Palm Oil

Environmental destruction, stolen land

How we're destroying the environment and human rights
, one snack at a time

GLOBAL 2000

SÜDWIND

SUPPLY CHA!NGE
MAKE SUPERMARKETS FAIR

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Executive Summary

"Yes, we expect the European [people] as consumer of our product to study and to conduct research about palm oil plantations in Indonesia in order to see the reality here: many people become the victim of corporate crime. There is no problem if any company intends to run business here, but the people here should not be the victim of their business."

Spokesman of the farmers' assembly in one of the villages affected by land grabs

The huge expansion of oil palm plantations in Indonesia has led to major problems, as it demands large areas of land. Almost inevitably, it is linked with the displacement of people, smallholder farming and valuable ecosystems.

This report offers a summary of background information about palm oil. How and where is it grown? What makes palm oil different from other vegetable oils? How much of it is used in what products, and why? What are the consequences for the local people and the natural environment – and what are the possible solutions, from boycotts to certification?

In order to offer a tangible insight into the topic from the consumer perspective, we've also had a look at the palm oil situation on our own shelves back home. We picked out a product that's quite innocent in itself – the biscuit – and investigated how many types of biscuit actually contain palm oil, and whether those that do use certified palm oil.

Besides information from specialist literature, scientific studies and talks with experts, this report is also largely based on a study visit to Sumatra, Indonesia. We visited four regions and spoke with members of the local government and villagers who are involved in conflicts relating to palm oil.

The environmental problems reported by our interviewees are the clearing of rainforests, the drainage of peatlands, fires, massive water consumption by the palms and associated problems for agriculture, and pollution of rivers by oil mills. The social problems we encounter include the displacement of smallholder farming, which has been carried out for generations in certain areas. Land and land rights are a defining issue in most of our conversations. Further problems are the discriminatory employment practices of the plantations towards the local population, precarious working conditions, and poor wages for very strenuous work.
We also heard reports about corruption in the granting of concessions, and a failure to monitor compliance with laws and regulations. Often there is simply no monitoring of what is happening, and of what is and isn't permitted by the applicable rules. Again and again, forests that are officially protected are cleared.

The final point to be made is that palm oil production reveals many unsavoury aspects of global supply chains. The imbalance in power, with a small number of large, mainly international companies dominating parts of the supply chain, combined with a philosophy that places the profit and wealth of individuals above the common good, leads to suffering for humans and nature. In this respect, palm oil is not substantially different from other crops important for global trade, such as soya beans, cocoa,[1] sugar cane[2] or

[1] Sommeregger, Wildenberg, 2015: Bitter-Sweet chocolate - the truth behind the chocolate

oranges.[3] The situation for the farmers and the people in the Global South will not change if palm oil is replaced by another crop. What we need today, then, more urgently than ever before, is a new way of thinking about how we organize and conduct our trade. We must ask how much we are willing to put the good of individuals over that of an increasingly interconnected global community, and how many risks we are willing to take at the expense of our future generations. It will require a joint effort from civil society, policymakers, responsible companies and consumers to make a difference here.

business
http://doku.cac.at/chocolate_032016_langversion_web.pdf

[2] Vincent Kiezebrink, Sanne van der Wal, Martje Theuws, Paul Kachusa. 2015 Bittersweet Sustainability issues in the sugar cane supply chain.

[3] Dusch, Wildenberg, 2015: Ausgepresst hinter den Kulissen der Orangen Industrie 2015https://www.global2000.at/sites/global/files/Studie_Ausgepresst%20-%20hinter%20den%20Kulissen%20der%20Orangensaftindustrie_Fangfassung.pdf

The oil palm and palm oil

Figure 1: The Oil palm, its flowers and its fruits.

Palm oil is extracted from the fruits of the oil palm (*Elaeis guineeseis*). The oil palm originated in West Africa. The palm, up to 30 m high, produces bunches of fruit (infructescences) which can weigh up to 50 kg, with up to 4000 red fruits. The fruits, 3 to 5 cm long, have a thin skin and fibrous flesh, with an oil content of around 50 %. The seed contains up to 51% oil, known as palm kernel oil.

The fruits spoil quickly and must therefore be processed immediately after harvesting. The bunches of fruit are treated with steam to destroy a lipolytic (fat-splitting) enzyme. The fruits are then crushed and the kernels removed. The hard shell is cracked and the seeds are dried. These are used to produce palm kernel oil, which has quite different characteristics and applications to palm oil. The palm oil is extracted from the flesh, which has an orange colour due to its high carotene content.

The oil palm is easy to grow and makes no great demands on soil quality. It cannot tolerate waterlogged soil, however, and

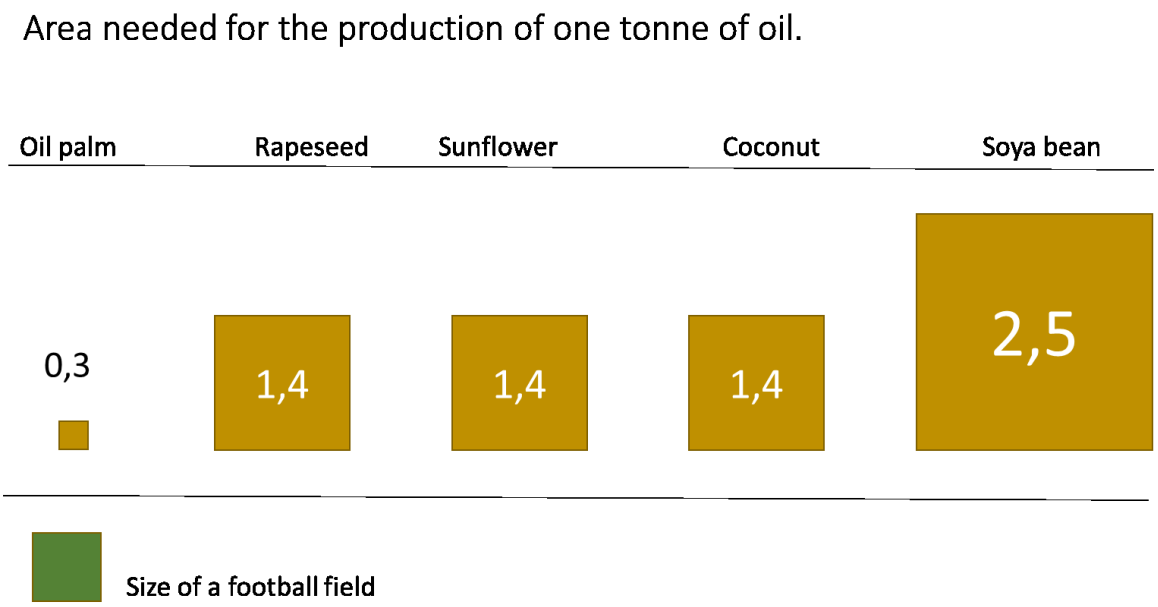


Figure 2: Area needed (in hectares) for different oil plants for the production of one tonne of oil.

requires

sufficient rainfall and warm temperatures, not below 15°C. Nutrient shortages with negative effects on productivity are generally compensated for by applying fertilizer.

Today the oil palm can be found throughout the tropics, and thus shares its habitat with some of the most biodiverse forests in the world. Its main areas of cultivation are in Indonesia and Malaysia. Increasingly, however, large commercial plantations are also being developed in West Africa and South America.

In comparison to other oil plants, the oil palm is notable for a particular high yield of oil per hectare (see figure 1). This high yield is one of the reasons why the oil palm is not only an attractive cash crop for large, commercial plantations, but is also often grown by small-scale farmers.

When used in smallholder farming, the oil palm can also be readily integrated into agroforestry systems. In West Africa this is the traditional form of cultivation. Usually, however, the oil palm is grown in huge monoculture plantations – a form of agriculture which cannot, as a general rule, be described as a very sustainable form of land use.

Other vegetable oils

The principle applying to all agricultural crops also applies to the oil palm: the way the crop is grown determines how sustainable production is. If we were to replace the oil palm with coconut palms, for example, or with soya beans, without changing the structures of the intensive plantation industry, nothing would be gained – on the contrary, the space required to produce the same amount of oil would increase. On the other hand, replacing palm oil with local oils, e.g. from rapeseed, sunflowers or European soya, has potential, as long as these crops are sensibly integrated into existing crop rotations.

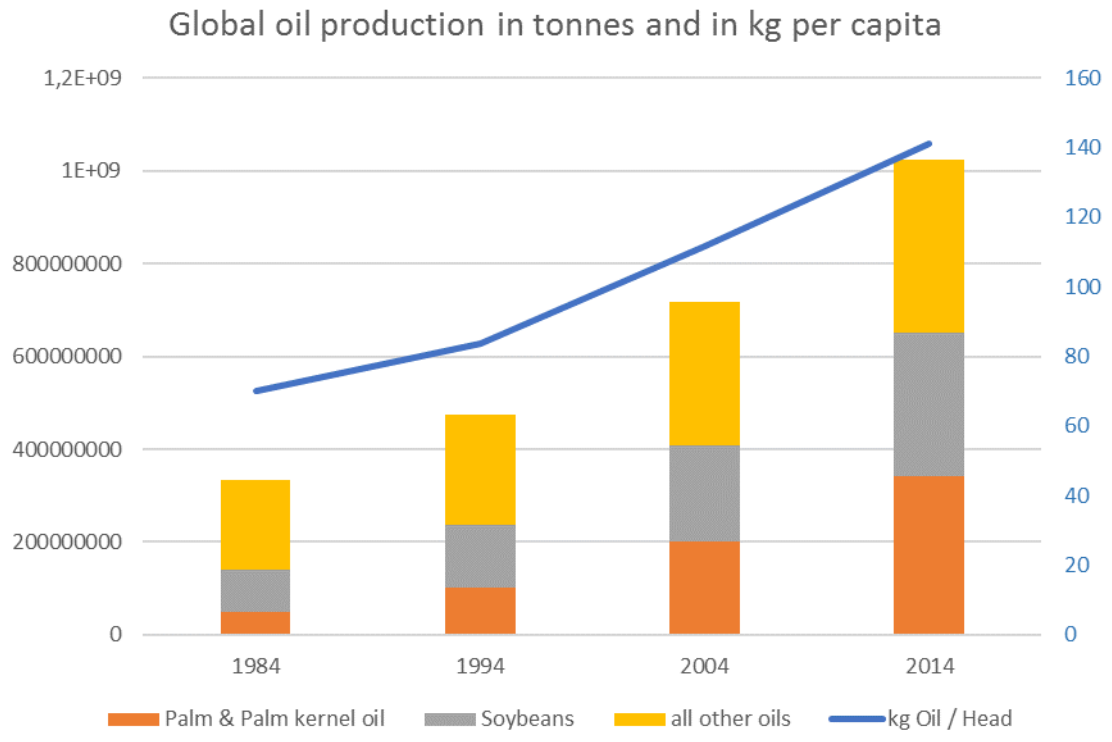
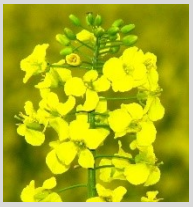


Figure 3: Total global oil production of soya bean and palm oil (in tonnes) and in kg per capita in 2014 (FAO Stat)

Brief information on other globally significant oils:

Rapeseed



Cultivation: rapeseed cultivation is concentrated in 15 countries, which produce around 90% of the world's harvest. Canada, China, India, France and Germany are among the biggest producers.

Advantages: can be integrated into crop rotation

Disadvantages: monoculture; massive use of pesticides, neonicotinoids

Soya bean

Cultivation: mainly South America but also increasingly in Europe. Cultivation (in South America) is mainly linked with the production of animal feed.

Advantages: can be readily integrated into crop rotations in Europe

Disadvantages: similar problems to palm oil when grown in the tropics. Not only deforestation and land confiscations, but massive use of highly toxic pesticides.

Sunflower

Cultivation: half of the area used to cultivate sunflowers is in Russia and the Ukraine. The EU, Argentina and China are also important producers.

Advantages: positive humus balance, can be integrated into crop rotation

Disadvantages: oil can't be used for deep frying, water-intensive, nutrient-depleting

Coconut

Cultivation: tropical, in roughly the same areas as the oil palm, but makes different demands on soil and site quality.

Advantages: traditional use

Disadvantages: lower yield per unit of area. Prices low and subject to considerable fluctuation – many producers can hardly make a living from this crop any more, despite rising global demand.

A by-product foodstuff in

Cottonseed

Cultivation: in subtropical climates

of cotton production, extracted from the seeds. Only important as a a small number of countries.

Cotton production is associated with a number of environmental and social problems and makes intensive use of water and pesticides.

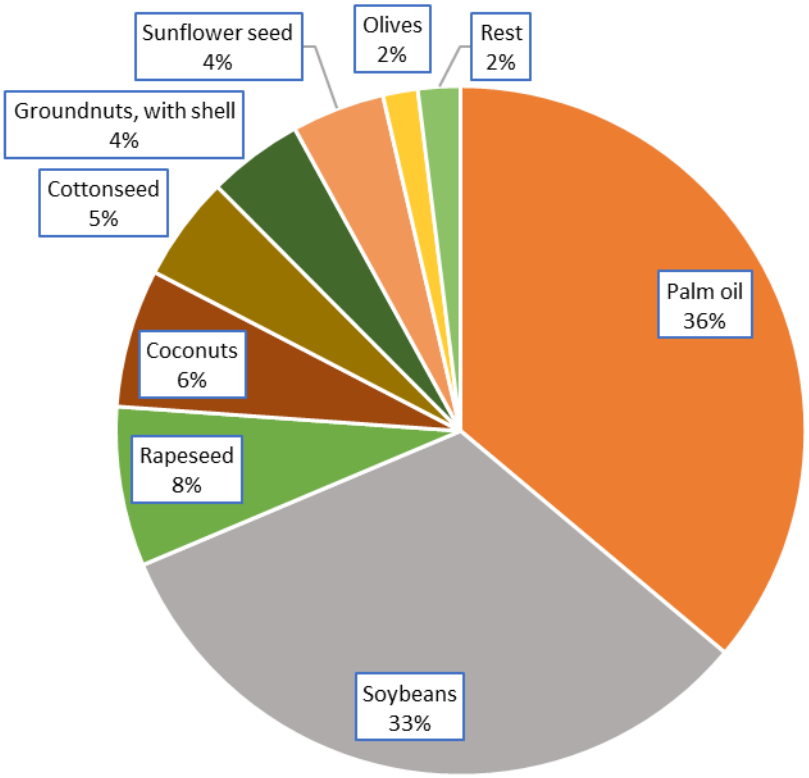


Figure 1: Share of different oils in global production (FAO-Stat)

Per capita consumption of palm oil in Europe

The actual per capita consumption of palm oil in Europe is not easy to calculate, since palm oil is imported and exported not only as a raw material, but also in processed form, as ready-made products or components. For instance, a study from France calculates the differences between imports and exports and arrives at a quantity of 2.2 kg per person per year. A much more detailed study from Germany, on the other hand, estimates per capita consumption at 22.7 kg of palm oil.[4][5] This study also takes

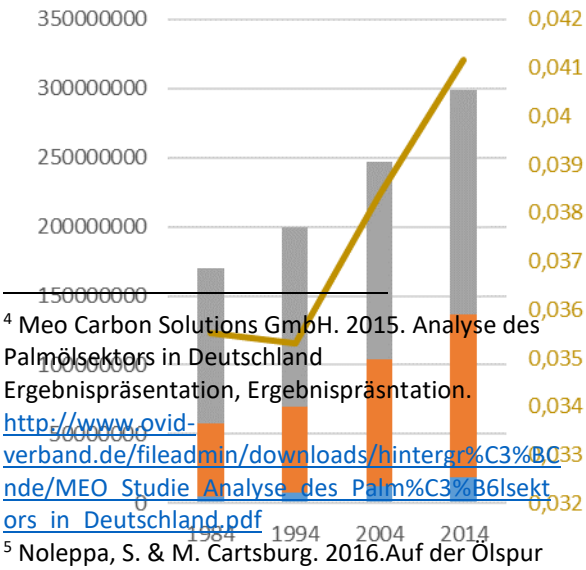


Figure 4: Land use for different oil plants and land use per capita/year. WWF, 2016 (FAO-Stat)

[4] Meo Carbon Solutions GmbH. 2015. Analyse des Palmölsektors in Deutschland Ergebnispräsentation, Ergebnispräsntation. http://www.ovid-verband.de/fileadmin/downloads/hintergr%C3%BCnde/MEO_Studie_Analyse_des_Palm%C3%B6lsektors_in_Deutschland.pdf

[5] Noleppa, S. & M. Cartsburg. 2016.Auf der Ölspur –Berechnungen zu einer palmölfreieren Welt. WWF Deutschland. http://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Studie_Auf_der_OElspur.pdf

into account palm oil used in non-food areas such as cosmetics, soap and biofuels. Even if only the palm oil used in foodstuffs is included, the German study still finds a per capita consumption of over 7 kg per year. While the proportion of biofuels can be quite varied due to national regulations and circumstances, we can assume that the quantity of palm oil used in consumer items (food, cosmetics, detergents and cleaning products) lies around the value calculated for Germany, 13 kg.

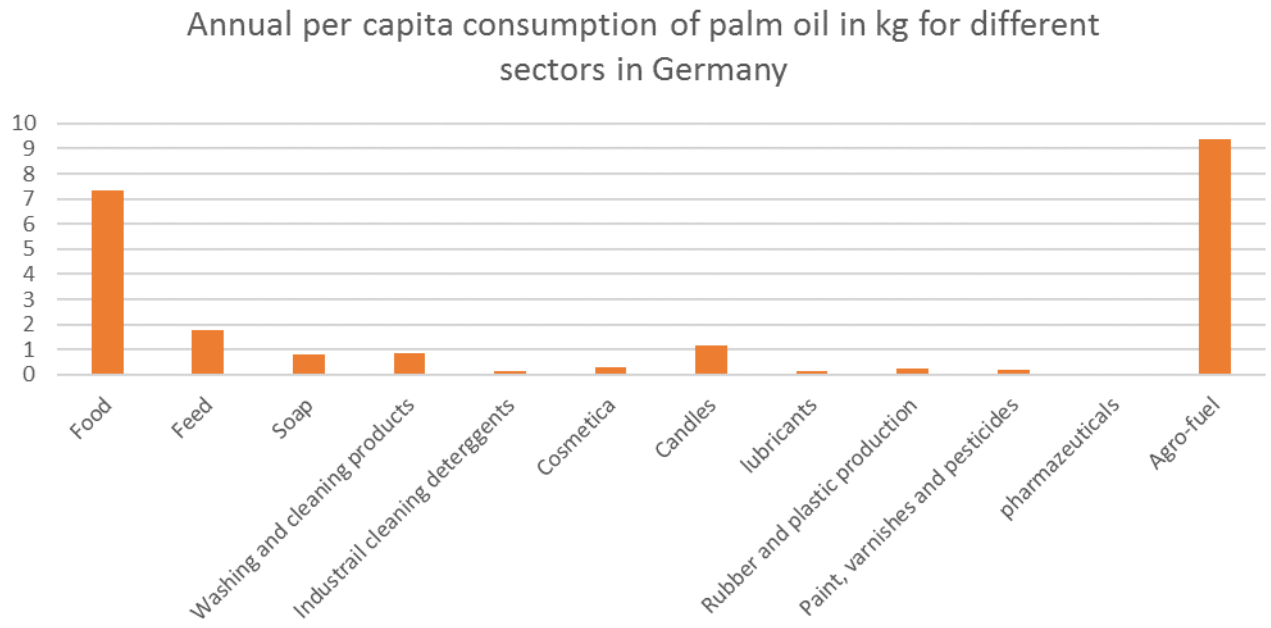


Figure 5: Annual per capita consumption of palm oil per head in Germany for different sectors. Whereas the proportion of palm oil used in Agrofuel may differ from country to country depending on the national industry, the consumer products composition and consumption will be similar throughout Europe.

Where is palm oil used?

Today palm oil is the most widely used vegetable oil. In 2014, according to FAO, over 342 million tonnes were produced worldwide.

What is palm oil actually used for? Here in Europe, palm oil is mainly used as a biofuel, in food, animal feed, and cosmetics & toiletries. In actual fact, there is palm oil in over 50% of all products sold in an average supermarket.

Even if some products only contain a small percentage of palm oil, it all adds up to a huge quantity. While palm oil has an important nutritional function in some developing and emerging countries, as an affordable source of energy-rich fats, the per capita consumption of fats in the Western industrialized states is well above the recommended daily intake.

What makes palm oil so attractive for industry? In some cases palm oil is used because of its technical characteristics, but often it is the price alone that determines which oil ends up in a product.

Food & palm oil

The following section will give a brief description of the most important product groups for palm oil consumption. Product segments from the non-food area will also be briefly introduced. Often the proportion of palm oil in the individual products is low, but the large quantity of products consumed (e.g. for baked goods) means a high overall consumption.[6][7]

Margarine

Palm oil and palm kernel oil affect the firmness of margarine and thus its melting behaviour and spreadability. Palm oil and palm kernel oil make it possible to avoid the use of trans fats in solid, oil-based products, and thus achieve better nutritional values. Around 50 % of the saturated fatty acids in margarine are made from palm oil and palm kernel oil. The unsaturated fatty acids in margarine are mainly produced from rapeseed and sunflower oil.

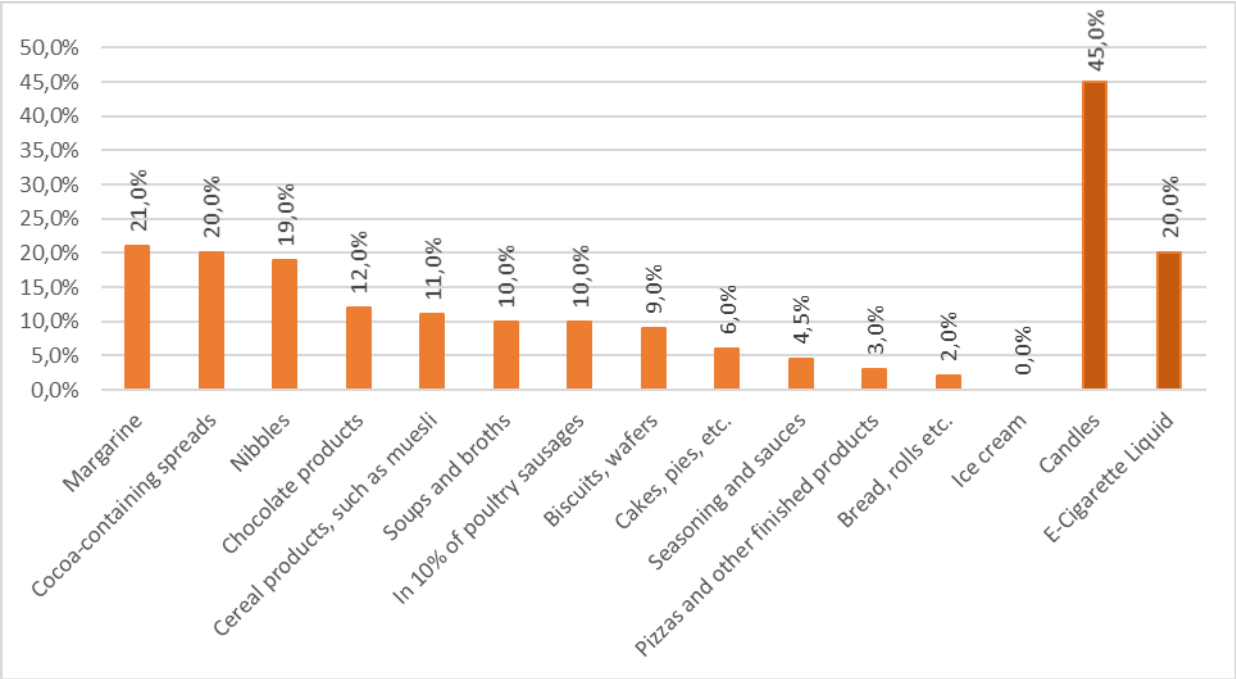


Figure 6: Proportion of palm oil in different products (blue bar), and extrapolated per capita consumption in Austria (orange bar) (based on consumer survey by Statistik Austria for 2014).

Average proportion of palm oil and palm kernel oil in margarine: between 20% and 80%, though margarines for domestic use tend to have a lower proportion of palm oil.

Baked goods

Palm oil is used as an emulsifier in baked goods to improve fermentation processes in baking agents or to improve the properties of baked products (e.g. shelf life). The baked goods segment also includes cakes. These are typical products from industrial bakeries, in

[6] Meo Carbon Solutions GmbH. 2015. Analyse des Palmölsektors in Deutschland Ergebnispräsentation, Ergebnispräsntation. http://www.ovid-verband.de/fileadmin/downloads/hintergr%C3%BCnde/MEO_Studie_Analyse_des_Palm%C3%B6lsektors_in_Deutschland.pdf

[7] Noleppa, S. & M. Cartsburg. 2016.Auf der Ölspur –Berechnungen zu einer palmölfreieren Welt. WWF Deutschland http://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Studie_Auf_der_OElspur.pdf

which margarine made of palm oil is used. Other vegetable oils (e.g. soya bean oil, rapeseed oil, sunflower oil) can be used to produce the same emulsifiers.

The proportion of palm oil and palm kernel oil in bread, bread rolls, and similar baked goods lies between 0% and 2%. In cakes and similar baked goods it lies at 3.5 - 6%, and in pastries between 4% and 14%.

Sweets and snacks

Because of their melting behaviour, palm oil and palm kernel oil are widely used in chocolate products. They are found in cocoa-containing products such as chocolate, chocolate-flavoured coating, chocolates, chocolate-flavoured spreads, biscuits, wafers and similar products, snacks such as potato chips, nuts and other nibbles, sweets and chewing gum. Influencing factors are the competitive price of palm oil and, on a technical level, its flexible qualities (melting behaviour and crystallization rate). Palm oil and palm kernel oil are also used as substitutes for cocoa butter and butter, as well as for deep frying certain types of snack. Other vegetable oils (e.g. soya bean oil, rapeseed oil, sunflower oil) can be used to produce the same emulsifiers.

Proportion of palm oil in chocolate products: between 7% and 12%. Chocolate-flavoured spreads contain around 20% palm oil. In biscuits, wafers and similar products there is assumed to be around 5% and 9% palm oil. Snacks and nibbles can be expected to contain about 20% palm oil, according to an English study.

Ready-made products

In ready-made or convenience products, palm oil is most frequently found in soups, stocks and sauces. In convenience products, shelf life and consistency at room temperature are key features, and it is also important that the contents do not stick to the packaging.
Palm oil is mainly used in the following product categories:
1. Frozen potatoes and pizza
2. Ready meals based on meat, fish and vegetables*
3. Soups and stocks
4. Sauces
5. Instant products (soluble powders for drinks)

The proportion of palm oil in the two most important sub-segments lies between 6% and 10% (for soups and stocks) and between 1% and 4.5% (for seasonings and sauces).

Meat products

Palm oil and palm kernel oil are especially widely used in poultry-based sausages and lunch meats to reduce the fat content. Sausage or lunch meat based only on poultry does not have a high enough fat content. Hence pork or beef fat is added, or, as an alternative, palm oil or palm kernel oil. Due to its spreading qualities/consistency and its emulsifying qualities, palm oil is also used in meat paste and meat marinade.

Palm or palm kernel oil is contained in around 10% of sausages and lunch meats, and the proportion of palm oil in these products is 10% on average.

Cereal products

Palm oil plays an important part in the roasting process for cereal products (especially muesli mixtures made of different grains). Due to its technical qualities, palm oil is the most suitable oil for the production of cereal products.

The proportion of palm oil in cereal products lies at around 11%.

In the **catering sector**, palm oil and palm kernel oil are used in the individual product categories in similar proportions to the quantities produced for retail. Palm oil and palm kernel oil are frequently also used in fats for deep frying. Until the usage of raw materials in the catering industry becomes more transparent, the substitution of palm or palm kernel oil will continue to depend solely on the price.

Other products with palm oil

Candles

40-45 % of the raw materials used for candle production in Germany are palm oil and palm oil derivatives. The proportion of palm oil fluctuates, since the different raw materials available are of equal value, and the manufacturers change their recipes where necessary. The amount of palm oil used depends mainly on customer preference, the requirements of the retail sector, and commodity prices. Demands made by the retail sector are a key driver for the use of sustainable palm oil in candle production.

Household products, detergents, care and cleaning products.

Palm oil plays a major role in household detergents, cleaning and care products, and in the production of cosmetics. It is mainly used for the production of surfactants, emulsifiers, emulsions and other ingredients (e.g. glycerine). Both palm oil and animal fats are important for the traditional process of saponification (soap-making). As well as the formula for the given product, the price – especially the commodity price of palm or palm kernel oil versus alternative locally-grown oils – is significant. In Europe, for example, the strong biodiesel industry means that a high proportion of glycerine is produced on the basis of rapeseed oil, which is then also used in cosmetics.

Surfactants are utilized in numerous other industries. The quantities of palm and palm kernel oil consumed are very low.

- Pesticides/herbicides with the active ingredient pelargonic acid, based on palm oil, in the home and garden ("organic weed killer")
- Consumption as "liquid" in e-cigarettes (10-20%)
- Synthetic fibres
- Coating of paper
- De-inking of recycled paper
- Hydrophobization of building materials
- Used as an additive in the production of plastics, and in the coating of packaging materials
- After rapeseed oil and animal fats, the most important raw materials for the production of biolubricants

Livestock feed

Their nutritional properties make palm fatty acids (including fractionated ones) especially suitable for feeding ruminants, as well as high-yield cows. Palm fat is also used in the form of raw oil as a compound feed for other livestock. The proportion of palm oil in compound feeds depends on the type of animal, and lies between 0.5 and 1.7%. The average proportion of palm oil in the different kinds of compound feed in Germany is 0.7%. The substitution of other vegetable oils is possible, depending on the type of animal.

How does palm oil get into our products?

Nearly 70% of palm oil is grown in huge plantations, which can often cover thousands of hectares: one palm after the other, row upon row, as far as the eye can see. These plantations are operated by national and international companies, and are often owned by or under contract to big palm oil distributors such as Wilmar, Golden Agri-Resources, Sime Darby, Bunge or Cargill. The ownership structures are often anything but transparent. We were told that plantations that cannot be certified, because of various problems, are often transferred to subsidiaries. This means the company in question can continue to operate as before, and can nonetheless supply certified palm oil.

The fresh palm oil fruits have to be processed within a few hours of harvesting. The rule of thumb is that a plantation should not be more than five hours from an oil mill. In the oil mill,

raw palm oil or crude palm oil (CPO) is extracted, as is palm kernel oil. This is then transported by road tankers and ships, either to refineries – e.g. in Singapore, Malaysia or Europe – or directly to the end user, in this case, for example, the food manufacturers. In the refineries the palm oil is subjected to further processing, and broken down into the components needed by industry.

Palm oil plantations and smallholder production

In small-scale agricultural production, we have to distinguish between different cultivation systems. In West Africa, the oil palm is a traditional component of agroforestry systems. This is probably the most sustainable form of production, but mainly serves to meet local needs. In Indonesia, palm oil is also grown by smallholders. Here, however, it is mainly grown as a cash crop – i.e. as a source of income and not for food. Because of the high yields and the relatively low labour requirements, the oil palm is highly prized by farmers. However, they often lack the experience and the capital to establish a plantation and acquire the necessary operational inputs.

This is why the Indonesian government has, since the 1970s, encouraged and promoted what are known as "plasma systems". The idea of the plasma system is that a company develops a large plantation with the relevant infrastructure, e.g. an oil mill, and that, at the same time, part of the land is given to smallholders or settlers. They then also produce palm oil on their plots (usually 1-2 ha), and supply it to the oil mill at prices set by the company. The company retains part of the proceeds until their investment costs for preparing the farmed land have been paid off.

The plasma system has mainly been used in Indonesia, and has been subsidized by the government. The aim was to promote economic development in rural areas. And this has been achieved, in those cases where the companies in question have made an honest effort to support the "plasma" operations. All too often, however, the smallholders have been abandoned, or cheated of their revenues or land.

Cramb and McCarthy describe the development of the plasma schemes in Indonesia, observing a shift from government-supported systems towards purely commercial ones. In these,

"landholders are transformed into shareholders and wage labourers, typically on poor terms. In many cases, this change results in poor distributional outcomes, with smallholders in Indonesia now receiving reduced benefits compared with earlier, more generous, state-supported models."[8]

This has led many farmers to reject this type of cultivation and collaboration. It can be observed that farmers are more and more inclined to organize their palm oil cultivation themselves, having lost their trust in the state and the companies collaborating with it.

[8] Rob Cramb & John F. McCarthy. 2016. *The Oil Palm Complex. Smallholders, Agribusiness and the State in Indonesia and Malaysia*. NUS Press Singapore.

The palm oil supply chain

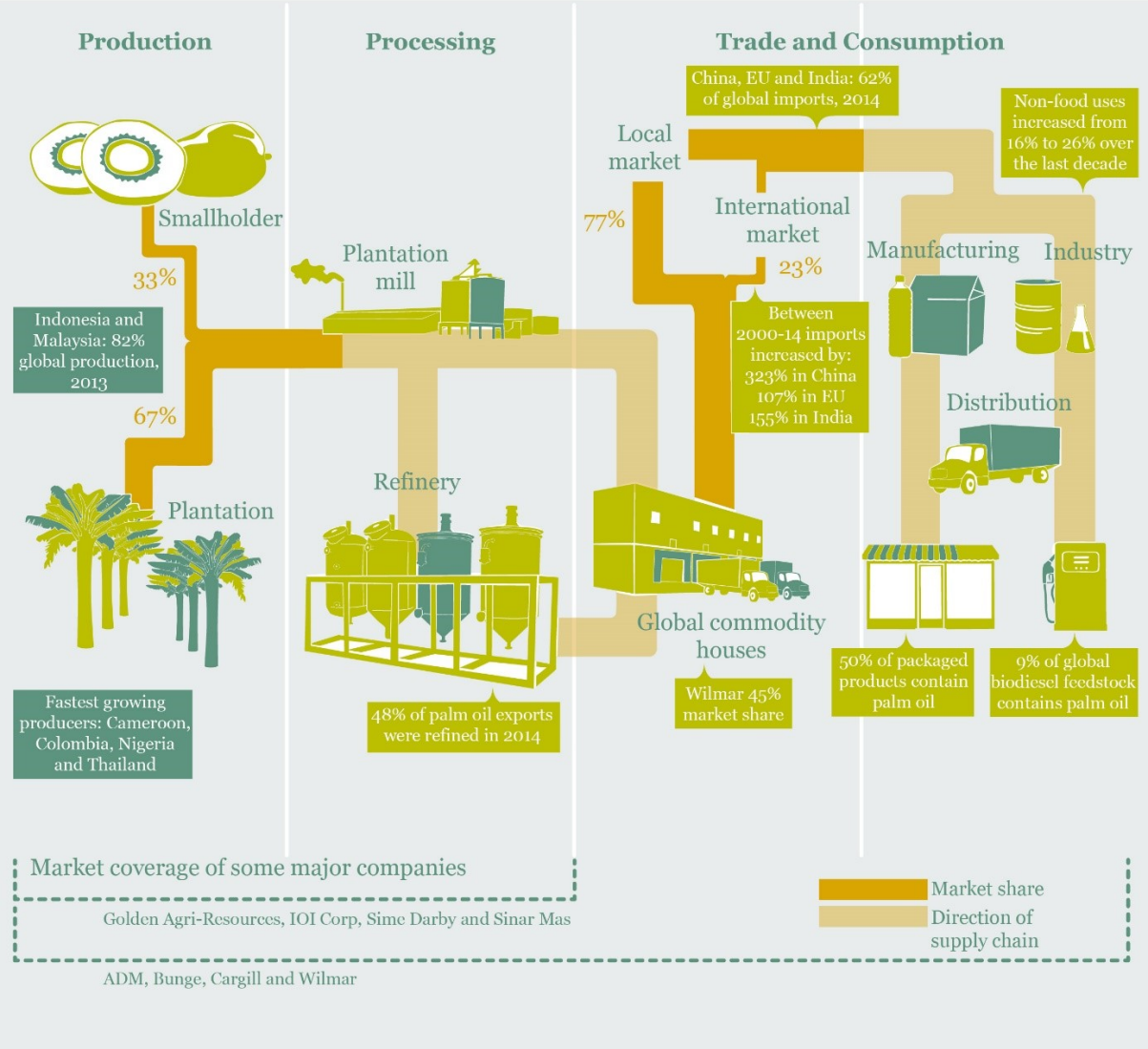


Figure 7: The palm oil supply chain[9]

[9] Brack, D., A. Glover and L. Wellesley 2016. Agricultural Commodity Supply Chains Trade, Consumption and Deforestation. Chatham House, Royal Institute For International Affairs. http://www.illegal-logging.info/sites/files/chlogging/Agri_Comms_Supply_Chains_2016_FINAL.pdf

Cultivation of palm oil – past and future development

The global demand for palm oil has risen steadily over the last few decades. Globally, this has led to the expansion of palm oil plantations, from 6 million hectares in 1990 to over 17 million hectares in 2012. In the two main countries of cultivation, Indonesia and Malaysia, the land use increased from 3.5 million hectares to over 13.1 million hectares between 1990 and 2010.[1011] It is estimated that, in Indonesia, 63% of this growth has occurred at the expense of biodiverse rainforests, and that up to 30% of these plantations have been established on peatlands, leading to massive CO_2 emissions.[121314].

It is predicted that the demand for palm oil will continue to rise. Not only in the industrialized countries, but especially in the developing and emerging countries. This explains why Indonesia, for example, is aiming to double its existing area of cultivation by 2020. But in the meantime, the palm oil industry has identified promising new locations for cheap and profitable expansion: West Africa and the Amazon still offer many undeveloped forested areas that can be lucratively exploited for large-scale palm oil production.

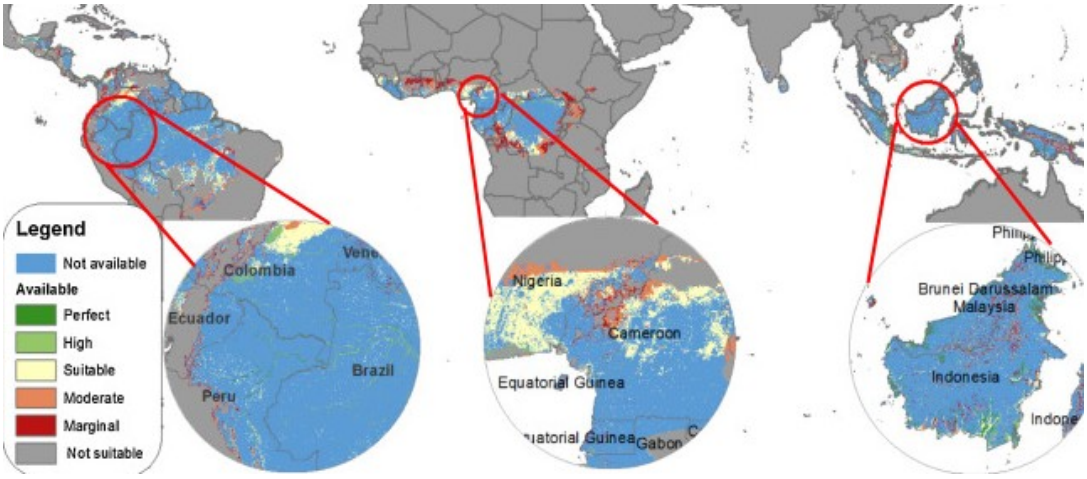


Figure 8: Locations of remaining potentially available areas for the expansion of oil palms by suitability categories. Areas that are already in use or would not meet the criteria for environmental sustainability have been excluded (in blue) [1]

10 L.P. Koh, J. Miettinen, S.C. Liew, J. Ghazoul Remotely sensed evidence of tropical peatland conversion to oil palm Proc. Natl. Acad. Sci. U. S. A., 108 (2011), pp. 5127–5132

11 P. Gunarso, M.E. Hartoyo, F. Agus, T. Killeen 2013 Oil palm and land use change in Indonesia, Malaysia and Papua New Guinea Round Table on Sustainable Palm Oil (RSPO), Singapore (2013)

12 J. Miettinen, A. Hooijer, C. Shi, D. Tollenaar, R. Vernimmen, S.C. Liew, C. Malins, S.E. Page Extent of industrial plantations on Southeast Asian peatlands in 2010 with analysis of historical expansion and future projections GCB Bioenergy, 4 (2012), pp. 908–918

13 K.M. Carlson, L.M. Curran, G.P. Asner, A.M. Pittman, S.N. Trigg, J. Marion Adeney Carbon emissions from forest conversion by Kalimantan oil palm plantations Nat. Clim. Change, 3 (2012), pp. 283–287.

14 W. Omar, N. Abd Aziz, A. Tarmizi, M.H. Harun, A. Kushairi Mapping of Oil Palm Cultivation on Peatland in Malaysia (No 529) MPOB Information Series, Kuala Lumpur, Malaysia (2010)

In many cases it is easier for companies to cut down forests and establish plantations on the cleared land than to convert existing agricultural land or grassland. The companies benefit from the quick profits made by selling the timber. Indeed, there have been some cases in Indonesia where palm oil concessions have only been acquired in order to cut down a forest and sell the timber, and a plantation was never actually established. Furthermore, forest soil requires less preparation, at least in comparison to degraded land.

But where do we go from here? Is there actually enough land to satisfy the global hunger for oil – preferably without clearing any further rainforests? Scientists from the International Institute for Applied System Analysis (IIASA) have investigated whether it would theoretically be possible to cover rising global demand for palm oil without clearing any further forests. They used satellite data to determine which areas of land would potentially be suitable for plantations, on the basis of climate and soil properties. They then subtracted all the areas which already have protected status (e.g. national parks) or which were able to be classified as worth protecting on the basis of other criteria. The remaining areas of land were divided into six categories based on their suitability (e.g. their distance from settlements). What remained was around 19.3 million hectares of highly suitable land – that's more than the 18.1 million hectares currently under production. Their conclusion is that palm oil production can be increased even without deforestation (figure 8)[15]. To achieve this, however, some entrepreneurs would have to be prepared to relinquish some of their short-term profits.

[15] Johannes Pirker, Aline Mosnier, Florian Kraxner, Petr Havlík, Michael Obersteiner, What are the limits to oil palm expansion?, Global Environmental Change, Volume 40, September 2016, Pages 73-81, http://www.sciencedirect.com/science/article/pii/S0959378016300814

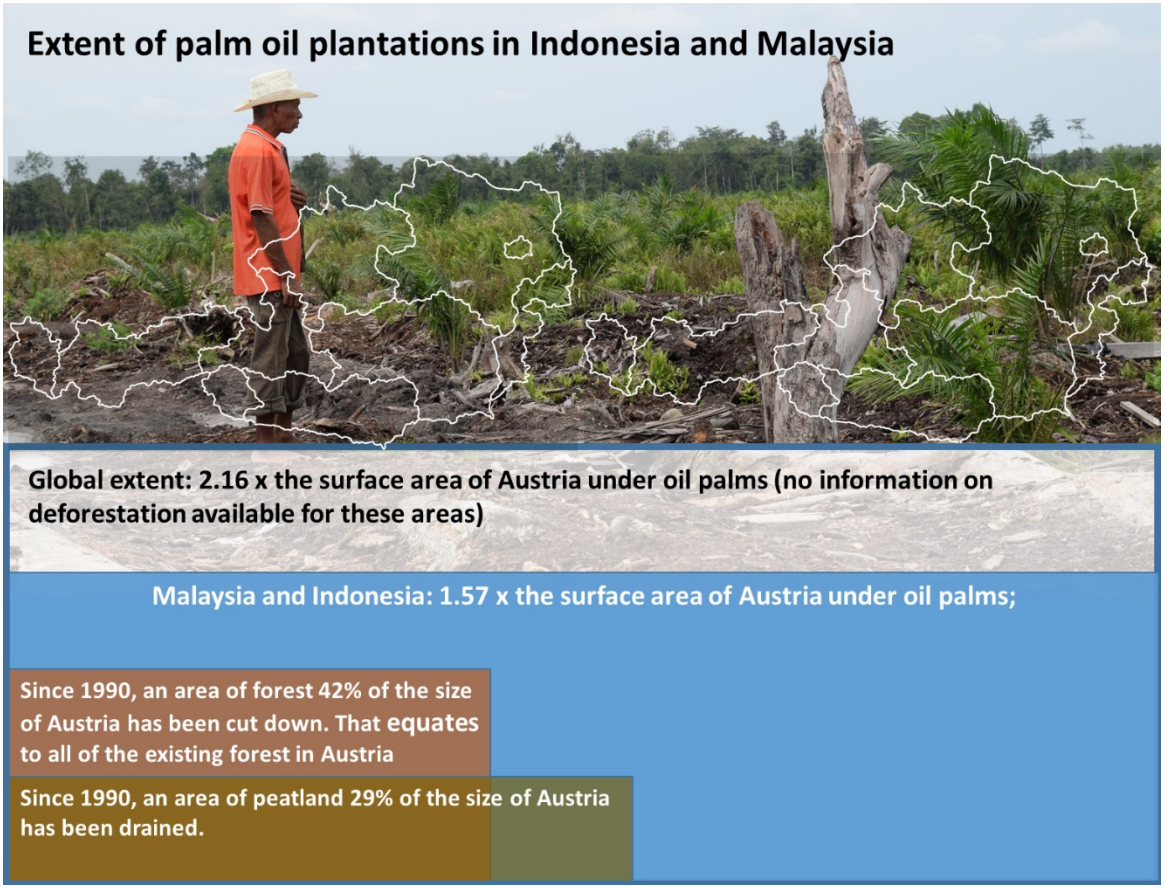


Figure 9: Expansion of the palm oil plantations in Indonesia and Malaysia and proportion of the land area deforested for oil palm plantations since 1990

Problems associated with palm oil

The new extinction

Today we are losing animal and plant species at a rate never before seen in the whole of human history. The loss is so high and is happening so fast that scientists are comparing it to the great extinctions of the past, e.g. the extinction of the dinosaurs at the end of the Cretaceous period. The difference is that this time it is not a comet or a volcanic eruption causing the extinctions, but humans, and, in particular, our greed for material growth (and here the countries of the industrialized West should feel especially responsible).

For years, scientists have been warning us of the consequences of the global loss of species: alongside climate change, this is one of the greatest threats to the future welfare of humanity.

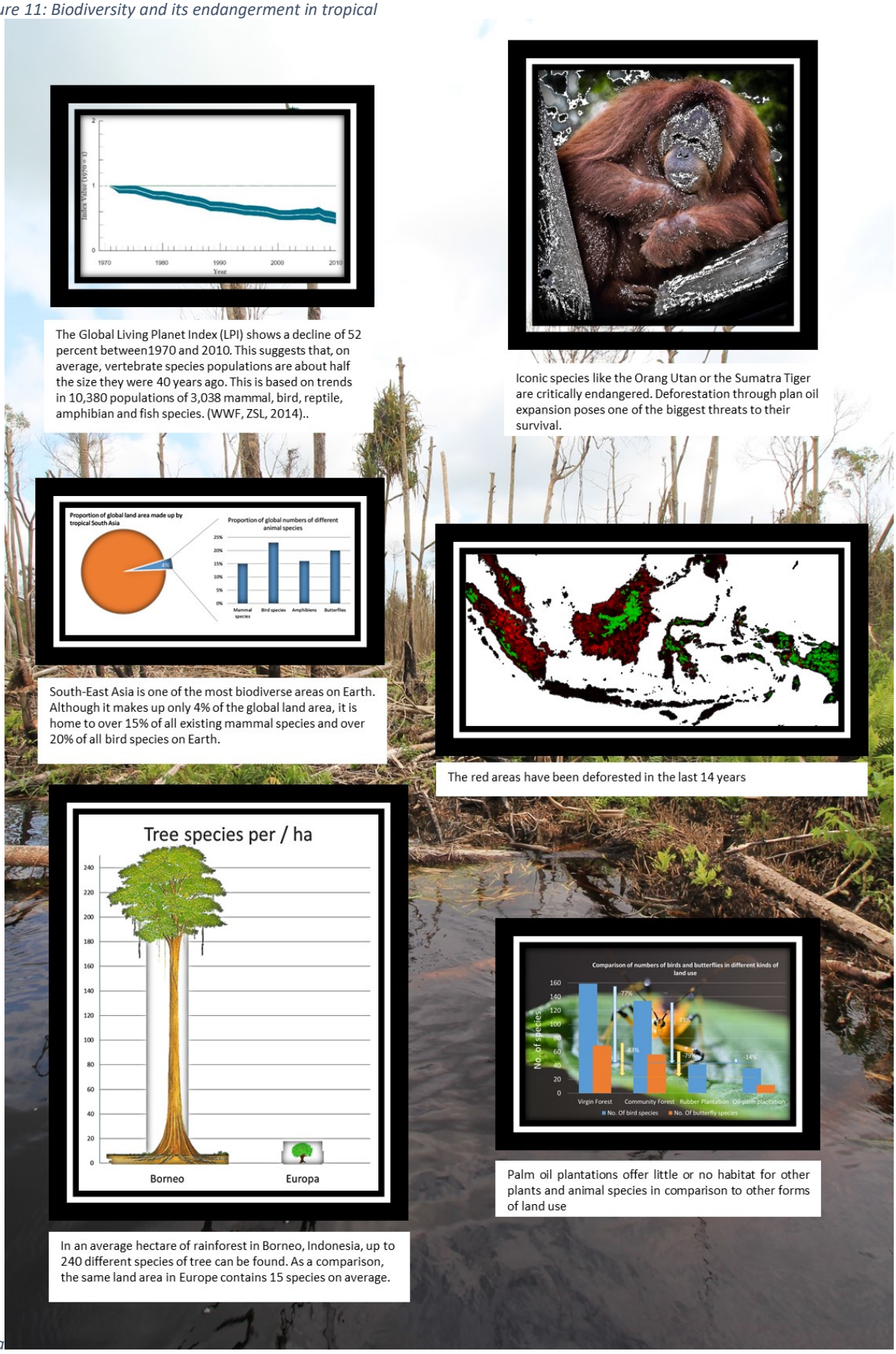
As in the case of climate change, the causes of today's mass extinctions are largely well-known. The loss of habitat is one of the main causes. Palm oil plantations have contributed substantially to the loss of biodiverse forests and small scale agricultural landscapes. Only a tiny fraction of the original species find a suitable habitat in these plantations. The main areas of cultivation today, in Indonesia and Malaysia, coincide with one of the most biodiverse regions in the world. In West Africa, the last African lowland rainforests in

Cameroon and the Congo are in danger of falling victim to our voracious appetite for more palm oil. Meanwhile, multinationals like Louis Dreyfus are already developing huge palm oil plantations in the Amazon to supply European states with cheap biofuels.

Figure 10: Destroyed forest landscape in Sumat

Land conflicts and agriculture

Figure 11: Biodiversity and its endangerment in tropical



Asia

In a diverse cultivated landscape in the tropics, the farmers grow many other crops as well as rice and palm oil. Rice can not only be sold – it is also the most important basic foodstuff, and contributes to food security. The oil palm can be readily integrated into small-scale farming, and can contribute to income security. As well as cultivating the fields, the inhabitants obtain additional resources from the collectively used communal forests: fruit, vegetables, herbs, fungi, wood, rattan and much more. As well as these direct benefits, the villagers also benefit from other effects of the forest: water purification, a stable ecosystem, protection from erosion and flooding. Even if these are no longer virgin forests, and have often been used for generations, they offer a valuable habitat for many wild animals and plants. A diverse agricultural landscape provides a foundation for food security, and enables its inhabitants to adapt better to changing conditions, e.g. climate change.

In conventional large-scale plantation agriculture, increased productivity is achieved at the expense of humans and the natural environment. The costs – damage to the local economy, loss of resources, damage caused by floods and aridity – are borne by the community. The profit gained benefits a small number of people in the urban centres. Large-scale palm oil cultivation displaces other kinds of land use, and has an impact on the whole landscape and the people living in it. In the vicinity of oil palm plantations, the soil is dried out. This often makes traditional rice cultivation impossible. Intensive use of fertilizers and the organic waste water from the palm oil mills pollute waterways and groundwater. The consequences are a decline in fish numbers and undrinkable drinking water. Heavy rainfalls often lead to floods and erosion. In one village, which is now almost completely encircled by palm oil plantations, the farmers tell us that they now grow palm oil themselves, because it has become too dry for rice since the plantation company dug drainage canals. “Life has changed since the plantation company came to our land. Before, we could drink the water from our spring. We could gather fruit, rattan and wood in the forest, and eat our own vegetables. Today we have to buy everything in the shop, even the water.”

Figure 12: Community forests and diverse agricultural land scape are replaced with green deserts of oil-palm plantations. The farmers and their families lose additional sources for food, fiber and income. “I do not know how my kids will survive in the future – with no access to land it will be very difficult.”

Climate change and pollution

Palm oil plantations have the largest carbon footprint per land area of all globally relevant agricultural products. This is mainly due to deforestation and the draining of peatlands. In these peat soils, often several metres deep, biomass has been stored and preserved over thousands of years. If these are drained, they begin to decompose. The amount of CO_2 released then corresponds not only to the standing biomass of the forest that is being cut down, but to the biomass of all the forests that have stood here for millennia. If the drained peatlands catch fire, this process is accelerated and intensified.

Figure 13: A considerable amount of organic waste is also produced in the palm oil mills. If this is not dealt with properly, the potent greenhouse gas methane is often generated. Furthermore, the waste water from the mills pollutes surrounding waterways – in one of the villages we visited there was a fish die-off in the river after the opening of the factory. Since then there has been a massive drop in the number and size of the fish caught.

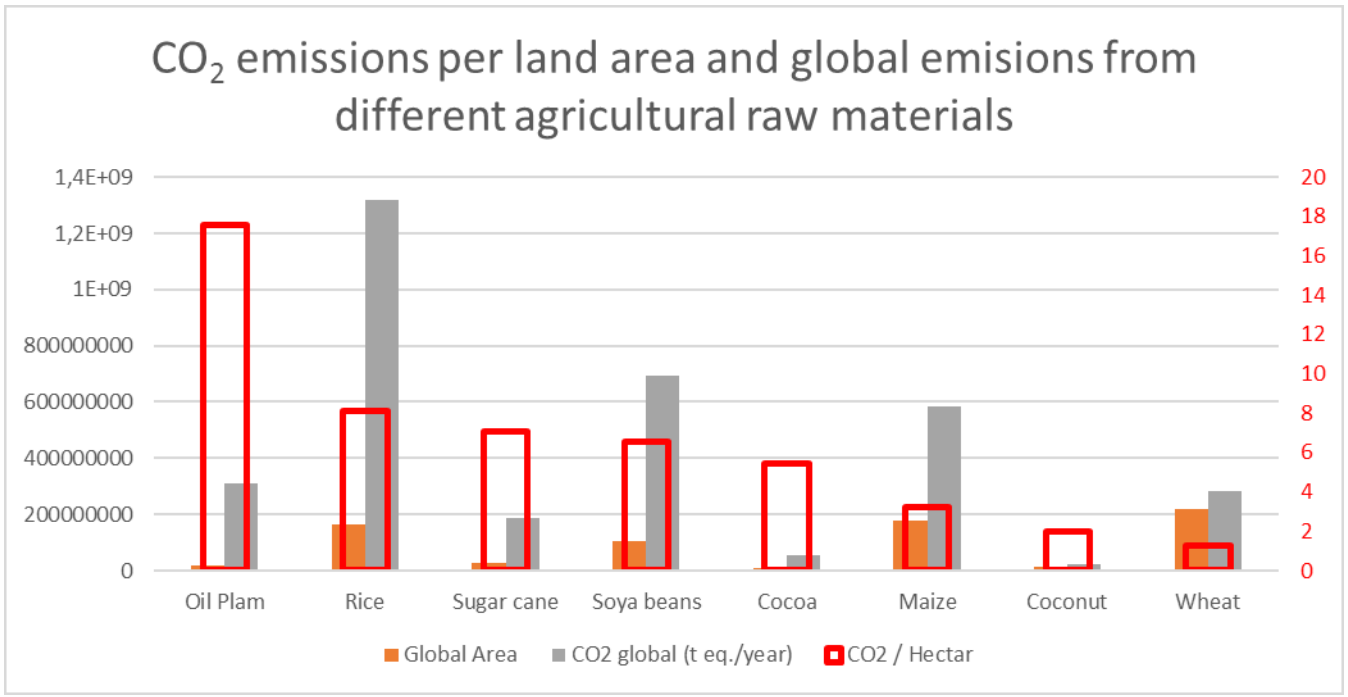


Figure 14: Comparison between the total global CO_2 emissions that can be attributed to each crop (grey bar), the global area occupied by this crop (orange bar) and the resulting CO_2 emissions by hectare (red bar)

Fire

During Indonesia's dry season, devastating fires are a regular occurrence. Plantation companies are often suspected of deliberately causing these fires. What is certain is that their extensive drainage of the peatlands is a major contributing factor. The fires in Riau, one of the worst-affected regions, had an impact that extended as far as the Singapore area. Again and again, the whole region is enveloped in clouds of smoke for weeks on end, with disastrous effects on the population's health. Already, more than half a million people have respiratory complaints, with children in particular suffering from the consequences of this environmental disaster. With the CO_2 emissions released from the fires alone, Indonesia generated a higher CO_2 output on some days than the whole of the USA industries.

Figure 15: Again and again, fires destroy forests, peat land, agricultural land and palm oil plantations in Siak and other regions of Riau. The only way to get the fires under control again or to prevent their spread in the long term is to block the drainage canals in the plantations so that the peat soils get wet again.

Figure 16: Drainage canal blocked by local WALHI activists to permanently extinguish the smouldering peat fire (see Figure 15).

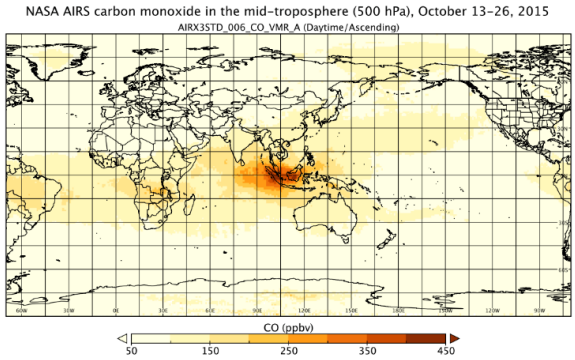


Figure 17: The map shows the values for carbon monoxide in the atmosphere at the end of October 2015. The emissions caused by fires in Indonesia are clearly visible.

[16] https://www.carbonbrief.org/indonesian-fires-now-on-a-par-with-brazils-total-annual-emissions

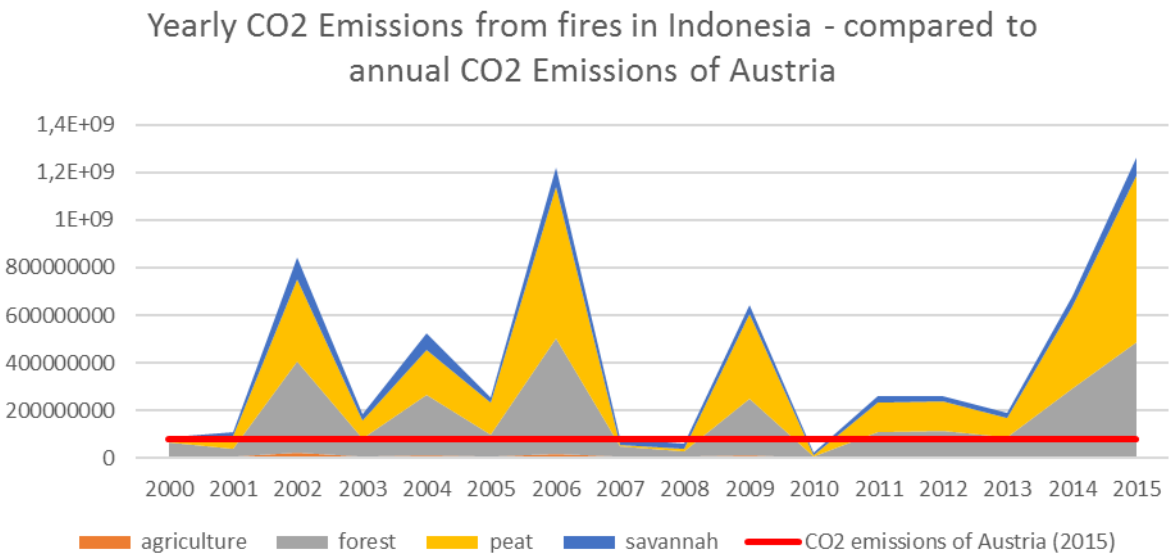


Figure 18: The yearly emissions through fires in Indonesia and the land cover type effected in comparison to Austria's total Co2 emissions in 2015.

Working conditions

When we look at working conditions on palm oil plantations we can find violations of international law as well as widespread non compliance with standards of certification schemes like RSPO. Again and again investigations show human rights issues in Indonesia and Malaysia with cases of

- (abusive) child labour
- labour trafficking and debt bondage
- discrimination in respect of employment
- wages to low to satisfy basic needs (no living wage).

These cases clearly violate the General Declaration of Human Rights and also the Fundamental Conventions of the International Labour Organization (ILO) which prohibit any forms of forced labour, discrimination and the worst forms of child labour. (Indonesia for example ratified all Fundamental Conventions, Malaysia 6 out of 8[17]). Besides that studies show various problematic situations which are contrary to fair working conditions and therefore a sustainable production. Evidence on such conditions is also provided by our research. Workers on the plantations are often confronted with:

Figure 19: Harvesting palm oil is hard physical work.

http://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102938

- a precarious situation: they have no contract and may get hired or fired from day-to-day
- undermining their right to organize: this follows from above
- no medical care or accident insurance: as day-labourer they have no social insurance
- occupational safety issues: for example missing protective gear when using pesticides

What does this mean? People working on the plantations have to do hard work, but in the most cases they just earn the minimum wage, which is not sufficient to cover the costs for food, rent, clothes, healthcare and school fees for the worker and his/her family[18]. This leads to prevalent child labour, especially when the workers harvesting the palm fruit have to meet certain quotas. In these cases there is no need for the companies to hire children, but they are forced to help indirectly – even if they have to do hard or dangerous work[19]. There are in total 1.5 million children working in the agricultural sector in Indonesia according an ILO report[20]. Interviews conducted during our own research also support the finding of former studies that it is a common practice for companies in Indonesia to deny the local population to work on the plantations. They mainly hire people from remote and poorer regions. This discriminatory approach allows them to keep workers more dependent on the job and thus on a yet unsatisfactory wage. The salary may even be withheld while it is difficult for the affected people to leave or get back to their villages. In the worst cases this strategy also allows debt bondage[21]

Of course these problems are interconnected respectively reinforce each other. This also gets obvious regarding the other grievances mentioned above: Someone who could get fired every day will not dare to form a union and start fighting for higher wages or better working conditions in general. So this cycle has to be broken. Unfortunately studies reveal that the problems listed above prevail at plantations labelled as "sustainable" too. Corresponding certifications are assigned to companies for example by the Round Table on

Figure 20: The fresh palm oil fruits are collected and brought to the mill – they have to be processed in less than 5 hours.

Sustainable Palm Oil (RSPO). This initiative seems to have its weaknesses at any rate, but for businesses it is also a practicable way to use a network of contractors or suppliers in order to claim that they are not responsible if standards are violated in their domain[22].

[18] https://www.die-gdi.de/uploads/media/Studies_74.pdf, p. 33

[19] http://www.laborrights.org/industries/palm-oil?qt-quicktabs_palm_oil=2#qt-quicktabs_palm_oil

[20] http://www.fianethiopia.org/images/palmoil.pdf, p. 17)

[21] https://www.bloomberg.com/news/articles/2013-07-18/indonesias-palm-oil-industry-rife-with-human-rights-abuses and http://www.laborrights.org/sites/default/files/publications-and-resources/Empty%20Assurances.pdf

[22] (http://www.laborrights.org/publications/human-cost-conflict-palm-oil resp. Report http://www.laborrights.org/sites/default/files/publications/The_Human_Cost_of_Conflict_Palm_Oil.pdf).

Witnessing local conditions in Indonesia

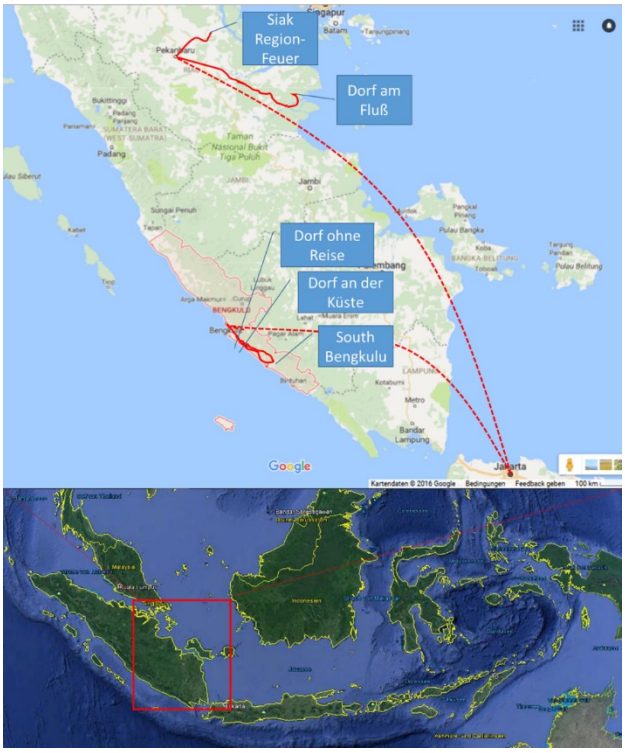


Figure 21: Our travel route in Indonesia, showing approximate position of villages visited.

In July 2016 we – a staff member from GLOBAL 2000 and Südwind, accompanied by a reporter from ORF, the Austrian public service broadcaster – went to Indonesia to study and document the effects of palm oil cultivation. We were supported on the ground by colleagues from WALHI. WALHI is Indonesia's largest environmental organization and, like GLOBAL 2000, part of the Friends of the Earth network. Land and environmental conflicts relating to oil palm plantations have been one of the biggest issues dealt with by WALHI for many years.

Most of our travels were in Sumatra along with Kalimantan one of the hotspots of palm oil cultivation.

The people we met and interviewed in Sumatra were mainly farmers or tradesmen. We also conducted a longer interview with the head (*bupati*) of the province of South Bengkulu, who is pushing for a different approach to palm oil plantations. It was not possible to speak with workers on the plantations, as foreign NGO employees and reporters are not welcomed by the plantation operators, due to the frequent and often violent conflicts. We also carried out interviews with NGO staff in Jakarta.

Many of the people we talked to currently grow oil palms themselves, some only grow other food crops, but are also affected, e.g. by neighbouring plantations. On the following pages we want give them a voice, to illustrate a small section of a big problem from the point of view of those affected. Since the conflicts in all three villages are still ongoing, and violent confrontations repeatedly occur between the private security forces of the plantation operators (or the police) and the villagers, we will not give the names of either the villages or our interviewees. The position of the villages on the map in Figure 18 indicates the region, but does not show the exact location of the villages.

N.B. On our journey, we visited only three of hundreds of affected villages. However, what we saw and heard in Sumatra confirms and illustrates the widespread problems in the palm oil sector.

We can't believe our ears when we suddenly hear, mixed into the music blaring from the car radio, lines of German lyrics:

It smells of clove cigarettes // Food stalls everywhere for the empty stomach // sweet, spicy, noisy, scooters, cars // wet, hot, the sweat drips silently // the monsoon wind cries in the night // hear how hard it beats on the corrugated iron roofs // love lays itself over the turmoil // from the northern to the southern hemisphere … // aku cinta Indonesia // terima kasih atas segalanya …

Why are we so surprised? We're travelling along a winding country road in Sumatra, towards a small farming village on the coast of the Indian Ocean. Travelling with us are a driver, an interpreter, and a representative of WALHI (Friends of the Earth Indonesia) from Indonesia. They join in loudly on the chorus, but can't understand the German lyrics, while we have exactly the opposite experience. It turns out that the song is the result of a collaboration between Uwe Kaa, a German musician, and the Indonesian reggae singer Ras Muhamad. We can't help smiling, and feel they've really captured the atmosphere in Jakarta.

What they don't mention, though, is another thing Indonesia has now become famous for, and the reason we're here: Oil Palms. Around half of the worldwide production of palm oil comes from here, and another 40% from Malaysia. Such an enormous concentration inevitably has a severe impact on a country's agriculture, ecosystems, economy, and people. As part of the project "Supply Cha!nge", we'd come to Indonesia in the summer of 2016 to study this impact in the field.

For more information, pictures and videos about the trip go to: http://www.spiralblog.at/reportagen or https://www.global2000.at/palmoel.



Political background: decentralization in Indonesia

Anyone wishing to understand rural Indonesia today cannot ignore the *bupatis*. Since the decentralization of Indonesia at the beginning of this millennium, the centres of power within the country have shifted from Jakarta to the provinces. Bupatis are the district heads, and hold considerable power and influence in the new Indonesia.

The German Federal Agency for Civic Education (Bundeszentrale für Politische Bildung) gives a short overview and analysis of the background and effects of this process:[23]

The regional autonomy laws, rapidly passed in 1999 and implemented in 2001, were intended to strengthen the self-administration of the regions. Since 2005, furthermore, the

[23] http://www.bpb.de/apuz/75766/machtverschiebungen-zwischen-indonesiens-zentrum-und-peripherie?p=all

governors of the 33 provinces, the heads of the districts (*bupatis*) and the mayors are chosen in direct elections (*pilkada*). […]

Under Suharto's centralist and autocratic regime, the natural resources in the resource-

Figure 22: Visiting the Bupati of South Bengkulu

rich provinces in Kalimantan (the part of Borneo belonging to Indonesia), Sumatra and Papua were firmly in the hands of big national and international corporations, working closely with the Suharto clan, while the local people received nothing, and were unable to benefit from the rich resources of their homeland. Here the reorganization of the political, administrative and financial relationships between the central government in Jakarta and the regions promised to provide for greater decision-making power at a local level, and thus a fairer distribution of revenue. The idea was that this revenue would no longer go solely to the centre, Jakarta, and to foreign countries, but would finally benefit the local population and therefore boost regional development in Indonesia's periphery.

It was not long, however, before the dynamic of regional empowerment set in motion by the decentralization process began to show its darker side. Bypassing the provincial governments, the regional autonomy laws had considerably increased power over local self-administration at the level of the districts (*kabupaten*) and towns. All too often, a system conceived to promote locally responsible governance proved, in practice, to be a new arena in which local elites fought over the control of local resources.

Often regional "democracy" turns out, on closer inspection, to be nothing more than money politics and thuggery. Anyone running for office has to expect high costs; virtually nothing happens without bribery. Funding is dependent on good relationships with wealthy, influential personalities and entrepreneurs, and it is not uncommon for candidates to belong to this group themselves – embarking on a political career and deliberately using their economic power to expand their political influence (or vice versa). This creates opaque, clientelistic relations of dependency, which are difficult to overcome and obstruct democratic demands for transparency. […]

As the local governments now also have – to a certain degree – the power to grant concessions for plantations, logging and mining on their own authority, the granting of licences has developed into a business – one that is profitable for the regional elites and can scarcely be monitored or controlled by the central government. […] The enforcement of the applicable laws and the prosecution of those who contravene them can be described as inadequate, not only because of widespread corruption, but also because the process of decentralization has, in many places, left a lack of clarity about the legal situation and the question of local or national responsibility. This paves the way for arbitrary behaviour on the part of the local "kings" and big, influential companies. Concessions for the large-scale exploitation of natural resources continue to be granted by the central government, but the local authorities are entitled to give licences for smaller and shorter-term projects, independent of the provincial governments. As a result, many companies divide up their concession applications and apply for several smaller

areas, in order to remain within the remit of the district administration.

The legal situation is also unclear when it comes to the traditional land rights of local population groups. Here there are conflicts between national law on the one hand and the traditional customary law (*adat*) of many indigenous ethnic groups on the other. […]

The state's response to the recurring protests is often brutal. Moreover, the police and military accept generous payments for their regional "security services" from local governments and companies operating in the plantation and mining industries, and are deeply implicated in regional power struggles for influence and control over the exploitation of natural resources. […]

Decentralization does not automatically bring democratization and responsible governance. The power struggle over resources, previously fought in the centre, is now being fought among the local elites in the regional centres of the periphery. Corruption, collusion and politically motivated violence – once firmly in the hands of the central government – have become decentralized, and have developed their own hard-to-control momentum. It remains to be seen whether the central government in Jakarta will succeed in fostering development which combines economic progress with sustainable environmental protection and social justice for society as a whole.

Figure 2: This palm oil plantation was planted in the middle of the forest. Downstream, it has led to water shortages during the dry season and floods during the rainy season.

Interview with the Bupati of South Bengkulu

In the district of South-Bengkulu, we meet Dirwan Mahmud, the *bupati* of the district. Dirwan Mahmud was only elected to the office 4 months ago. Unlike many of his colleagues, he is trying to implement policies that aim at the wellbeing of the general population. In the interview, he talks about how he understands his office, and how his predecessors understood it, in terms of the granting of palm oil concessions:

Palm oil came to South Bengkulu about 25 or 30 years ago. Before palm oil came to South Bengkulu, people here planted rice, coffee and rubber [as cash crops]. Some people liked the idea of the palm oil plantation, others opposed it. However, the local government was involved

[in the plantations]; and therefore many people simply followed the advice of the local government and planted palm oil.

At first the palm oil didn't have any negative effects on the environment. But these eventually appeared. Palm oil consumes a lot of water. When the dry season comes, there's no water left. When the rainy season comes, there are floods. Big floods. It causes harm to the environment.

This is why we're planning to re-evaluate the existing palm oil plantation. The local government wants exact details about the land management, in order to decide which areas can be approved for the palm oil plantation and which can't.

Previous bupatis welcomed the companies that came here – without considering the consequences for humans and the environment. Nor did they think about which areas were suitable and which were not. Any piece of land could be used. It was made available to the companies – for free. They gave permits to anyone who wanted one – that wasn't right. They didn't carry out any environmental impact assessment. They were only focused on money.

The previous heads of the district only acted on the basis of their own advantage. Every permit they granted involved a "transaction" from the firm to the bupati. […]

The ones who now feel cheated of their economic success are the big companies, the owners, those who have a lot of money. But for most people here, it makes a huge difference if we replace palm oil with other crops again. Crops that are both useful and environmentally friendly; that has many advantages. We will still allow palm oil to be planted in certain areas.

Unfortunately, there are many illegal activities relating to the forest in our province. That includes the illegal clearing of protected forests and their conversion into palm oil plantations. This is completely unacceptable. It endangers the lives of future generations. There is no longer any protection for the forest; instead all the trees are cut down to make space for the palm oil plantation.

As a bupati, I won't allow this. I won't tolerate such practices. There are certain areas where palm oil is allowed to be planted, and others where it isn't allowed because of local circumstances.

I love the environment. Without an intact environment I cannot imagine how we're going to live in future. I can't imagine a future if the younger generation doesn't love the environment and look after it. Without an intact environment, future generations will find it hard to lead a decent and contented life.

We leave South Bengkulu with a good feeling. The feeling that a different approach is possible. Zenzi, our colleague from WALHI, says he has hope that this *bupati* and the developments in South Bengkulu will set an example for other Indonesian districts.

Figure 23: Palm Oil as far as the eye can reach. In Sumatra one palm stands next to the other for kilometers. Many of these areas were covered with dense rainforests until less than 30 years ago.

The village without rice

The first village we visit also lies in the Bengkulu province – in the Seluma district. We are welcomed by the farmers' assembly. After a coffee and a clove cigarette we start to talk about the situation of the farmers.
There used to be a forest here, they tell us,

Figure 24: The high water consumption of the oil palm and the drainage carried out by the plantation companies lead to aridity and often make wet rice cultivation impossible.

and we grew maize, rice, mangos and other fruit on our fields for our own use. Today there's a palm plantation here. Rice, a vital crop, can no longer be grown, even next to the plantations, because the oil palms use up so much water that the plants on the fields dry up. Thus the villagers are now in a hopeless situation: the yields from their own crop cultivation are becoming smaller and smaller, more and more basic foodstuffs have to be bought, and at the same time the companies in the palm oil business provide no jobs or income for the local population. Their strategy is perfidious: if the

villagers are employed at all, they are dismissed again after 2 or 3 months. Often, an offer of employment is linked with the condition that the employee sells the remaining land to the company. The grand promises – that the companies will bring economic growth, from which the farmers affected will also benefit – turn out to be a huge deception. The villagers are left with no land, no way of feeding themselves, and – soon – no income.

In the following interview, O. describes his experience of the conflict:

My name is O., I'm a farmer. There are 438 of us here who have a conflict with Sanda Indah Lestari (PT SIL). There used to be about 400 hectares of rice paddies here, first cultivated by our great-grandparents. In 2011, the government granted a concession to PT SIL. PT SIL then converted our fields into palm oil plantations. This led to a food crisis for the people here. Our food stocks are endangered.

Here you can see the canal built by PT SIL to lower the groundwater. This dried out our remaining fields. We can't grow rice on them anymore. This means that the people are now forced to grow palm oil too. They don't want to, but the situation forces them to do it, because they need money to survive.

One big problem is the written certificates that prove land rights. We live on our grandparents' land, but we don't have any written deed of ownership. According to our law, land belongs to the person who farms it permanently. Written certificates have only existed for a few years. This fact has been exploited by the companies and the local government.

There used to be rice paddies here which helped to supply our daily needs, but today we can't plant rice here any more.

This 400 hectare area is inside the 2200 hectare area of the palm oil plantation, owned by PT SIL. This concession was granted by the government without our consent. The government never discussed it with us. The company thinks that now they have the concession over the land, it belongs to them. They intimidated the people who are the true owners of the land, and eventually forced many of them to sign the land over to them. They said: "It's better if you sign your land over to us now, and get compensation – later you won't get anything for it at all." Recently PT SIL lodged a complaint with the court. The court ordered the people here to give the land to PT SIL. The fact that we are the ones who have cultivated this land for generations is no longer important. It's very hard for us to get written certification of our land rights – while the companies have no trouble getting concessions over thousands of hectares.

Since PT SIL came, I've fought for my land. I wasn't sure what to do, who I could ask for help so we could keep our ancestral land. Fortunately, the people from WALHI heard of this case and have been helping us since then. I've already sent some documents to the house of representatives, the state government, the national land authority. I've asked them to resolve this matter. But so far nothing has changed.

Lastly, we speak to a small farmer who has given up growing food for himself and his family, and now grows oil palms on his 2 hectares of land. He lives with his family, in very basic conditions, and has trouble earning enough money for the bare necessities. We ask him what he would need to improve his circumstances. To earn more, he would have to sell more palm fruits. So he would need fertilizer, or he'd have to employ more workers, extend the area under cultivation, plant varieties with a higher yield etc. He answers that all that he needs is certainty that his land won't be taken away from him. He doesn't aspire to greater wealth, just to certainty that that he'll be able to keep what he has.

Figure 25: The children of the village face an uncertain future. Right: small canal, big effect. Since PT SIL built this canal, under police protection, the farmers' rice paddies have dried up.

The village on the coast

The second village we visit and spend a few days in is on the coast. As we clatter over the dusty track towards the village, our interpreter tells us that it's not long since this whole area was forest, interspersed with streams, marshes and rice paddies. We look out of the window incredulously and see only thousands of oil palms. Our colleague from WALHI has told us that the conflicts here revolve not only around land rights, but also around the coastal forest, which is actually protected by law. These forests are not only a unique ecosystem, they also offer the inhabitants protection from storms and tsunamis. We ask about this, and a farmer tells us:

"The forest here serves as protection for the village. It protects the village from erosion, storms and typhoons from the west. There are also many endangered animals in the forest, such as birds and monkeys. And there are a lot of plants that are useful for humans.

*Such as melinjo (*Gnetum gnemon*): its leaves are eaten as vegetables and its bark is used as medicine. There are also still a lot of sea turtles here. I don't think the turtles will come back here any more if the forest is destroyed. Now there are still enough fish near the coast, but when the forest is destroyed there probably won't be any fish left either.*

If the authorities want to restore the forest to its original state, we're more than happy to help. Recently we planted trees in the nature reserve area of the forest with WALHI. We're aware that the forest is very useful for us."

The loss of the protective coastal forest is not the only worry of the people here. Another farmer tells us:

"The people here are also suffering from the land crisis. Originally we had a large area of land, but nearly the whole area has been claimed by the companies for palm oil plantations."

The conflict between Agri Andalas and the people in the village on the coast began when the company planted oil palms in the villagers' gardens and fields. One of the farmers reports:

"Agri Andalas planted its palms on our land without our consent. The company didn't say anything to us or ask our permission. This conflict has now been going on for a long time.

We showed our willingness to end the conflict by starting negotiations with Agri Andalas, with the local government, with the Department for Settlers, with the National Land Authority (BPN), with all the related parties; but the conflict hasn't yet been resolved."

If farmers are seen on the land where the company has planted, they can expect to be reported for theft – even if they only want to harvest what they themselves have planted.

When they are asked what they expect from the future, one farmer answers:

"Our expectation and hope for the future is simple: the local government should help us to get back our land rights. According to the decree [for transmigrants from Java], we are all entitled to 2 hectares of land. Give us back our land which was claimed by the company. Please give it back to us!

That's it. We don't want anything complicated. Please just give us back our rights."

Figure 26: Coastal forest provides protection against erosion, storm surges, typhoons and tsunamis. It also offers a valuable habitat for numerous species. According to Indonesian law, it is protected to a width of one hundred metres and is not allowed to be cut down. On this section of the coast it has been cut down up to the last row of trees and replaced with palm oil plantations.

The village by the river

The village by the river makes its living from boat building. This craft has been practised here for generations, and even today, seaworthy ships with a loading capacity of up to 20 tonnes are built here by hand.

The communal forest was sold to a palm oil plantation by the corrupt village leader, without the knowledge of the villagers. When the diggers appeared and began to clear the forest, the stunned villagers lodged an objection with their *bupati*. This should have meant that the clearing was stopped until the legal situation had been clarified. But in fact

Figure 27: The canals in and around the plantation are overgrown with algae – a sign that too much fertilizer has been used. The poor water quality has a negative impact on the environment and the drinking water. Today there's already a new digger on the plantation site. The peat is several metres thick in many places of the plantation. A clear violation also of Indonesian laws

the company took no notice and continued its work. Not knowing what else to do, the villagers set fire to the company's digger, the symbol of the destruction of the forest. Two weeks later, two hundred policemen stormed the village, smashing windows and breaking down doors. 20 men were arrested and were tortured in jail with cigarettes and beatings to make them confess to setting fire to the digger.

In the end 16 men were sentenced to eight months' prison each. "*I've lost confidence in our justice system and our legal system"* says one of these men in an interview.

Now most of the forest has been cleared; last year a fire did further damage. *"We told the company that we will pay them there digger so that they can buy a new one – if they bring us back our forest. Of course they did not agree. They cannot bring back our forest now that they destroyed it*.", says the new village leader Mr. A.. With the forest, the villagers have lost access to their own wood. The boat builders now have to buy their wood from far away, at great expense, reducing their income. In addition to this, the agricultural yields have fallen.

The village has now organized to take legal action against the plantation, with the help of WALHI. However, the wheels of justice turn slowly – especially in Indonesia – unless you have the necessary money and connections

...

Figure 28: Things have become hard for the boat builders and fishers since their forest was cut down.

Is there palm oil from these villages in your biscuit?

Palm oil can – but doesn't have to – contribute to deforestation, high greenhouse gas emissions, human rights violations and the extinction of species. But what is the situation in Austria's supermarkets? What can we actually do as consumers? To answer these questions, we bought nearly a hundred types of biscuit and had a look at their lists of ingredients.

As consumers, we decide – or do we?

Again and again, we hear from trade and industry that we, as consumers, have the power to vote with our wallets, and to use our purchasing decisions to contribute to a more sustainable product range. But is it true? A first glance at the selection of biscuits we examined shows that 80% of the biscuits contain palm oil.

The 19 palm-oil-free biscuits include wholemeal biscuits, butter biscuits and chocolate biscuits, and are found among both the cheaper supermarket own brands and the branded products.

What about the remaining 80%? Are there certification systems or labels that keep palm oil from destructive and exploitative practices out of our biscuits? To answer these questions, we have to consider and compare the existing labels and certificates.

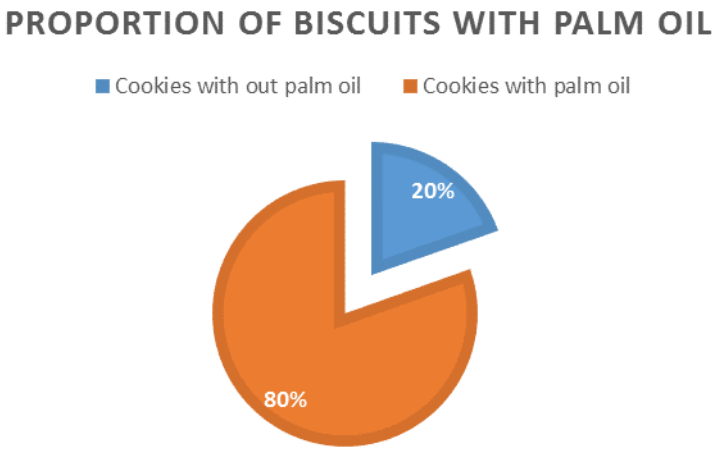


Figure 279: Proportion of biscuits with palm oil in our test purchase

Certification systems for palm oil

The best known and most widespread standard for palm oil is that provided by the Round Table for Sustainable Palm Oil (RSPO). In the area of consumer items, the Rainforest Alliance also offers certification based on its SAN standard. In addition, both Malaysia and Indonesia have developed their own national standards, Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO), though these have little relevance for the consumer so far. There are also a number of standards relevant for the production of

biofuels, intended to ensure that CO_2 emissions are actually cut by using palm oil. Organic palm oil currently accounts for only a tiny proportion of global production (less than 0.1%), and comes mainly from two large plantations in South America. The classic organic certification, incidentally, relates only to production; here, for example, it prohibits the use of synthetic chemical pesticides and fertilizers. It has no criteria related to working conditions or the establishment of plantations, however, so cannot prevent the felling of virgin forest or the draining of peatlands.

Of the 97 biscuit types, 5 are labelled as organic, all of which contain palm oil. One of the organic biscuits also displays an RSPO label, though it is not clear from the label which of the four RSPO certification models it is referring to. But the mere fact that this is palm oil grown according to organic standards assures us that the palm oil used does not come from one of the three Indonesian villages.

We also find an own-brand biscuit from the Billa supermarket chain displaying the supermarket's own 'Pro Planet' label, and the number 4011 003. Curious about this, we look for the Pro Planet website and enter the number given. We learn that all products marked with the Pro Planet label contain 100% RSPO 'mass balance' certified palm oil.

In summary, 20% of the 97 biscuits contain no palm oil. Of the biscuits with palm oil, only one has the RSPO label, 4 are labelled organic, and one has the supermarket's own label: in this case it takes internet research to discover that this refers to the palm oil, which is RSPO-certified (mass balance).[24] As the palm oil contained has only 'mass balance' certification, however, any palm oil could have been used to make these biscuits.

The following section describes the RSPO standard and the Rainforest Alliance standard in more detail, as they are currently most relevant for the consumer.

[24] http://www.proplanet-label.at/Produkte/Kekse/Kekse/dd_pp_MainPage.aspx?pageid=1412465

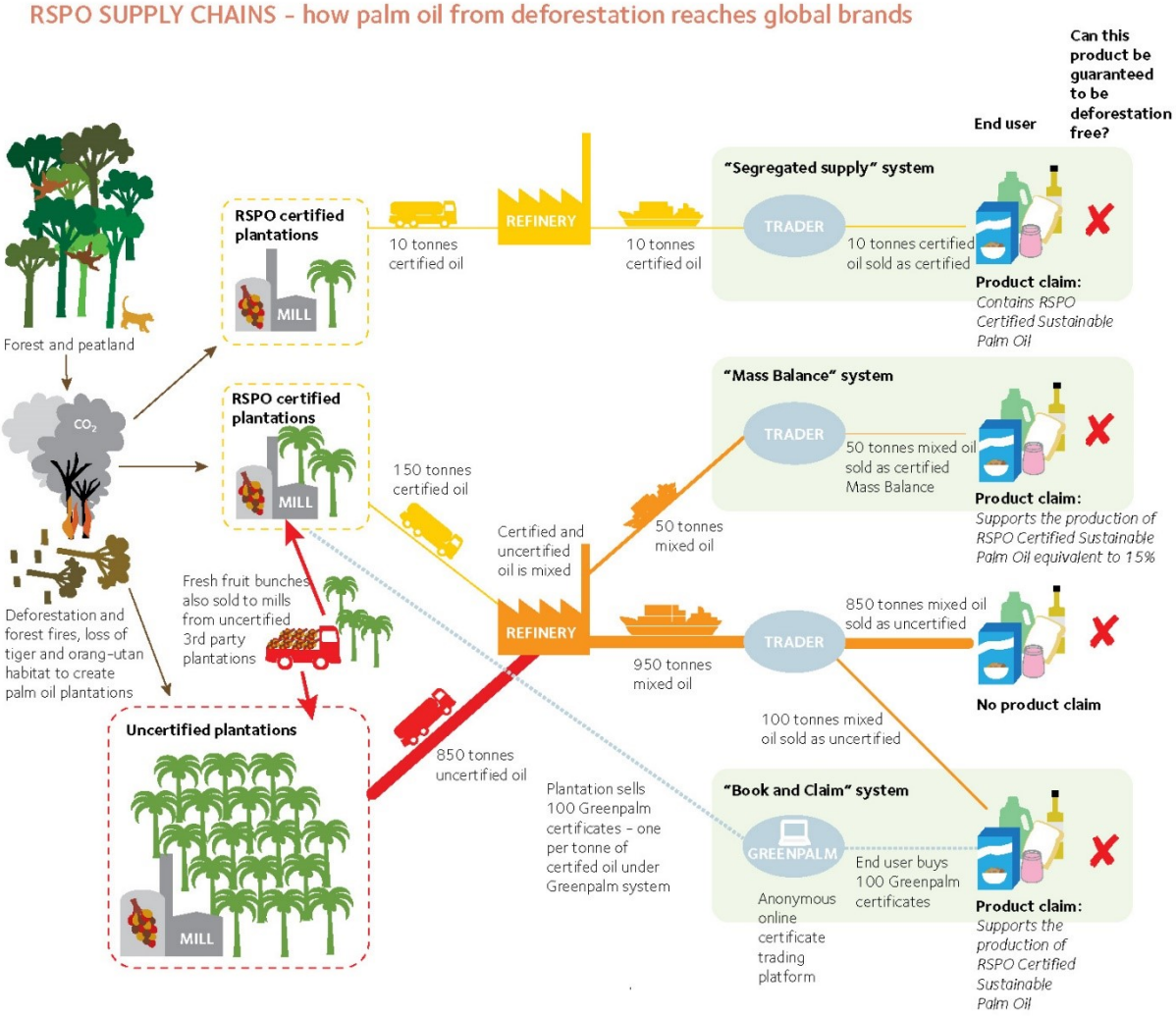
Roundtable On Sustainable Palm Oil

http://www.rspo.org/

The Roundtable on Sustainable Palm Oil (RSPO) was founded in 2004, with the aim of developing and implementing a sustainable standard for palm oil. The non-profit organization includes representatives of interest groups from 7 sectors of the palm oil industry: palm oil producers, the palm oil processing industry and distributors, manufacturers of consumer goods, retailers, banks and investors, as well as NGOs from environmental and social backgrounds (the RSPO currently has about 1200 members in total).

Since 2008, the RSPO has set a standard for sustainably produced palm oil, based on 8 principles and 43 criteria. At present this is the most widely used standard for sustainably produced palm (kernel) oil worldwide. Around 14% of the palm oil traded worldwide is certified by the RSPO.

The RSPO does not yet go far enough for many of its members, as it allows cultivation on peatlands, which store large amounts of carbon and are therefore important in the



fight against climate change. It also permits the use of highly toxic pesticides, and its complaints mechanism is not especially transparent.[25] The RSPO offers four different certification systems – as illustrated below

[25] http://www.forumpalmoel.org/de/ueber-palmoel/zertifizierung-von-palmoel.html

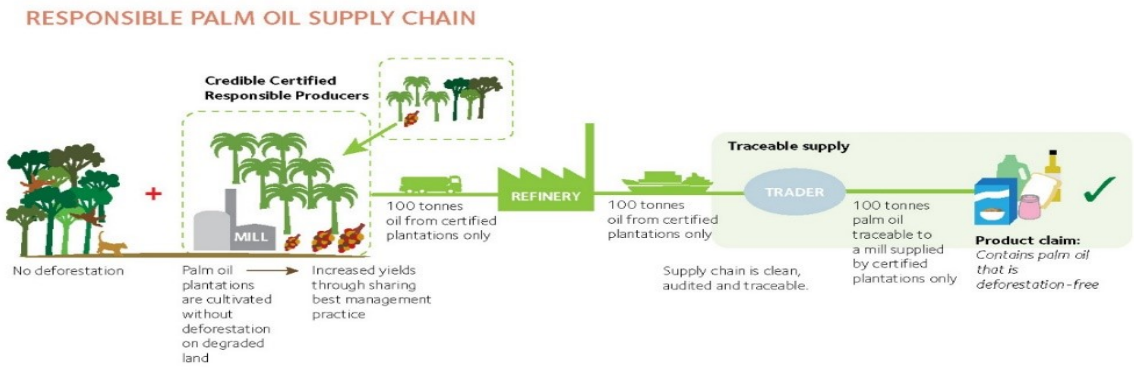


Figure 30: Palm oil certification, using the example of RSPO. Only complete transparency, independent and trustworthy certificates at the level of the producers, in combination with strict rules about deforestation, can guarantee that palm oil is produced without destroying the environment. [1]

Cf. Greenpeace http://www.aseanpeat.net/newsmaster.cfm?&menuid=11&action=view&retrieveid=1726

Green Palm / Book and Claim

This is a certificate trading system, which accounts for the greatest proportion of certified palm oil by volume. Under this system, certificates for certified palm oil can be bought. The sustainable palm oil, i.e. the physical commodity, and the sustainability certificates are traded separately. As with green electricity, a tradable certificate is issued to the certified producers, who then sell this.[26]

This system has been severely criticized, as it allows no traceability at all. Moreover, the low premium, which corresponds to 0.4% of the market price, is regarded as much too low to effectively promote the change to more sustainable palm oil.

- No separation
- Online trade in certificates (operator of the trading platform: "GreenPalm")
- Inexpensive (and therefore currently the preferred option of the processing industry)
- No direct traceability
- Questionable transparency

Labelling: "GreenPalm" logo; claim: "Supports the production of certified sustainable palm oil".

Mass Balance

In systems based on mass balance, certified goods are mixed with non-certified goods. The proportions must be accurately documented. Only the actually certified proportion of the total quantity can be sold as certified.

- No separation
- Mixing is monitored (checked by certifier)
- No direct traceability
- allows certified palm oil to be mixed with non-certified palm oil at every stage of the supply chain, provided that the quantities are monitored and documented.

Labelling: "Mixed"; claim: "Supports the production of certified sustainable palm oil"

Segregated Supply Chain

No mixing of certified and non-certified palm oil – separate commodity flows. Certified oil from different sources is mixed, so there is no direct traceability back to a mill or plantation.

- The company must have documentary evidence that the palm oil comes exclusively from certified material
- The palm oil is handled separately from non-certified and mass balance (MB) palm oil within the company
- Segregated (SG) products can be mixed with other SG products at any time.
- Checked by certifier

Labelling: "This product contains RSPO certified palm oil".

Identity Preserved

In this system, the palm oil remains traceable back to the mill. It is not mixed with oil from other mills. This system ensures:

- Documentary evidence that the certified palm oil can be traced back to a single mill
- Physical separation of this oil from all the other palm oil used by the company
- Strict separation by oil mill (monitored by independent organization, "UTZ certified")

Label: "UTZ certified", "This product contains RSPO-certified palm oil"

These four models are fundamentally different, and only a supply chain offering

[26] Greenpeace. 2016. Certifying Destruction. Why consumer companies need to go beyond the RSPO to stop forest destruction. http://www.greenpeace.org/international/en/publications/Campaign-reports/Forests-Reports/Certifying-Destruction/

transparency right back to the producer (as in the 'identity preserved' model) can guarantee that no palm oil from destructive and exploitative practices makes its way into the supply chain. Nonetheless, the RSPO provides an almost identical label for all four supply chains.

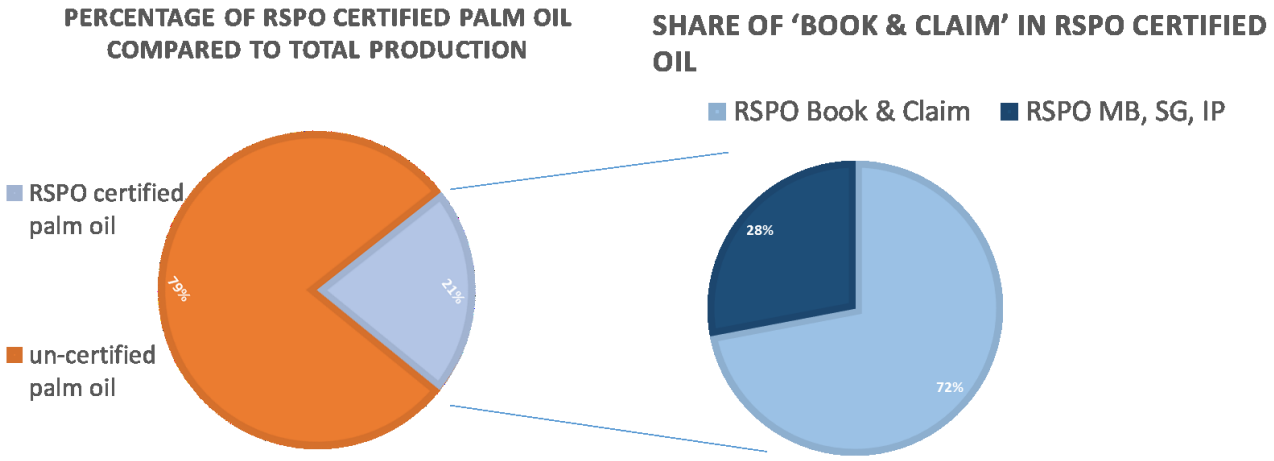


Figure 31:28 Share of RSPO certification in total palm oil production and share of 'book & claim' system in RSPO certificates.[27]

[27] http://www.rspo.org/about/impacts

Main criticisms:

The RSPO has been subjected to considerable criticism. On the one hand, it is accused of not going far enough in its criteria, and on the other hand, its system for avoiding and resolving land conflicts is seen as weak and ineffective. The two certification systems not based on separate supply chains are also harshly criticized, as they allow the certified companies to continue trading in palm oil which is linked with environmental destruction and violations of human rights.

In its analysis of the RSPO standard,[28] the German Südwind Institute concludes:

The RSPO has failed to provide many of the benefits promised. At the same time, it is becoming obvious that abuses and problems cannot be remedied solely by the voluntary introduction of standards, but that the governments of the countries of production must enforce existing laws and impose limitations on companies. […]. The problems of palm oil cultivation [..] go far beyond the capacity of the RSPO to solve them.

Would RSPO certification for the plantations involved have a positive impact on cases of land conflict in the villages we visited?

The RSPO complaints mechanism is only of limited value to the communities affected. A large proportion of the people affected by the expansion of the plantations do not know their rights, or the RSPO criteria which they could refer to in cases of conflict. They often have only very limited access – or none at all – to the documents that are compiled by the companies for the establishment of a plantation. All this contributes to the fact that they cannot make a free and informed decision about whether they should allow – or are obliged to allow – the cultivation of palm oil on their land.

Further criticisms of RSPO certification are:

- RSPO does not prevent large-scale deforestation
- RSPO does not restrict the greenhouse gas emissions caused e.g. by the draining of peatlands.
- RSPO certification cannot prevent forest and peat fires
- RSPO is slow to react and has trouble guaranteeing compliance with its standards
- Despite RSPO certification, members sell dirty palm oil on the global market
- The RSPO book & claim system, under which 70% of certified palm oil is traded, does not lead to better conditions for more sustainable palm oil
- Neither the RSPO book & claim system nor the mass balance system guarantee that sustainable palm oil will actually reach the consumer.

[28] Ann-Kathrin Voge and Friedel Hütz-Adams 2014. Nachhaltiges Palmöl – Anspruch oder Wirklichkeit? Potenziale und Grenzen des Roundtable on Sustainable Palm Oil (RSPO). Brot für die Welt – Evangelischer Entwicklungsdienst http://www.suedwind-institut.de/fileadmin/fuerSuedwind/Publikationen/2014/2014-07_Nachhaltiges_Palmoel.pdf

Rainforest Alliance

Certification by the SAN standard

The non-governmental organization Rainforest Alliance (RA) developed its standard in the 1990s with the Sustainable Agriculture Network (SAN). The SAN is a coalition of independent non-profit conservation organizations, promoting ecologically and socially sustainable farming by developing standards. Since 1992 over 1100 certificates have been issued for more than 400 000 farms in more than 30 countries. In 2013, however, only 10 oil palm farms had Rainforest Alliance certification.

The aim of the SAN standard is to encourage agricultural enterprises to analyse and thereby avoid ecological and social risks which may arise from farming. The standard is based on three pillars: a healthy environment, social justice, and economic viability.

The RA was actively involved in the development of the RSPO standard, and also coordinated its standard with the ISCC system, to ensure the greatest possible harmonization of the different standards for sustainable oil palm cultivation. The SAN standard goes further than the RSPO standard with its criteria, demanding, for example, that rainforest destroyed before 2005 be taken into account and reforested.[29][30]

[29] http://www.forumpalmoel.org/fileadmin/user_uploads/Factsheets/Rainforest_Alliance_factsheet_en.pdf

[30] http://www.rainforest-alliance.org/articles/rainforest-alliance-certified-palm-oil

The Palm Oil Innovation Group (POIG)

Many NGOs and some companies are dissatisfied with the slow progress of the RSPO towards more sustainable palm oil production. In particular, the companies involved in the RSPO are accused of delaying and blocking this process. In reaction to this, the Palm Oil Innovation Group (POIG) was founded in June 2013. Like the RSPO, it is made up of NGOs and companies. All the companies in POIG are members of the RSPO, and it also includes NGOs such as Greenpeace, which reject the RSPO as too weak. What all the members have in common is that they believe the principles and criteria of the RSPO do not go far enough. Some of the organizations represented in POIG are Agropalma Brazil, the Daabon Group, the Forest Peoples Programme, Greenpeace, New Britain Palm Oil Ltd, Rainforest Action Network and the WWF. According to its own statements, POIG wants to continue to support the RSPO standard and the RSPO's commitments, but the POIG members also want to make further voluntary commitments to more environmentally friendly and socially responsible production. The group wants to introduce innovations to the palm oil sector, as well as promoting innovations in the area of sustainability.

Criteria mentioned in the POIG charter which go beyond the RSPO standard relate to the following 3 aspects:

1. **Conservation:** combatting deforestation by means of compensation and reforestation measures in areas of HCV (High Conservation Value) and HCS (High Carbon Stock); no cultivation on peatlands; calculation of greenhouse gas emissions, minimal use of pesticides, minimal use of chemical fertilizers, no cultivation of genetically modified palms, responsible use of water as a resource.
2. **Partnerships with local communities**: Free, Prior and Informed Consent (FPIC) before palm oil plantations are developed; food security; conflict resolution; workers' rights; support for smallholders.
3. **Corporate and product integrity**: one of the requirements for producers joining POIG is that at least 50% of their land must be RSPO-certified; this

proportion must rise to 100% within a year of joining.[31]

The POIG Charter can be downloaded here: http://www.forestpeoples.org/sites/fpp/files/publication/2013/11/palmoilinnovationsgroupcharter.pdf

POIG is open to all stakeholders in the palm oil sector who support the charter and share POIG's vision. In order to be officially classed as POIG supporters, they have to sign a commitment. In the meantime the RSPO has also responded to this, launching an initiative that bears a close resemblance to POIG: RSPO Next.

31 http://www.forumpalmoel.org/de/aktuelles/nachricht-detailansicht/article/die-palm-oil-innovators-group-poig.html

Transparency on the shelf

A comparison with the cocoa in the same biscuits shows that things could be done differently. Cocoa is grown in the same tropical region as palm oil, it is traded globally, and there are a small number of players dominating the supply chain. There are also environmental and social problems associated with cocoa growing. In spite of this, there are only 12 cocoa-containing biscuits in our sample with cocoa that is not grown in accordance with certified standards. Even if the most widely used certificate, UTZ cocoa, mainly – like the RSPO – ensures minimum standards, it does allow a minimum level of monitoring and traceability.

But is the biscuit situation really so grim? We visited the websites of the different companies to check whether they have in fact given some thought to the topic of palm oil. It turns out that all four of the supermarket chains we studied are members of the RSPO – and, as such, they all announce their plans to switch to 100% RSPO-certified palm oil. All of them aim for the use of palm oil with an actual physical certification, i.e. not just a GreenPalm or mass balance certificate.

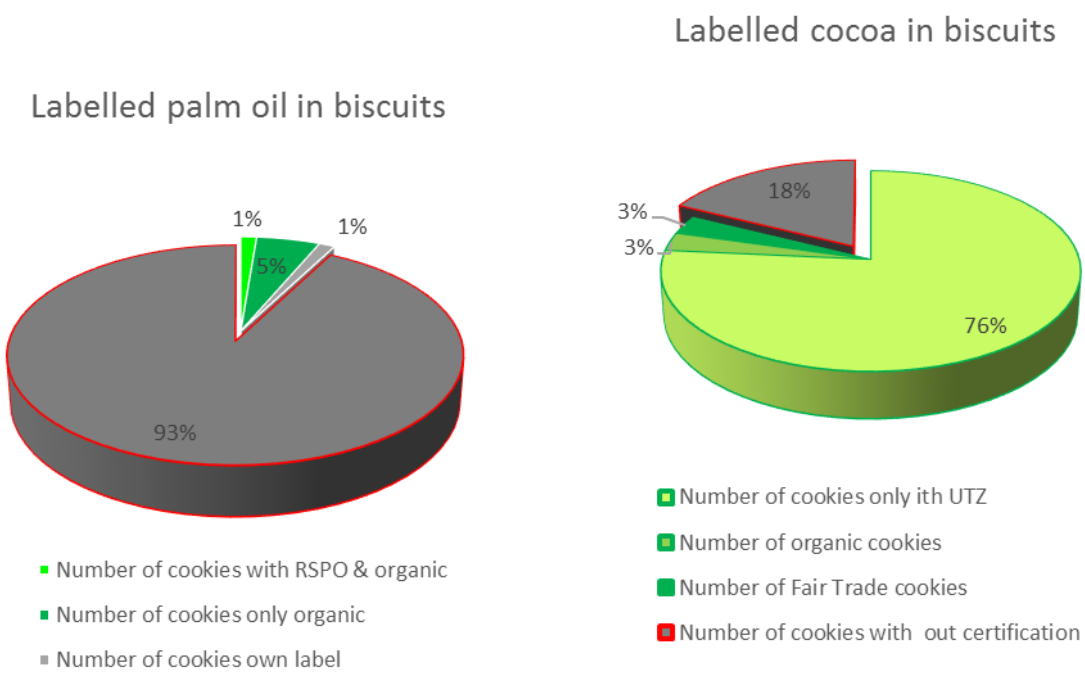


Figure 292: Biscuits in our sample containing cocoa and palm oil, showing what proportion have labels for this raw ingredient.

	Palm oil strategy?	RSPO membership	Certified PO as proportion of total quantity %*	Book & Claim % *	Mass Balance %*	Segregated %*	Identity Preserved %*	Target: 50 % switch to segregated at least	Target: 100% switch to segregated at least	Target: replacement of palm oil with other oils
Hofer KG	For own brands, incl. glycerine, emulsifiers etc.	Yes	93%	0	77%	16%	0,4%	By 2015 (food)/ 2018 (non-food): 100% switch to at least mass balance RSPO PO.**		
REWE	For own brands	Yes	100%	9%	24%	66,82%	0,44%	Palm oil: 2016; fractions and derivatives: 2017	Palm oil: 2018; fractions and derivatives: 2020	No PO in JaNatürlich (exc. in ready-made pastry/ dough products). Otherwise not planned
SPAR AG	For own brands	Yes	99%	7,20%	44,10%	48,00%	0,10%		2016	By 2016: replacement of palm oil with other products where possible
LIDL (Germany)	For own brands	Yes	98%	0%	68%		31%	2018** for own-brand foods	2020**	

* according to self declaration for RSPO : http://www.rspo.org/members/all

** according to Hofer website

***as far as this is technically possible and the certified commodities are reliably available in the quantities needed

***Table 1**: Comparison of the different palm oil strategies of Austrian retail chains.*

The good news, then, is that most of the own-brand biscuits sold by the retail chains already contain RSPO-certified palm oil. However, this is not obvious from the products, and the documents found on the internet are also not always entirely clear. On the products themselves, in any case, there is no indication of what proportion of certified palm oil they contain or what kind of certification has been used. In most cases concerned consumers will have to choose palm-oil-free or organic products.

Sustainable palm oil?

Many certificates state that the palm oil bearing their label is sustainably grown. We need to be aware, though, that this "sustainable" palm oil only prevents the worst crimes against the environment, such as the deforestation and draining of peatlands. Intensively farmed plantations covering many square kilometres with only a single crop are most certainly not a sustainable agricultural production system.

In spite of this, certification systems such as the RSPO can contribute to transparent supply chains, which can then provide the basis for further improvements. Even if it is clear that voluntary certification systems cannot solve all the problems in this sector, it makes sense to design them in such a way that they help to encourage more sustainable production as much as possible.

Many of the brand manufacturers also have a palm oil strategy. Table 1 gives an overview.

We believe, however, that customers have a right to find out what is in their products, preferably without any lengthy internet searches. It's also very clear that the RSPO certificate, with its different supply chain models in the background, is confusing – it has to be obvious at first glance whether a product contains palm oil, and if so what kind. Only then can customers consciously choose a more sustainable product.

What can we do? Demands for a more sustainable approach to palm oil

Citizens and consumers

As a consumer, you can make a difference by shopping consciously; as a citizen you can help put pressure on companies to create fair and sustainable conditions throughout the production chain.

Avoidance or certification?

We believe that there's already more than enough palm oil being consumed in Europe. Reduce your palm oil consumption. If you try to follow a healthy, sustainable diet, with fresh regional and seasonal products, preferably organic, you'll automatically be consuming less palm oil – and reaping benefits for your health as well.

If there's no other choice, try to use only products that contain at least segregated, or even better, identity preserved RSPO palm oil. An additional organic or Rainforest Alliance certification guarantees higher environmental standards. A GreenPalm or book & claim certification, on the other hand, has virtually no positive effects on the situation in the growing areas.

Make the right choice when you're shopping!

That way you can be sure that farmers and workers will earn better incomes, that child labour will be prohibited, and that environmental standards will be observed.

Write to your supermarket!

Write to retailers or post your opinion on their social platforms. Ask where the palm oil they use comes from, whether the companies know in what conditions it is grown, and whether they can be sure there is no land grabbing or environmental destruction involved.

Get informed, and support our campaign!

Certification can only ever make a limited contribution to more sustainable supply chains. We therefore urge the responsible EU politicians to create the necessary conditions for fair trade. On our website, www.supplychainge.org, you'll find background information on various supermarkets, their own brands, and the conditions in which these are produced. Come to our events, get involved, and support our petition to make supermarket own brands fairer and more sustainable!

Demands for supermarkets

Supermarkets and retail chains play a key role in our modern consumer society. Their market power and their direct contact with customers and manufacturers means that they have ample scope for action, and a special responsibility. We urge retailers to live up to this responsibility, and to ensure that they only sell products that are free from human rights violations and environmental destruction. Supermarkets should:

Palm oil strategy

- Check which oils are most sustainable for the products in question – taking both environmental and social criteria into account when deciding which oil to use.
- When using palm oil: use 100% palm oil certified in accordance with the segregated or identity preserved system for all own-brand products.

- Put pressure on brand manufacturers to also switch to these systems, or to try using alternative oils.

Transparency and traceability throughout the palm oil supply chain

- Support organizations such as POIG, which aim to improve the RSPO standards.
- Actively participate in the development of better standards and audit systems.
- Supply transparent information about the palm oil used, at point of sale and on product labels.
- Provide information about the proportion and quantity of palm oil used across the entire product range.

Supporting sustainable palm oil cultivation

- Support initiatives promoting sustainable smallholder production of palm oil.
- Support farmers in the switch to sustainable farming, and in the use of alternatives to chemical pesticides and fertilizers.
- Guarantee fair and liveable incomes for palm oil farmers and for workers throughout the palm oil supply chain.
- Guarantee compliance with human rights and labour rights throughout the palm oil supply chain.
- In palm oil cultivation, prohibit pesticides that pose risks to human health and the environment.

Supermarkets must aim to develop a product range that does not contribute in any way to the destruction of rainforests and peatland, or to human rights violations and land grabbing.

Policy & the European Union:

The EU must create conditions that will allow companies, including those in Europe, to be held responsible for abuses taking place in their supply chains. This is the only way to ensure that companies take their responsibilities seriously. Voluntary initiatives are not enough! We therefore demand that EU politicians:

- introduce binding legislation against unethical corporate behaviour throughout the supply chain.
- support the initiative for a new, binding United Nations treaty on business and human rights, for the regulation of transnational corporations.
- ensure that no land grabbing is taking place in the countries of production for EU products. The land rights of the local population and their access to natural resources must be safeguarded.

In its strategy for the conservation of biodiversity, the EU has undertaken to minimize its negative influence on global biodiversity.

This involves, among other things,

- reducing the impact that consumer behaviour in the EU has on biodiversity;
- boosting the contribution of trade policies to the protection of biodiversity, and, as far as possible, eliminating any negative effects that might be linked with EU trade agreements;
- encouraging the right market signals for the preservation of biodiversity, including reforming and gradually removing environmentally harmful subsidies both at EU level and at the level of the members states; creating positive incentives for the preservation and sustainable utilization of biodiversity.

The measures arising from this goal must be improved and implemented in collaboration with all stakeholders in the supply chain. It is up to the EU to ensure that these processes do not simply allow companies to protect their own interests. The long-term wellbeing of EU citizens, and the rights of all humans to a healthy environment and legal security must have priority over market-driven concerns.

Thank you

We say thank you to all the people how supported our work in Indonesia and at Home! Special thanks to all the wonderful people in the villages who shared their stories and hopes with us and to all the wonderful people by WALHI, especially our travel companions Zenzi, Sony, Iwan, Fandit, Lukman and Josy.