. "Palm Oil and Indigenous Peoples in South East Asia," 2011.

## Globalism arrives in Kalimantan.

In 1848, four oil palm seedlings arrived in the Botanic Gardens of Bogor on the Indonesian island Java (Murdoch, 2009). They originated from West-Africa and followed the colonial chain from Congo, through Belgium, the Netherlands, to Indonesia. Fifty years later, the Dutch colonialists noticed that the palms, meant as ornamental trees for tabaco estates, produced fruit with smaller kernels and higher oil contents than its West-African counterparts (Levang, 2014). While the scale of the palm oil plantations during the colonial times were quite modest, they rooted the idea of resource extraction through plantations in Indonesia. When the country gained its independence in 1945, the plantations were nationalised and became neglected.

The first wave of globalism arrived in Indonesia under the rule of President Suharto. When general Suharto came to power in 1966, he claimed to have established a 'New Order'. Anna Tsing writes *"The New Order promised to solve the country's economic problems through the magic of foreign investments and loans. The government threw its weight into logging, a flood of foreign investment followed. (...) State-making soon became entangled with logging as concessions were distributed to political clients, who made 'voluntary' contributions to the regime's favoured development initiatives."* Most notably of these investments, were the plantation-schemes backed by the world bank in the 1970s. The "Nucleus-Plasma scheme" was an agricultural business model that connected small-scale farmers to larger private or state owned estates (de Vos, 2013). Smallholder farms are generally smaller than 2 hectares and often family run by 5 to 6 workers. According to the World Bank's scheme, the smallholders owned the 'plasma plots', which were supposed to account for 80% of the production. They sold their fruits to the nucleus estate, which owned the other 20%, where they were processed. The Indonesian government primarily applied this scheme to the palm oil industry, because of its comparative advantage in terms of labour and land (de Vos, 2013). By the early 1990s, this



C Palm oil plantation. Source: Tom Picken

plantation scheme was increasingly scrutinized because in reality, the estates, which controlled the mills, had great power over the plasma plots. Colchester details accounts of farmers speaking emotionally of being "ghosts on our own land" because of the endless cycle of debt they became trapped in. In 1995, the "Primary Cooperative Credit for Members" scheme was introduced. This scheme incentivized villagers to surrender their land in exchange for a share in the new plantation. A few years later, the reign of president Suharto was over. What followed, was a process of political and economic decentralisation. This resulted in the liberalisation of the palm oil sector and multinationals gaining significantly more power over the production chain. The nucleus estate accounted now for over 80% of the production, while the plasma plots were reduced to 20% (de Vos, 2013).

The second wave of globalism hit Indonesia with the advent of industrial estates. By now palm oil plantations were a proven technology, and the floodgates were opened for rampant investments. Industrial estates are almost exclusively owned by multinationals and are several orders of magnitude larger than smallholder farms. These estates deliberately did not focus on the island Sumatra, where the oil palm sector was well established and smallholder plantations were mature (Pacheco et al, 2017) [8]. Instead, they opened up a new frontier in Kalimantan, where regulations are looser and the population density is smaller. According to the Basic Agrarian Law of 1960, all unregistered land belongs to the state (Gilbert, 2009). The Indonesian governments has little regard for the rights of local land-owners during the allocation of plantation concessions. This results in communities losing large areas of their land without compensation. Often, they are not that by relinquishing their lands to government-backed palm oil schemes, they are permanently surrendering their lands (Colchester, 2011). Thus the multinational corporations operate at the interface between the legal and the clandestine. They often employ

08 Pacheco, Authors, P.; Gnych, S.; Dermawan, A.; Komarudin, H.; Okarda, and B. "The Palm Oil Global Value Chain: Implications for Economic Growth and Social and Environmental Sustainability." Center for International Forestry Research. Accessed September 30, 2019.

09 Topalovic, Milica. "Palm Oil: A New Ethics of Visibility for the Production Landscape," *Architectural Design*, July 1, 2016, 42–47.

10 Bélanger, Pierre. "The Agronoic Landscape." *Wien: Springer-Verlag, GAM 07: Zero Landscape*, 2011, 166–82.

spaces of exception, such as free-trade or export-processing zones, operated under 'special rules' and 'flexible labour' regimes (Topalovic, 2016)

[9]. Pierre Belanger refers to these practices as the global soil economy: *"The use of surrogate soil or foreign land, historically, has tended more and more towards specific land-use patterns whereby industrial agriculture promoting short-term crop yield is prioritized over long-term soil replenishment"*

[10]. Indeed, industrial estates in Kalimantan are exploiting the land with the sole goal of profit maximization. Mila Topalovic describes this process as de-territorialisation and re-territorialisation: *"through such elaborately distorted representations, production spaces are conceptually neutralised from the meanings of locality, place and ground. They become spaces reduced to economic transactions."* A Dayak villager testified:

*"We don't have anything to offer to bargain with investors except land. We can't argue for infrastructure, an educated workforce, a steady supply of electricity, quick access to overseas markets, because we have none of these things. So the only thin we have to offer investors currently is land, and it is the only thin they are interested in."*

(reported by Gillespie, 2011)

### The zone of awkward engagement.

Starting an oil palm plantations in Indonesia is a lucrative business. Three years after planting, the tree begins to bears fruit. After only 6 years, the cash flow of the plantation is net positive (Meijaard et al, 2017). Many stakeholders have many different incentives in the palm oil industry. In Kalimantan, the Indonesian government used palm oil as a strategic tool. The border between Kalimantan and eastern Malaysia has historically been a security concern since colonial times. Palm oil was introduced as an organized commodity to counter the illegal migration to Malaysia, human trafficking, illegal logging and smuggle (de Vos, 2013). Sambas is the poorest district of West-Kalimantan. Here in particular, the local government has been keen to attract resource extraction investments

from the rubber, logging, mining and palm oil industries. Just recently, the onslaught of extraction concessions has come to a halt, because almost a third of Sambas has been allocated for palm oil plantations and they are running out of land.

Unsurprisingly, there is a history of inequality and social unrest in Sambas. Yet, the people of Indonesia are not passive bystanders or solely victims in the palm oil game. Anna Tsing writes *"Stranger yet, it seemed that ordinary people, even those dependent on the forest for their livelihood, were joining distant corporations in creating uninhabitable landscapes"*. She describes these interactions as "friction" and the place where they happen as "zones of awkward engagement". She views friction as the necessary component that simultaneously enables and counteracts the global chain of trade. Opposed to resistance, friction is rather describes the unruliness of interactions at the frontier and the clash of cultures. Tsing: *"Powerless minorities have accommodated themselves to global forces. But to turn that statement around to argue that global forces are themselves congeries of local/global interaction has been rather more challenging."*

### The city becomes a plantation.

In March 2005, PT Ledo Lestari brought in heavy machinery to the Sambas province (Marti, 2008) [11]. Without prior notice, they started clearing the primary forest the indigenous community of Iban Dayak in the village Semunying Jaya depended on. Their lands included forests protected by the community for generations in order to ensure the irrigation of their rice fields, rubber plantations and other crops (Marti, 2008). Villagers later testified that workers of PT Ledo Lestari poured diesel over the felled forest and set it ablaze, which is illegal under Indonesian law and strictly banned by the RSPO. In December, the community seized the companies' equipment in an attempt to stop the forest clearance and invited company representatives to discuss the situation (Marti, 2008). Instead the police allegedly threatened

11 Marti, Serge. "Losing Ground, Report on Indigenous Communities and Oil Palm Development." Accessed September 30, 2019.



**H** Illegal burning of primary forest for the PT Ledo Lestari plantation. Source: David Gilbert

villagers that they could disappear in the middle of the night as in the anti-communist era (Marti, 2008). Company representatives then orally promised to secure their relocation, build roads, a church, a clinic, a school and provide them with a community plantation (Nnoko-Mewanu, 2019). According to a villager:

*“they promised to setup up irrigated rice fields, a school, electricity, build a road, fish ponds. As it turns out, none of that was true”*

(reported by Marti, 2008)

All the amenities the company had promised, were never realized. In order to set up an oil palm plantation, Indonesian law requires four government permits from different departments. Among these is a permit the local governor is supposed to issue after reviewing the ownership and any competing rights over the land (Nnoko-Mewanu, 2019). The governor, Izen Lokasi, gave PT Ledo Lestari a 20,000 ha land concession directly on top of all 18,000 ha of Semunying Jaya’s sacred forest (Gilbert, 2009). According to Sawit Watch, an organization that monitors illegal forest clearing and human rights abuses, the company started their operations without a forest conversion licence, or Izin Pemanfaatan Kayu (Marti, 2008). PT Ledo Lestari is a subsidiary of Duta Palma Nusantara, which owns 200,000 hectares of land in Indonesia and is one of the country’s top ten oil palm producers. Many locals in Semunying Jaya believe it is the Indonesian Military’s thirty percent ownership of Duta Palma that allows them to operate with such impunity (Gilbert, 2009). A villager testified:

*“The government brought in “the military” and bulldozed their forest, ignoring their protests “People were crying I told everyone to not attack. We had just arrows and small knives. They had guns. We would not win”*

(reported by Nnoko-Mewanu, 2019).

## The plantation becomes a camp.

What PT Ledo Lestari conveniently failed to acknowledge, is that the Indonesian rainforest is not a space of solely nature. The forest is inhabited, the forest is a city. When the community of Iban Dayak lost their forest, they lost their livelihoods. They are losing their unique cultural traditions that have been passed down for generations. Villagers testified that the Kumba and Semunying rivers, which they rely on for drinking water and subsistence fishing, have become polluted due to fertilizers, pesticides, and other discharges from the oil palm plantation (de Vos, 2013). In the words of a villager:

*“The forest provided us with many ways to earn money: fish, honey, saps, resins, oils, game, rattan vines. Now, there is no more land, all of our rice paddies our fruit orchards, everything our grandparents left us is gone”*

(reported by Gilbert, 2009)

The oil palm plantation has eroded the culture of the Iban Dayak (Nnoko-Mewanu, 2019). The forest and sacred forests of spiritual significance to the community (Marti, 2008). Replacing the villages spread out over the forest, PT Ledo Lestari has created a series of camps to house its workers. These camps are clusters of roughly 50 barracks within the oil palm plantation. They offer none of the qualities of their former village, except a bed and a roof. One villager testified:

*“We lost our community. When we weave, we talk, laugh, and are together. This place is not a village. You can’t call it home. These are shelters, (it is) not a community. It is owned by the company.”*

(reported by Nnoko-Mewanu, 2019)

Giorgio Agamben defines a camp as the space that opens up when the state of exception starts to become the rule [12]. Jeannette Sordi defines the camp as the opposite of the city. She views the camp is a monofunctional temporal living hub subject to the profitability of the extracted resource in the global economy, while the city has a lasting and multifunctional character [13].



**G** Work barracks on an oil palm plantation. Source: Benjamin Skinner

**12** Agamben, Giorgio. What Is a Camp? Means without End: Notes on Politics. Minneapolis: University of Minnesota Press, 2000.

**13** Sordi, Jeannette, and Luis Valenzuela. The Camp and the City: Territories of Extraction. List, 2017.

When the Iban Dayak lost their forest, they lost their city. In its place, they were given a camp.

Anna Tsing argues these inhabited plantations fall outside the established urban typologies of city and hinterland: *“The palm oil plantations can no longer be understood as ‘rural’ in the traditional sense – these territories neither display the continuity of settlement and landownership with the rural areas they came to replace, nor provide any degree of social and economic autonomy (of self-sufficiency) for their residents and workers. They are territories where traditional rural socioeconomic relations have been reorganised in the form of industrial exploitation of the land, whose management and production is positioned within global supply chains.”* For those that are not offered jobs on the plantations, the only option is to migrate. Because palm oil is less labour intensive than most other types of agriculture, many of the indigenous people are forced out of their homelands. Tsing reports that massive resettlement programmes to date have affected more than 110,000 ‘settlers’.

### **After oil.**

Since the 1990s, an exponential growth oil palm plantations has taken over Indonesia. During the last ten year, the country has doubled its production from 20.5 to 43 megaton. This rapid increase in production capacity has come at a steep environmental and social price and will undoubtedly have severe ramifications in the near and far future. Nevertheless, the Indonesian government keeps promoting oil palm plantations as an economic driver. Successive governments in Indonesia have turned a blind eye to widespread forest clearance, facilitating the proliferation of oil palm plantations (Nnoko-Mewanu, 2019).

Pierre Belanger argues: *“What needs to be recognized is that the growing international commodification of soil, the dirt of urban civilization, often prioritizes cash-crops produced through the practices of monocultures, overgrazing, use of chemical fertilizers and pesticides, and a lack of cover crops. In the long run, cut-and-run farming tactics which deplete organic nutrients in soil and promote topsoil erosion threaten the longevity of vast sections of the world’s arable land.”* As the global demand for vegetable oils keeps rising, the plantations keep growing, and the land keeps degrading. The palm oil industry brings economic prosperity for some, but at a terrible price for many others.

But this is not just a story about land-use changes and desertification. Oil palm plantations are the representatives of the forces of globalisation in Indonesia (Potter, 2008). The rainforest is inhabited, and so are the plantations. Or as Milica Topalovic argues: *“Industrial landscapes such as palm oil plantations are essential parts of our cities – they are the city. They are socially produced spaces, a ‘second nature’ shaped by human activity, conceptualised and inscribed into contemporary forms of representation.”*

The loose regulations and lax enforcement of the law by the Indonesian government opens up the frontier in Kalimantan, and as a result, the exploitation of its natural and human resources. Palm oil plantations are changing the concept of the city, both in the existing urban centers, the inhabited forests and the camps. As Tsing states: *“The Indonesian forests were not destroyed for local needs, their products were taken for the world.”*

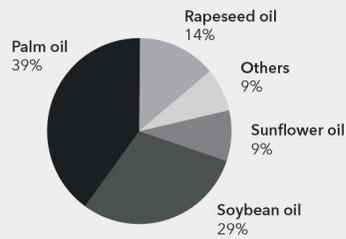
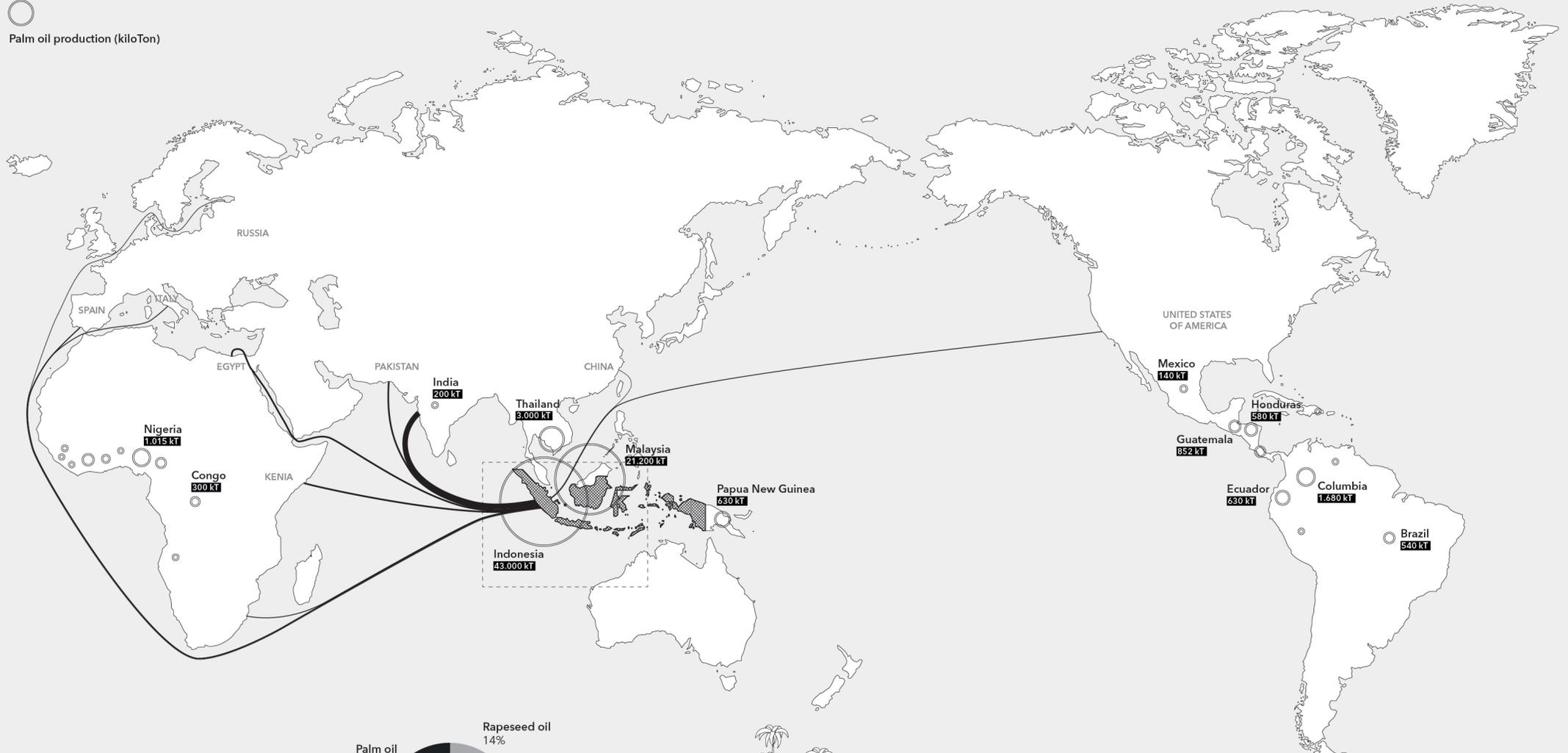
By the end of 2019, there will be over 2.2 billion oil palm trees in Indonesia.

**A global product.**

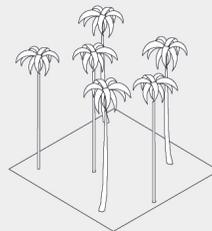
Palm oil is produced worldwide around the tropics. Indonesia and Malaysia are by far the largest producers, dominating 85% of the market. India is the largest consumer of Indonesian palm oil.



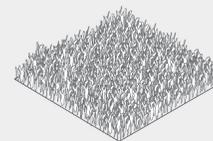
Palm oil production (kiloTon)



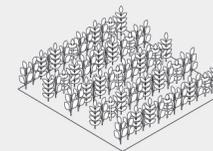
**Vegetable oil production**  
197.300 kT



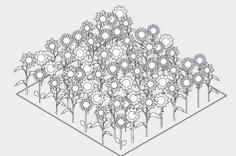
**Palm Oil**  
5.000 kg/ha



**Soybean oil**  
375 kg/ha

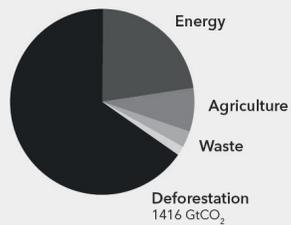


**Rapeseed oil**  
1.000 kg/ha

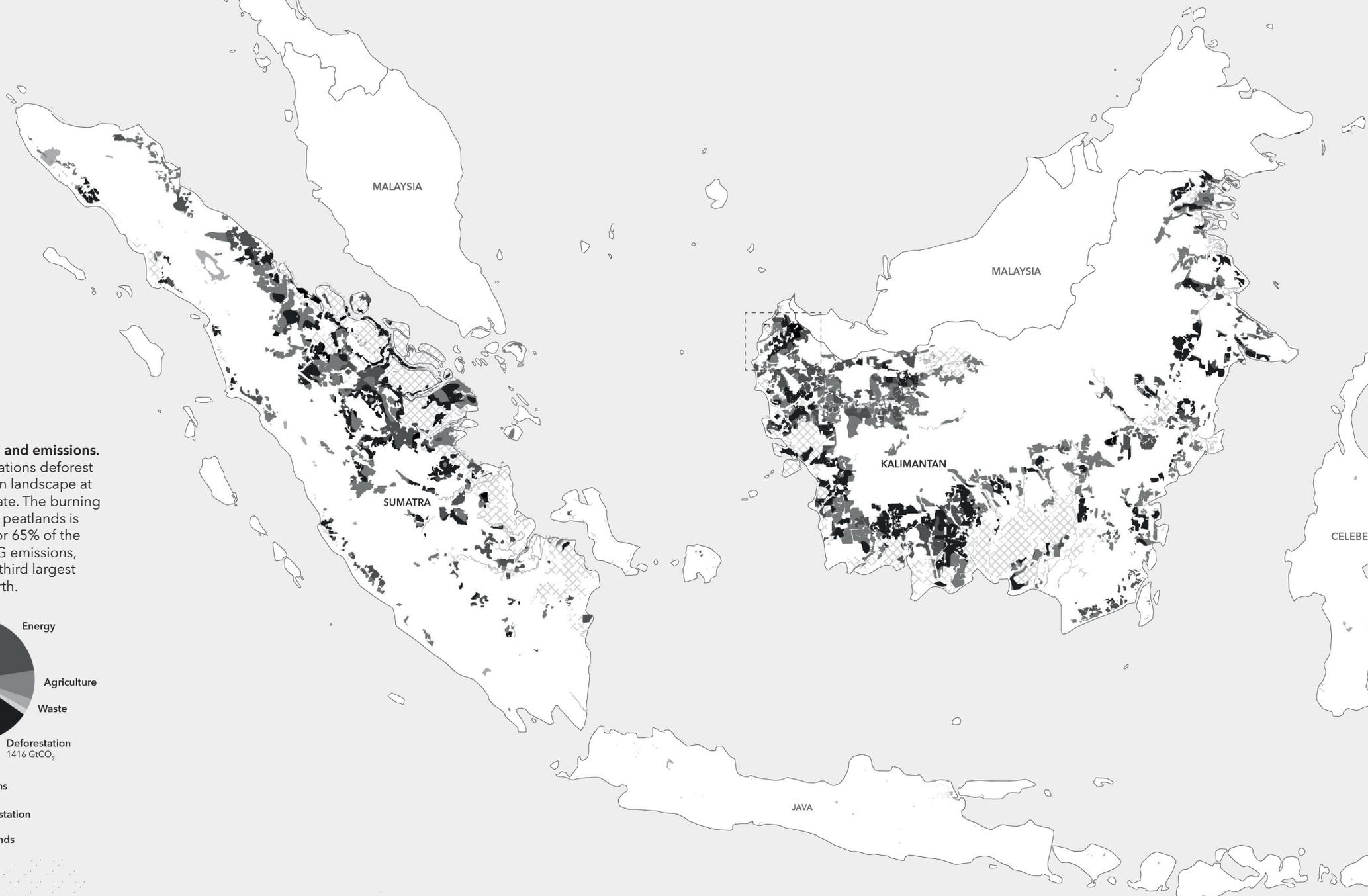


**Sunflowerseed oil**  
800 kg/ha

**Deforestation and emissions.** Palm oil plantations deforest the Indonesian landscape at an alarming rate. The burning of forests and peatlands is responsible for 65% of the country's GHG emissions, making it the third largest emitter on earth.



Palm oil plantations  
 Amount of deforestation  
 Remaining peatlands



### Biodiversity and abundance.

Deforestation and the establishment of palm oil plantations are devastating for the native wildlife. While many of the native specialist species are unable to adapt, some generalists thrive on the abundance of food on the plantations.

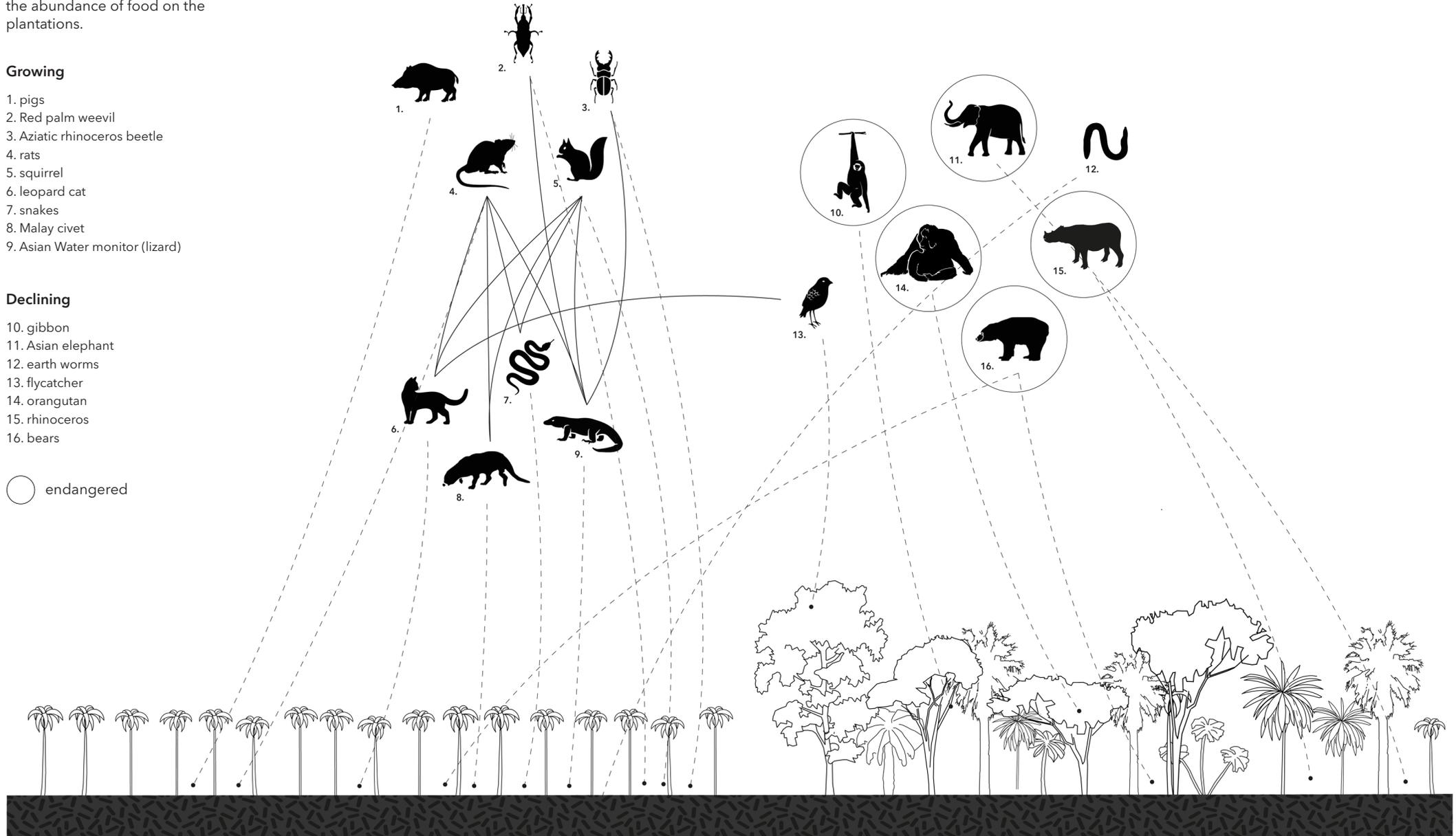
### Growing

- 1. pigs
- 2. Red palm weevil
- 3. Aziatic rhinoceros beetle
- 4. rats
- 5. squirrel
- 6. leopard cat
- 7. snakes
- 8. Malay civet
- 9. Asian Water monitor (lizard)

### Declining

- 10. gibbon
- 11. Asian elephant
- 12. earth worms
- 13. flycatcher
- 14. orangutan
- 15. rhinoceros
- 16. bears

 endangered



**Infrastructures.**

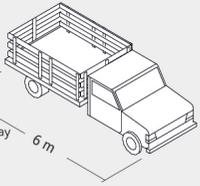
Oil mills, refineries, roads, national and international sea ports are chains in the logistics of extracting the resources of the rainforest.

- + International sea port
- Palm oil refinery
- Palm oil mill

**A**

Pickup truck  
2 MT

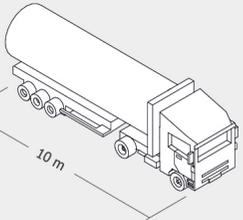
Oil palm fruits  
~ 250,000 trucks per day



**B**

Tank truck  
20 MT

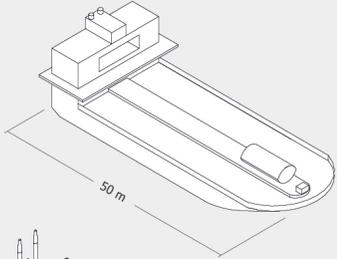
Crude palm oil  
~ 5,000 trucks per day



**C**

Small oil tanker  
25,000 MT

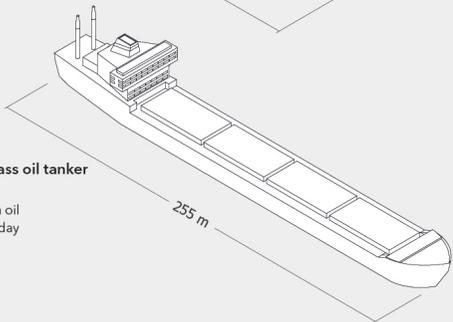
Refined palm oil  
~ 4 ships per day



**D**

Aframax class oil tanker  
100,000 T

Refined palm oil  
~ 1 ship per day



1965  
20

1975

1985

1995

2005

2015

Carmeliet | 21

MALAYSIA

MALAYSIA

SUMATRA

KALIMANTAN

JAVA

CELEBE

Dumai international sea port  
43,000 MT

Batam palm oil refinery  
43,000 MT

Sinkawang national sea port  
43,000 MT

Perumahan palm oil mill  
43,000 MT

Perumahan palm oil mill  
43,000 MT

**Production.**  
Since the 1990s, oil palm plantations have grown exponentially, because of two dominant plantation typologies: smallholder farms in Sumatra and insutrial estates in Kalimantan.

Oil palm plantations  
8,992,624 ha

INDUSTRIAL ESTATES

SMALLHOLDERS

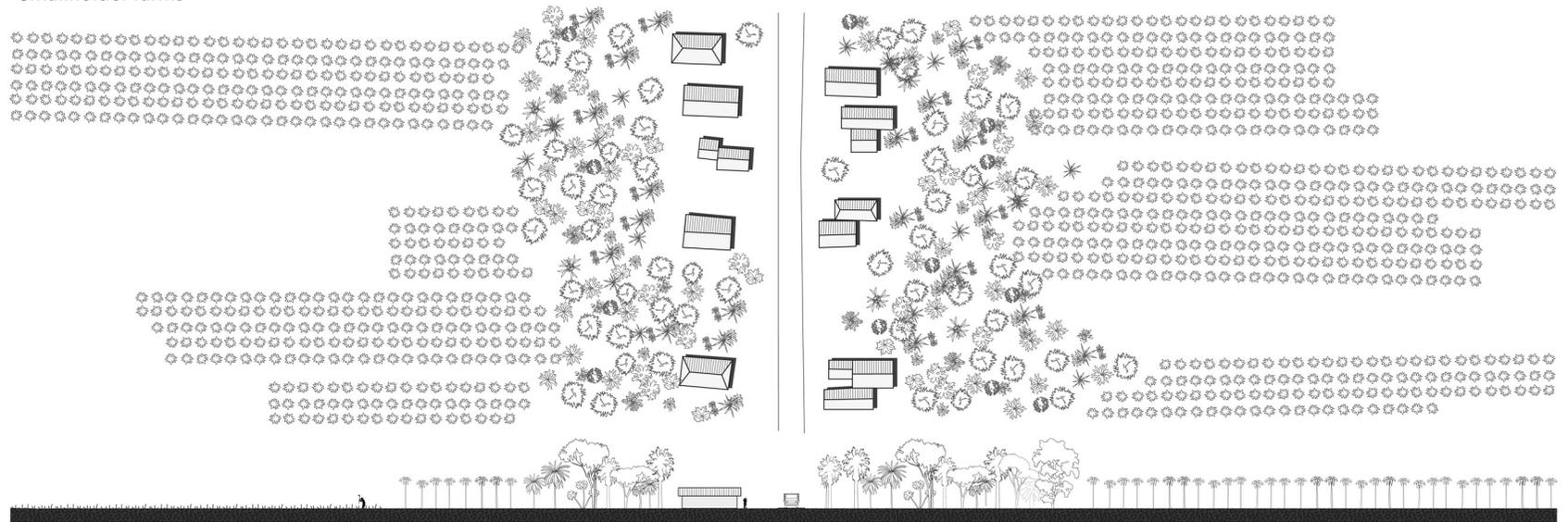
GOVERNMENT

**Plantation typologies.**

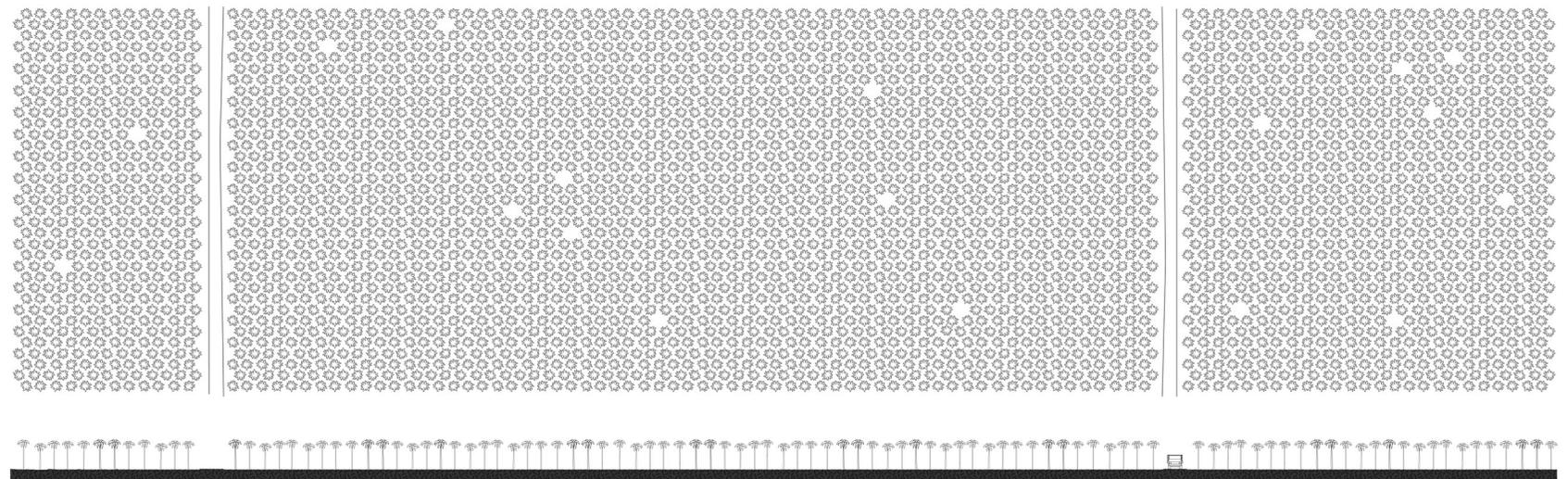
Smallholders farms are typically locally owned and managed. They are part of the historical agrarian landscape, where other crops like rice and rubber are cultivated. Because these farms are multicropped and pervious, they sustain a higher biodiversity, but have lower yields.

Industrial estates are typically owned by large international corporations. Often, primary forests are cleared in order to establish these plantations. They have been organized to maximize productivity and offer poor living conditions for people and animals.

**Smallholder farms**

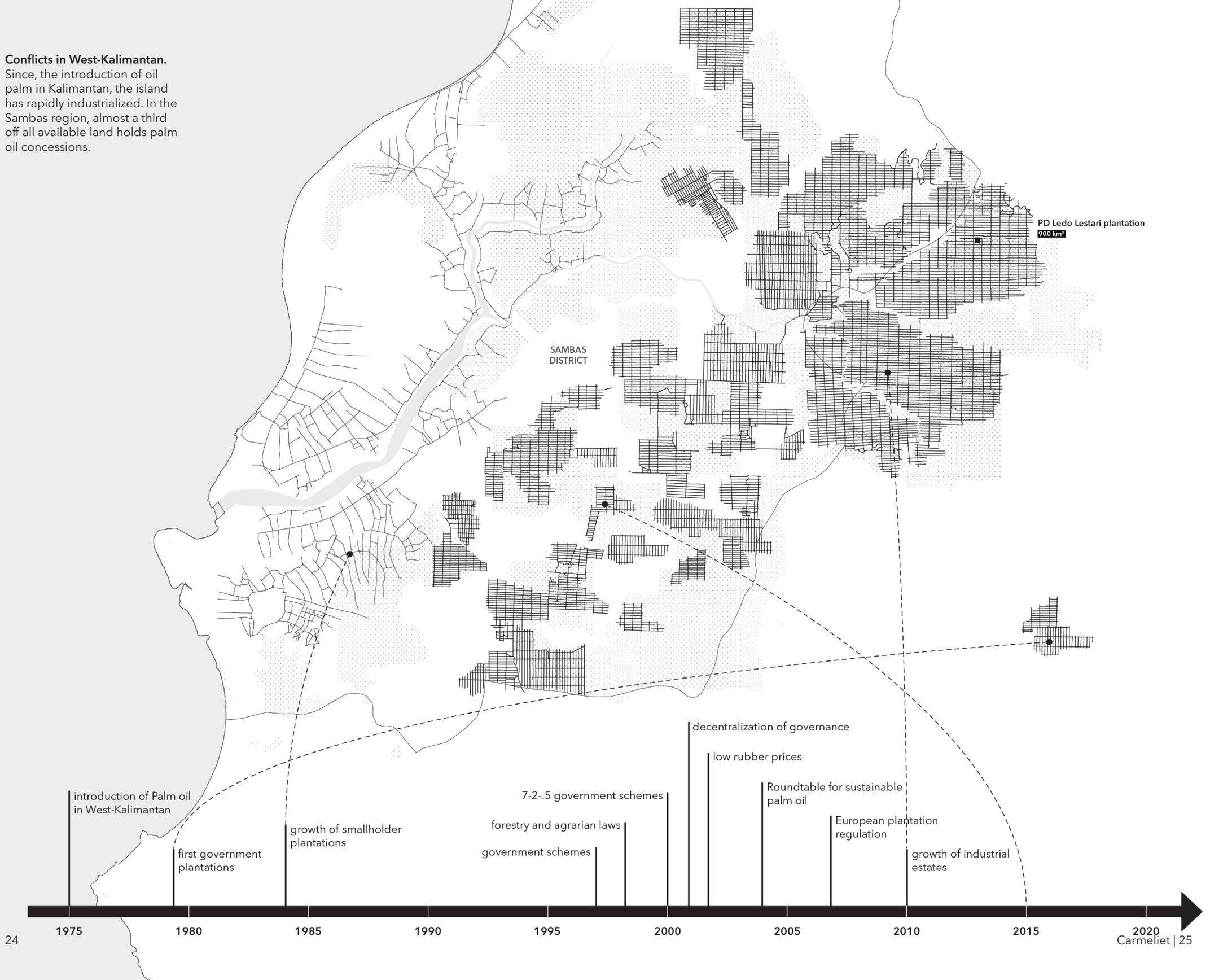


**Industrial estates**



### Conflicts in West-Kalimantan.

Since the introduction of oil palm in Kalimantan, the island has rapidly industrialized. In the Sambas region, almost a third off all available land holds palm oil concessions.

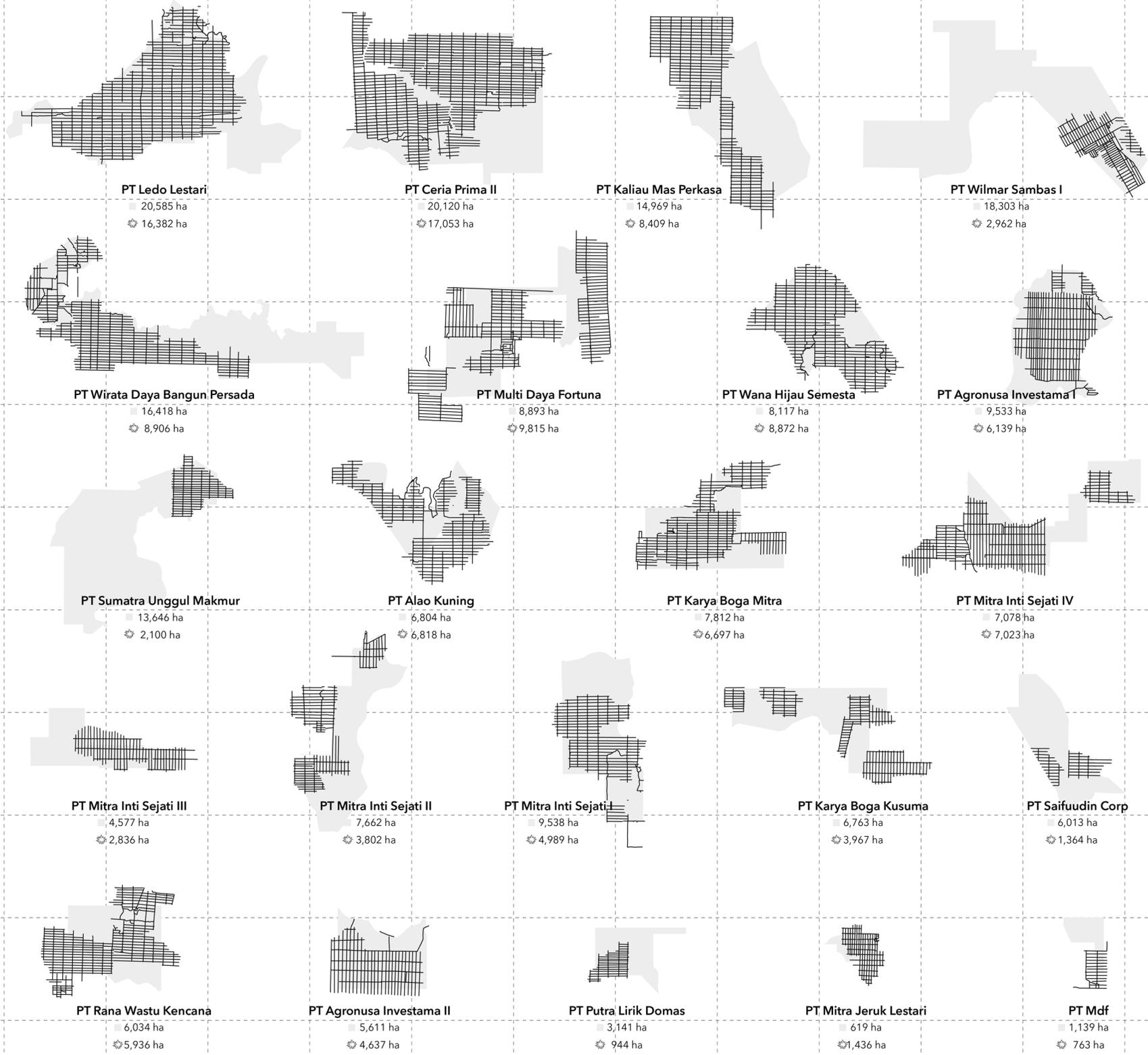


**Plantations estates in Sambas.**

Currently, 65% of the land, or 131,850 ha, allocated to palm oil has been planted.

With an average density of 140 trees per hectare, this adds up to an estimated 18,460,000 oil palm trees.

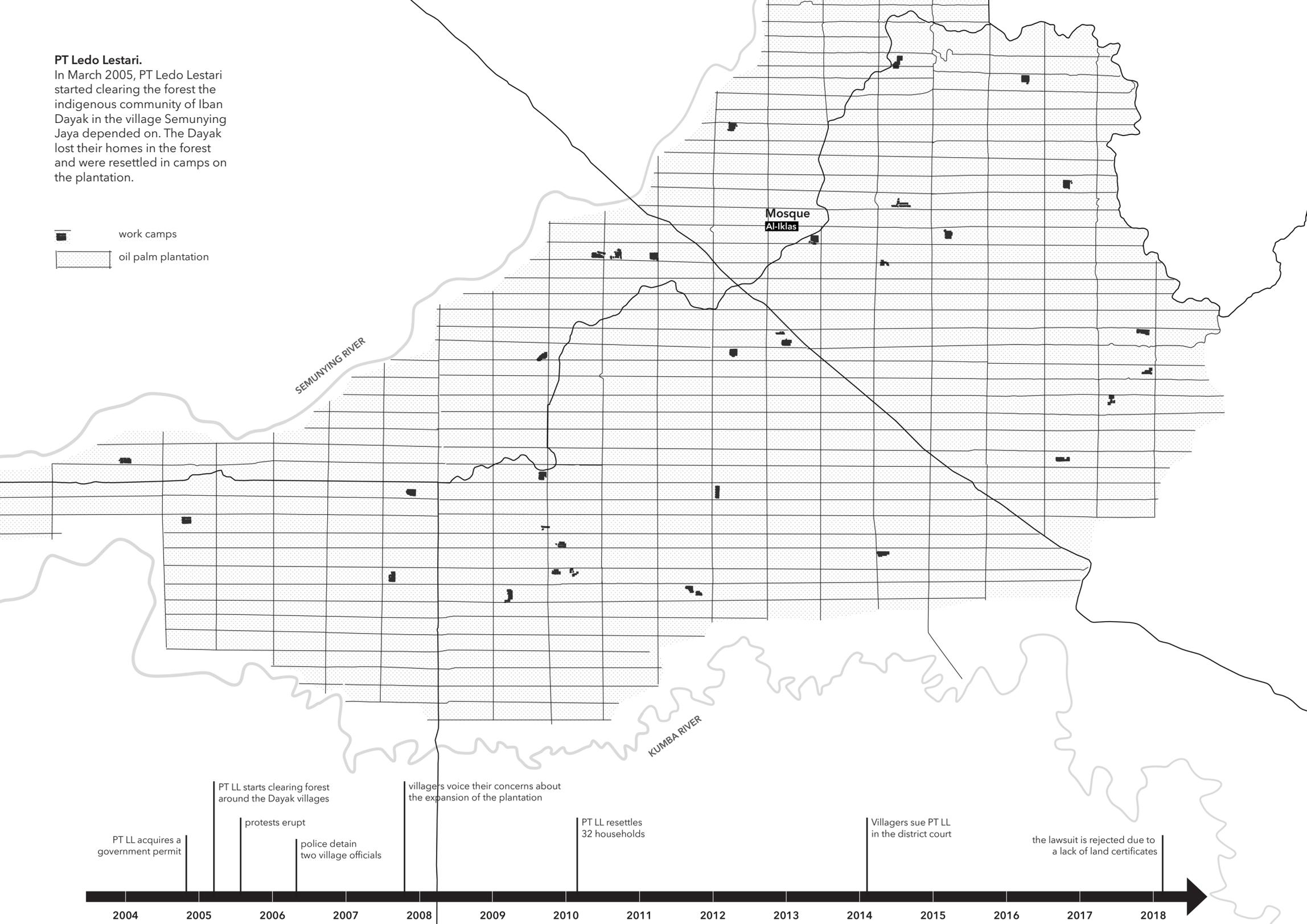
-  plantation concessions
-  plantations in 2019



**PT Ledo Lestari.**

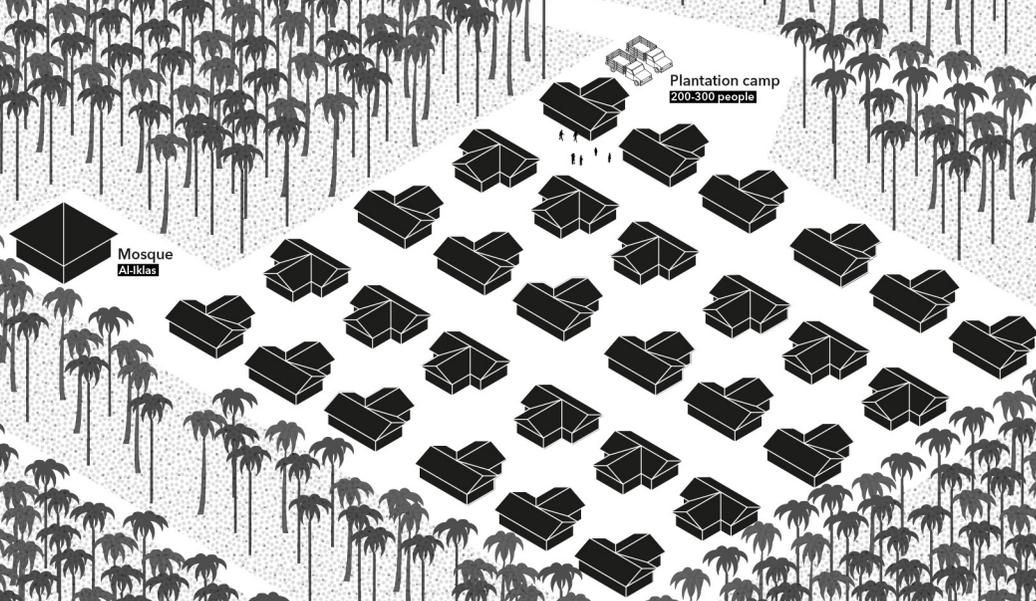
In March 2005, PT Ledo Lestari started clearing the forest the indigenous community of Iban Dayak in the village Semunying Jaya depended on. The Dayak lost their homes in the forest and were resettled in camps on the plantation.

- work camps
- ▨ oil palm plantation



**Work camps.**

On the industrial estates, work camps are dispersed across the plantation. The camps only offer basic shelter and mosques, and are often on a day's drive from civilization.



**Landscape of exploitation.**

The palm oil industry in Kalimantan is shaped by the rules of industrial scale, efficiency optimized, extraction. It continues to exploit the region's natural and human resources at a staggering rate.

