

Research report

The oil for ape scandal

**How palm oil is threatening
orang-utan survival**

**Friends of the Earth
The Ape Alliance
The Borneo Orangutan Survival Foundation
The Orangutan Foundation (UK)
The Sumatran Orangutan Society**

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Foreword



This is yet another disturbing report warning of impending doom for a much-loved endangered species. To the average shopper in Britain and the rest of Europe, North America or Japan, the problem of orang-utan extinction seems a world away – something distant, exotic and far removed from everyday life. Even sympathetic readers – supporters of conservation organisations – probably feel that by sending off a donation, they are doing all they can to help wildlife experts solve a problem on the other side of the planet.

What this important report spells out, however, is that anyone who buys chocolate, crisps, bread, cakes, detergents, toothpaste, shampoo, lipstick or a host of other products may be an unwitting partner in causing the extinction of the orang-utan.

It is our pounds, euros, dollars and yen that help pay for the conversion of beautiful, biodiverse wildlife habitat into profitable oil-palm plantations. It is our pension funds and investment banks that are investing in quick profits but not counting the environmental cost. And it is our elected representatives in government who are failing to ensure big corporations end the destruction.

The orang-utan is one of our closest relatives – intelligent, impressive, certainly deserving of our compassion and concern – and soon to be extinct.

But although this report focuses on Asia's only great ape, the problem goes way beyond the survival of orang-utan. Such charismatic animals serve as flagship species to conserve their habitat – which is also home to other primates, such as gibbons and proboscis monkeys, other mammals, from bats to elephants, hundreds of species of birds, and countless species of insect and micro-organisms. All are being bulldozed and burned to make way for palm oil, to supply the factories that churn out the products that billions of us buy.

This report should act as a wake-up call to consumers, voters, companies and politicians alike. It is time for people to demand change, and time for companies and governments to deliver it.

The governments of Malaysia and Indonesia must act immediately to end the conversion of their natural forests for oil palm. Governments in countries providing finance or a market for palm oil must legislate to make their corporations responsible and accountable for their impacts.

If not, it is we who will have to explain to our children in a few years time that orang-utan became extinct not because of a lack of knowledge, but because of corporate greed and a lack of political will.

Ian Redmond
Chairman, Ape Alliance

British supermarkets are routinely failing to take even the most basic steps to protect people and the environment, despite their lip service to corporate responsibility.

Environmentalists have been highlighting the link between palm oil and rainforest destruction for several years. But there is not a single British supermarket that can guarantee that its products are not fuelling the destruction. Most have not even worked out where the palm oil in their products comes from.

This is pure social and environmental negligence. These same companies are happy to specify that food has to be of a certain size, colour, weight and consistency, and are happy to reject consignments from suppliers that fall outside their precise specifications. But they seem unwilling to specify that their products should be produced in a way that does not harm people, animals like the orang-utan or the environment.

It is time to get angry with the UK government, which continues to uphold – and defend – the deeply naive and irresponsible view that voluntary corporate social responsibility is working, when the evidence that it is not could not be clearer.

Over the coming year, the Government will be taking its Company Law Reform Bill through Parliament. At present, the draft Bill requires company directors only to ‘consider’ the impact of their company’s operations on the community and the environment.

Friends of the Earth believes that the Bill should require companies to do something about their impacts – not just ‘think’ about them. We want the Bill to follow the approach taken in health and safety legislation, and require directors to take ‘reasonable and practicable steps’ to reduce their negative impacts on people and the environment.

For supermarkets, this would mean in the case of palm oil, joining the Roundtable on Sustainable Palm Oil, working out where their palm oil comes from, and ensuring it does not come from destructive sources.

High environmental and social standards should be the norm for UK companies, not the exception. The fate of the orang-utan, countless other species and millions of people depends upon decisive action. It is time for the UK Government to deliver.

Tony Juniper
Executive Director, Friends of the Earth



Stephen Pennells/Friends of the Earth

1 What the experts say



Prof Biruté Galdikas, Orangutan Foundation International

“In 1992, as I flew into Kuala Lumpur, the capital of Malaysia, I gazed out at the expanse of oil-palm plantations surrounding almost the entire city and wanted to weep. I knew I was looking at the future landscape of Central Kalimantan in Indonesia. The Government of Central Kalimantan had just indicated it was going to encourage oil-palm plantations throughout the entire province to supplant the declining forestry sector.

Many consider palm oil a ‘wonder product’. It is in hundreds of household goods and thousands of foodstuffs, and so is used in some form by billions of people across the world, every day. It is traded internationally as a commodity, and where it goes, profits follow. But so does destruction of the rainforest, particularly in South-East Asia – the home of the orang-utan.

Bornean and Sumatran orang-utan are in peril, and the situation is getting worse. Logging, both legal and illegal, has long been recognised as one of the major threats to the survival of the species, by degrading orang-utan habitat across the two islands. But few people know how closely oil-palm plantations follow logging operations. Once the logging stops, plantations move in, removing forever the forests that once covered both islands, and replacing the world’s most species-rich habitat with a monoculture – biological deserts where few species can survive. Millions of hectares of forest have already been lost, and more will follow. Unless we act now, the orang-utan – Asia’s only great ape, and one of humankind’s closest living relatives – will become extinct.

Can’t we do something? Shouldn’t this be an international issue, for the very reason that palm oil is an international commodity in everyone’s home? Why aren’t more companies exploring ways of growing their crop without destroying the rainforest? I hope this report makes public the insidious risks inherent in the global development of the palm-oil industry.

The orang-utan is endangered because of habitat loss. Today, the greatest threat to orang-utan habitat is the continued expansion of oil-palm plantations. Palm oil is the greatest enemy of orang-utan and their continued survival in the wild.”

Dr Ian Singleton, Scientific Director, Sumatran Orangutan Conservation Programme

“Huge areas of forests, habitat for the remaining orang-utan on Borneo and Sumatra, are being destroyed in the race between Malaysia and Indonesia to become the world’s biggest supplier of palm oil. Conversion to oil-palm estates completely eradicates forests, and annihilates orang-utan populations within them, and those of countless other species.

All that remains are the palms themselves, in tidy rows as far as the eye can see, some ferns and other scrubby vegetation underneath, and a few of the more adaptable animal species like pigs, rats and snakes that manage to eke out an existence here and there. While they can appear green and lush at first sight, closer inspection reveals a dearth of wildlife below the canopy of fronds, and it becomes hard to envision that these areas were once covered in pristine forests teeming with life.

We have already lost huge areas of orang-utan habitat and tens of thousands of orang-utan to the palm-oil industry, and we are losing many, many more as I write. Indonesian newspapers have just reported that a kind of ‘oil-palm fence’ stretching 845 kilometres along the border with Malaysia in Borneo is to be established, crossing through orang-utan habitat. The problem is truly immense.

For many years, the fight to save orang-utan was one waged against logging. Illegal logging is a major issue, especially in protected areas, but affected forests can recover if allowed to. It is the total clearance of forests, ultimately for the planting of oil palm, that has wreaked by far the most havoc. Reports such as this are long overdue. It is high time that this major threat to the continued survival of orang-utan was more widely publicised and acknowledged. Only by raising awareness of the issue can we hope to bring oil-palm expansion to the top of the conservation agenda where it rightly belongs.”





Dr Willie Smits, Chairman and Founder of the Borneo Orangutan Survival Foundation

“The problem is not the oil-palm tree. Oil palm is a valuable source of vegetable oil and one of the most productive crops around. The world needs vegetable oil – no doubt about it. The problem is the highly destructive way this crop has been developed in South-East Asia.

A sustainable future for the forests of this region has been sacrificed to try to meet the seemingly insatiable desire for short-term financial gain. Forests rich in wildlife have now been replaced with oil-palm plantations. Palm-oil companies deliberately target forest areas for conversion, in order to maximise their profits by selling the timber before the plantations are set up. Indonesia has millions of hectares of abandoned land. This land should be the first to be converted to palm oil. But with bigger profits to be gained by clearing forests, and easy access to forest land guaranteed, they are often the last areas to be targeted.

The expansion of oil-palm plantations is taking a heavy toll on the few remaining orang-utan and on many other species of wildlife. The fragmentation of the remaining forest has become so severe that the loss of many more species of plants and animals has become inevitable. The rate of loss of orang-utan has never been greater than in the last three years, and oil-palm plantations take the brunt of the blame.

We are facing a silent massacre, taking place far from where people can see what is going on. We need international co-operation now to address this crisis. It is my hope that this report will be a wake-up call for the world not to ban, but to regulate, the palm-oil industry, to minimise impacts on the orang-utan and all the rich biodiversity of the remaining rainforest.

**Professor Jack Rieley, Dr Susan Page and Ir Suwido Limin,
Co-Directors of Kalimantan Tropical Peat Swamp Forest Research
Programme**

When we commenced our multi-disciplinary research programme in 1993, we were unaware of the importance of the peat-swamp forest habitat for orang-utan, but it did not take us long to find this out. More than 12 years later, we know for certain that peat-swamp forest is the last major habitat for the dwindling populations of orang-utan in Borneo and Sumatra. This endangered primate has sought final refuge in this ecosystem because the lowland and sub-montane forests that it prefers have almost disappeared completely – firstly under loggers' saws, and now due to oil-palm plantations.

Most of the remaining peat-swamp forests of Borneo are unprotected and under threat of land conversion. Even national parks do not guarantee protection for vulnerable ecosystems and their biodiversity, as we can see from the incursion of oil-palm plantations inside Tanjung Puting National Park.

Pressure from the end-users of palm oil in the UK and other developed countries is an essential component of the move to prevent further removal of natural tropical forest orang-utan habitat. The Governments of Indonesia and Malaysia must also acknowledge the folly of what is happening, and the consequences – not only to orang-utan, but also to local people and the environment locally, regionally and globally. For example, Malaysia complains about the poor air quality resulting from Indonesia's land-clearance forest fires, but Malaysian investors are driving this unacceptable practice.

In Indonesia, deforestation and changes in land use are not solving the problems of the country's increasing poverty. Without providing new opportunities for sustainable livelihoods, these tropical forests will continue to be destroyed, the orang-utan will disappear and people will continue to suffer.

2 Environmental justice and human rights



The palm-oil business is often advertised by governments and companies as making an important economic contribution to development. However, this analysis is often one-sided, and fails to take into account the substantial social and environmental costs. These include the ecological price of removing rainforest, as well as pollution and damage to water courses – costs that are rarely taken into account by economists. The main focus of this report is the plight of the orang-utan, but the palm-oil industry also has severe impacts on society, and it is important to acknowledge these too. Some of the most serious are briefly set out in this section.

Conflict

The development of new oil-palm plantations is commonly associated with social conflict and human-rights abuse, and the plantation business is the most conflict-ridden sector in Indonesia – and probably also in Malaysia.²⁸ Plantations are often established on land that is traditionally owned and often on agricultural land used by communities to grow food at a subsistence level.²⁹ Traditional land rights rarely have official documentation to support them, so when the bulldozers arrive, indigenous communities have very little defence. Violent conflicts have repeatedly been associated with the appropriation of traditionally-owned land.³⁰ In Indonesia, between 1998 and 2002 alone, 479 people were reported as having been tortured in conflicts related to oil-palm development, defending community rights, and dozens of people have been killed in land-tenure disputes.³¹

Development?

The removal of forest cover destroys previous local economies, which are often based on the sustainable harvesting of non-timber forest products, such as seeds, honey, rubber, rattan, medicinal plants, and fruit. This destruction leads to a reliance on a single export-orientated commodity that is vulnerable to international price fluctuations. In many cases, indigenous peoples have little choice but to surrender their land and

undertake poorly paid work labouring on the plantations, but the establishment of a new plantation does not necessarily guarantee employment for the local people.

Pollution

The pesticides and herbicides used in oil-palm plantations, as well as palm-oil mill effluent, often leach and flow into water bodies, devastating aquatic ecosystems, and making water unfit for human consumption. The list of related concerns extends to contamination of land, and lack of health and safety measures, such as the failure to use proper equipment when spraying vast quantities of pesticide and herbicide cocktails. Paraquat, a highly toxic herbicide that has been banned in 13 countries, is commonly used on plantations in South-East Asia with little regard for the health of the plantation workers.³²

Land conversion out of control

In theory, the decentralisation of land-use planning decisions in Indonesia to provincial governments should allow a greater degree of communication between the stakeholders involved in land-use planning decisions. It should also facilitate local community participation in decisions regarding compensation for traditionally-owned land. However, transferring to the local government powers to allocate permits for new plantations is intended to speed up the process, and this move is undoubtedly associated with the observed increase in the rate of forest conversion. Furthermore, corruption has increased, as some large plantation companies bribe local governors to secure a particular area of land.³³ This has exacerbated the conflict between plantation companies and local communities whose land has been appropriated.

The rights of the majority

It is thought that over 4.5 million people, or 2 per cent of Indonesia's population, currently rely on the success of the oil-palm estates, whether as plantation workers or further along the supply chain. However, an estimated 100 million people in Indonesia rely on the forests and forest products for their livelihoods. Of these, 40 million are indigenous peoples – equivalent to two-thirds of the population of the UK.³⁴ Many of these are suffering at the hands of the oil-palm industry and have lost access to their land and forest resources. Many of the plantation workers also often have to deal with poor living and working conditions and exploitative wages.

Land-rights reform

If the rampant deforestation on Borneo and Sumatra is to be stopped, the governments of Indonesia and Malaysia must address land rights, and recognise the customary rights of indigenous peoples and local communities over their land. The greatest deforestation in Indonesia and Malaysia is being driven by the large corporations – not the indigenous peoples. Securing indigenous land rights also secures greater protection for the forest, the orang-utan and countless other species.

3 Palm oil destroys orang-utan habitat

Borneo and Sumatra are the only islands where orang-utan still exist in the wild. By 2004, the land area under cultivation with oil palms on those two islands totalled over 6.5 million hectares – primarily within lowland forest areas. Despite warnings of the imminent loss of all unprotected lowland forests, district governments continue to utilise their power under Indonesia's decentralisation laws to allocate plantation concessions in these areas. These same lowland forests are the only habitat capable of supporting viable populations of orang-utan. When the lowland forests have been removed, the battle for the conservation of the species will be lost.

For some palm-oil companies, the preliminary step of clear-cutting the forest is the sole motivation for developing a plantation. A disturbing trend has emerged of concessions being granted in high conservation-value forests, only to have the area clear-felled and the commercially valuable timber sold, leaving the land barren and never planted with a single palm tree. Other companies clear more forest than they need in order to set up their plantation. This has resulted in around 3 million hectares of forest being cleared and the land subsequently left uncultivated.³⁵ Even when oil-palm trees are planted, plantation companies still target forested areas. The more intact the forest, the more profit the plantation company can make by clearing it.

Rampant deforestation

Between 1989 and 2000, the area of oil palm harvested in Indonesia more than tripled, with an inevitable associated rise in the total production of palm oil. However, the yield per hectare has dropped by 33 per cent since 1989.³⁶ This means that the growth in production has been achieved solely through the expansion of the area under cultivation. By the beginning of 2004, there were 6.5 million hectares of oil-palm plantations across Sumatra and Borneo. Of this total area, almost 4 million hectares had previously been forested.³⁷ However, the area released for conversion does not necessarily reflect the real area planted, and the palm-oil industry is habitually associated with deforestation beyond establishing oil-palm estates on previously forested land. The amount of forest removed under the auspices of plantation development, regardless of whether palms have ever been planted, may be as much as 10 million hectares.

Orang-utan inhabit lowland dipterocarp, freshwater and peat-swamp forests, but unfortunately this habitat is located precisely in those areas that are preferentially converted to oil-palm plantations: namely fertile lowland soils close to rivers.³⁸ In the decade between 1992 and 2003 orang-utan habitat declined by more than 5.5 million hectares, while the plantation area across Borneo and Sumatra increased by almost 4.7 million hectares.³⁹ Oil-palm plantations could be responsible for at least 50 per cent of the observed reduction in orang-utan habitat in that period.⁴⁰ However, the figure is actually likely to be higher, as these calculations take into account only the amount of forest conversion associated with current plantations, and do not include land that has been cleared and abandoned, or degraded by fire.

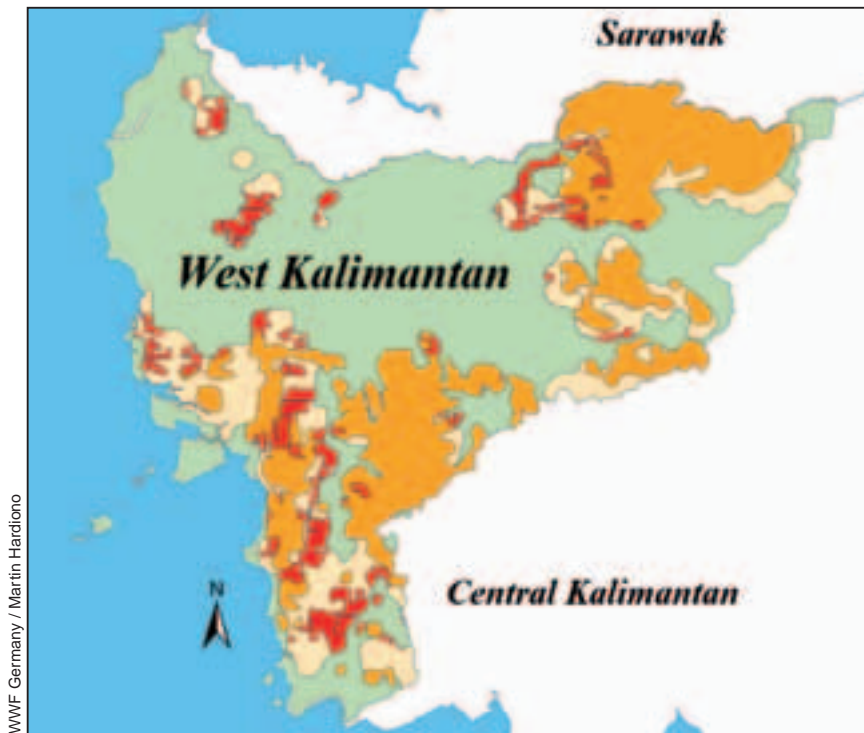


Figure 1
Orang-utan habitat destroyed by oil-palm plantations in West Kalimantan on the island of Borneo, Indonesia.

- Oil palm plantations within previous orang-utan habitat
- Orang-utan distribution 2004
- Orang-utan distribution 1999

WWF Germany / Martin Hardiono

Expanding plantations, expanding threat

Within the Indonesian archipelago, Sumatra has the best climate and soil conditions for cultivation of the oil palm, as well as good infrastructure to allow efficient transport of palm fruit to processing mills.⁴¹ In 2003, 75 per cent of Indonesia’s 5.2 million hectares of oil-palm plantations were located in Sumatra, with a further 18 per cent in Kalimantan.⁴² It is expected that this total will more than triple to 16.5 million hectares by 2020.⁴³ In 2003, 1.6 million hectares (42 per cent of Malaysia’s total plantation area) was to be found in the provinces of Sabah and Sarawak on Borneo.⁴⁴ This figure will increase in coming years, due to a dearth of suitable land remaining on peninsular Malaysia,⁴⁵ with severe implications for two of the Bornean orang-utan subspecies, *Pongo pygmaeus morio* and *Pongo pygmaeus pygmaeus*.

Plantation development on the two islands has not occurred exclusively within areas that were previously forested, but between 1985 and 2000 the development of oil-palm plantations was responsible for an estimated 87 per cent of deforestation in Malaysia, and an estimated 66 per cent of Indonesia’s plantations have involved forest conversion.⁴⁶ Calculations suggest that the amount of forest converted to this land use by 2003 had reached 3.2 million hectares in Indonesia, with a further 758,000 hectares having been converted in Malaysia – primarily in Sabah.⁴⁷

Within Indonesian Borneo, West Kalimantan province has experienced the most rapid growth in the amount of land under cultivation with oil palms, expanding by almost 65,000 hectares in the past five years. West Kalimantan now makes up more than 50 per cent of Kalimantan’s total oil-palm area. South Kalimantan, the only province where orang-utan are not found, has experienced the lowest rate of growth. As Figure 1 (above) clearly shows, oil-palm plantations have been established on land in West Kalimantan that was, until recently, confirmed orang-utan habitat. In some areas, particularly in the north west of the province, it is apparent

that the development of plantations has caused the local extinction of several populations of orang-utan.

Forest fires

Around 40 per cent of Indonesia's legal timber supply results from land clearance for conversion to plantations,⁴⁸ which can generate income of up to US\$2100 per hectare towards the start-up costs of the plantation.⁴⁹ In the past, if the remaining timber stands are not commercially valuable, burning has been a widely-used method of land clearance. The forest fires of 1997/98 were responsible for the devastation of over 5 million hectares of forest.⁵⁰

Although undoubtedly aggravated by years of exploitative logging and exacerbated by an El Niño effect, the majority of these fires have been triggered primarily by palm-oil companies using uncontrolled burning to clear land, as implicated by satellite imagery.⁵¹ It is believed that some palm-oil companies also light fires in order to degrade forest land and speed up the permit-allocation process.

Despite substantial evidence, few companies have been prosecuted in connection with the fires, and burning is likely to continue in the future despite the fact that it is no cheaper than alternative methods of land clearance.⁵² It has been estimated that the fires of 1997/98 alone were responsible for the loss of one-third of Borneo's orang-utan population⁵³ – a massive step back in the conservation effort to save this species from extinction. Fires linked to the plantation industry occur every year in Borneo and Sumatra, and continue to destroy orang-utan habitat. In early August 2005 the Indonesian authorities detected 788 fires in Riau, Sumatra. The Indonesian Forestry Minister told reporters, "The major fires are in oil-palm plantations."

Critical orang-utan habitat under threat

Experts have identified a number of key habitat areas that are crucial for the continued existence of orang-utan in the wild. Within just one province, Central Kalimantan, two-thirds of the priority areas can be considered at risk of conversion.⁵⁴ One such region is the Arut-Belantikan forests, thought to support a population of around 6,000 orang-utan. Much of the southern part of this area is earmarked for conversion to plantations.⁵⁵

Peat-swamp forests are an important component of orang-utan habitat.⁵⁶ It is notoriously difficult to cultivate oil palms on peat land greater than 1 metre thick, and the costs of establishing a plantation on this soil type tend to be 40 per cent higher than on dry land.⁵⁷ Nevertheless, numerous companies continue to apply for licences to allow the conversion of deep peat land, including in the Mawas Forest Reserve in Central Kalimantan, recognised as a high-priority forest for protection in order to safeguard the future of the orang-utan on Borneo.⁵⁸

The proposed development of a 20,000 hectare plantation at this site could lead to the collapse of half a million hectares of the peat-swamp forest ecosystem, destroying the habitat of at least 3,500 orang-utan, and eliminating an important carbon sink – which will exacerbate climate

change. There is also evidence that oil-palm plantations have been established within national park boundaries, including Tanjung Puting in Central Kalimantan and Gunung Leuser on Sumatra.⁵⁹

Forest fragmentation

The infrastructure associated with plantation development leads to a high degree of fragmentation, and opens up the forest to further development, as well as creating easier access for illegal hunters and poachers.⁶⁰ Fragmentation associated with forest conversion also impedes the movement of animals between habitat patches, resulting in reduced home ranges and population viability. Relentless fragmentation of orang-utan habitat will inevitably lead to ever more isolated forest patches, in which a relatively small number of orang-utan must attempt to survive.

As the boundaries of plantations push further into ever-diminishing forest patches, orang-utan come into increasing conflict with human communities. For those individuals that do manage to survive in the areas surrounding plantations, increased competition for scarce resources may lead the animals to traverse into the estates, where they will eat the palm fruit when no other food is available. There are numerous reports of adult orang-utan being attacked and killed due to their perceived status as agricultural pests, while infants usually end up in the illegal pet trade.⁶¹ These forest fragments are also more vulnerable to forest fires.

The pet trade

Observations carried out by WWF and TRAFFIC indicate an increase in the trade in infant orang-utan over the past decade. This trafficking is thought to be linked to other criminal activities, such as the illegal timber trade. It is also associated with forest conversion for oil palm, as poaching and trade is particularly common in areas where plantations are being developed. An estimated 1,000 Bornean orang-utan are supplied to markets in Bali and Java every year.⁶²

In 2004, at least 300 infant orang-utan between two and three years of age were found being kept illegally across Thailand. The majority of these are believed to be members of the *Pongo pygmaeus wurmbii* subspecies, originating from Central Kalimantan. The origin and age of these individuals indicates a correspondence between their illegal trade and the substantial expansion of oil-palm plantations in the province since 2002. Calculations reveal that these 300 orang-utan represent around 2,100 others that have died during habitat clearance and subsequent capture.⁶³

Catalyst for extinction

The impacts of the palm-oil business, including the clear-cutting of millions of hectares of habitat, massive degradation caused by uncontrolled fires, forest fragmentation and greater access for hunters, have been one of the most significant catalysts for the devastation of the orang-utan population across Borneo and Sumatra in recent years. If forest conversion is not stopped immediately, the orang-utan will become extinct long before the industry's insistent demand for plantation land is satisfied.

Is Forest Conversion Necessary for Future Development?

It has been calculated that the adoption of better management practices on oil-palm plantations can lead to a substantial increase in palm oil yields per hectare, enabling a greater amount of palm oil to be produced from smaller areas of land. In Indonesia, the productive area will increase to 16.5 million hectares by the year 2020 if current land conversion trends continue, whereas only 9 million hectares would be required to produce the same amount of palm oil under the adoption of better plantation management, potentially preventing the conversion of 7.5 million hectares of Indonesia's forest cover. In Malaysia, around 6 million hectares are projected to be cultivated if current trends continue, which can be reduced to 4.3 million hectares with the implementation of better management, potentially saving 1.7 million hectares of forest. In both countries there is currently enough "idle" unproductive land to accommodate the growth predicted under the latter scenario, so it is entirely feasible that targets for palm-oil production can be met without necessitating any more forest conversion.

Source: Dros, J.M. (2003) *Accommodating Growth: Two scenarios for oil palm production growth*, a report prepared for AIDEnvironment

4 Orang-utan in crisis



Once widespread throughout the forests of South-East Asia, orang-utan are now confined to two islands, where two genetically distinct species exist:

- the Sumatran orang-utan (*Pongo abelii*)
- the Bornean orang-utan (*Pongo pygmaeus*).

The Bornean orang-utan is listed as endangered on the World Conservation Union (IUCN) Red List of threatened species, and the Sumatran orang-utan is classified as critically endangered, and is listed among the 25 most endangered primates in the world.⁶⁴

A Population and Habitat Viability Analysis (PHVA) was conducted in January 2004, where conservation experts and orang-utan field researchers gathered to assess the conservation status of the orang-utan, its rate of decline, and the extent of remaining habitat. It was established that some populations have been halved in the last 15 years, and now fewer than 60,000 orang-utan remain in the wild on Borneo and Sumatra. This figure is alarmingly low, yet the situation is even more severe than this suggests. This is due to the fragmentation of Borneo and Sumatra's lowland forests – a process that creates small, isolated populations that are vulnerable to disturbance, poaching, inbreeding and a subsequent loss of genetic diversity.⁶⁵

Although it is impossible to measure the exact rate of population decline, it is estimated that 5,000 orang-utan are being lost from the wild every year.⁶⁶ Across the orang-utans' entire range, conversion of forests to oil-palm plantations is occurring on a massive scale, logging continues with no signs of being reduced, and infrastructure developments threaten to fragment the habitat of the last viable populations.⁶⁷ Almost 90 per cent of orang-utan habitat has already disappeared, with 39 per cent of the remaining forests having been lost in one decade, between 1992 and 2002.⁶⁸

Orang-utan on Sumatra

Historically, orang-utan were found in forests across Sumatra, but the species has suffered from a high degree of habitat fragmentation, and there are now fewer than 7,300 individuals in 13 distinct forest patches.⁶⁹ The most up-to-date surveys indicate that there are less than 900,000 of the original 16 million hectares of suitable habitat (lowland forest) remaining on the island.⁷⁰ The largest population of Sumatran orang-utan exists in the province of Aceh, but data indicate that 1,000 individuals were being lost each year during 1998/99 in this area alone,⁷¹ and populations plummeted across the island by 50 per cent in just eight years leading up to 2000.⁷²

In the long term, only three of Sumatra's remaining population units are considered to be demographically and genetically viable. All three are located within the Leuser Ecosystem – a 2.6 million hectare expanse of forest spanning the borders of Aceh and North Sumatra, which has been acknowledged as one of the world's most important biodiversity hotspots.⁷³ The ecosystem incorporates the Gunung Leuser National Park, the majority of which is more than 900 metres above sea level. Orang-utan occur at low densities, and do not form viable breeding populations in high-altitude forests, so the majority of orang-utan are resident outside the protected area boundaries. Populations are concentrated in the foothills of the mountains, where the forests are experiencing a 10–15 per cent rate of loss each year.⁷⁴

Across Indonesia, there is great pressure to convert forests to agricultural land and this has been occurring at an alarming rate on Sumatra, which now has over 4 million hectares of oil-palm plantations – more than four times the area of orang-utan habitat that remains on the island. If current trends continue, the small amount of lowland forest that is still standing will soon disappear. Although a handful of orang-utan may continue to survive in isolated forest fragments, these populations will not be genetically or demographically viable, and will make no contribution to the long-term survival of the species.

An estimated 800 orang-utan are being lost every year in Sumatra,⁷⁵ and even the largest remaining viable populations are predicted to plunge by 50 per cent in the next four to six years if the astounding rate of forest decline continues.⁷⁶ This means that the effective extinction of the Sumatran orang-utan is imminent, and the call for a complete halt to habitat loss is more urgent than ever.

Orang-utan on Borneo

The Bornean orang-utan is found in the Indonesian provinces of West, Central and East Kalimantan, and the Malaysian states of Sabah and Sarawak.⁷⁷ Extensive fieldwork and improved survey techniques over the past decade have revealed that there may be higher numbers of orang-utan on Borneo than previously thought, and the population is estimated to stand at around 50,000 individuals.⁷⁸ During this time, however, the rate of deforestation has escalated. Forests across the Bornean orang-utan's entire range are under pressure from illegal logging and conversion to oil-palm plantations, and habitat fragmentation is a significant issue across the island.

There are three subspecies of Bornean orang-utan, with large rivers or mountain ranges forming barriers between them:⁷⁹

- *Pongo pygmaeus pygmaeus* is the most endangered subspecies. It is found in north-west Kalimantan and into Sarawak.
- *Pongo pygmaeus morio* is found in Sabah and East Kalimantan. About 75 per cent of the estimated population of 14,000 individuals lives in the Malaysian state of Sabah on Borneo,⁸⁰ but about 60 per cent of these inhabit unprotected forests, logged for commercially valuable timber and fragmented by plantations.⁸¹
- *Pongo pygmaeus wurmbii* is found in the south-west and central regions of Kalimantan. This subspecies represents the largest population of Bornean orang-utan, numbering some 32,000 animals, but is widely dispersed among isolated fragments of lowland swamp and dipterocarp forests.⁸²

Recent habitat analysis revealed that in 2002, the total area of orang-utan habitat remaining in Kalimantan was about 8.5 million hectares, divided into 306 distinct habitat units. To compound the problem of fragmentation, the majority of the forest is now classified as degraded. This means that it is only likely to be able to support lower densities of orang-utan than could be supported in primary forest. It is also vulnerable to re-classification as ‘conversion forest’ – destined to be clear-cut and converted to oil-palm plantations.

Taking into account an estimated rate of deforestation on Borneo of 1.3 million hectares per year,⁸³ the outlook for the Bornean orang-utan is not much more favourable than that of the Sumatran species. Remaining habitat is likely to have been reduced to less than 5 million hectares within the past three years, and predictions have been made that all unprotected lowland forests will have disappeared from Kalimantan by 2010 apart from peat swamps,⁸⁴ spelling disaster for the species. An immediate end to forest loss may be the only way to stop the species spiralling into terminal decline.

5 Key causes of orang-utan population decline



Ian Redmond

There are a number of causes for the decline in the orang-utan population. The development of oil-palm plantations is not the only reason for this decline but, as set out below, it is clear that plantation development is linked directly or indirectly to all of them.

Habitat loss

Indonesia has one of the highest tropical forest loss rates in the world, with 64 million hectares of forest having been cleared in the past 50 years – an area the size of Spain and Portugal combined.⁸⁵ Borneo has lost 50 per cent of its forest cover, and Sumatra has lost more than 70 per cent. Aceh, the last stronghold of the Sumatran orang-utan, is losing its forests at a rate of 270,000 hectares per year.⁸⁶ The rate of deforestation is showing no sign of slowing down. Around 15 years ago, an average of 1.7 million hectares was cleared annually in Indonesia, increasing to 2 million hectares by the turn of the millennium – an area the size of Wales.⁸⁷ A World Bank report has blamed commercial developments – especially oil-palm plantations – for this acceleration.⁸⁸

Logging

Orang-utan populations tend to occur at low densities, even in suitable habitats, and at even lower densities in logged and secondary-growth forests.⁸⁹ A long-term census of orang-utan in the Sebangau forests in Central Kalimantan recorded a 49 per cent decline in numbers within eight years, as a result of the removal of large, fruiting trees during logging operations.⁹⁰ These reductions persist after the initial disturbance; old secondary-growth forests contain only 30–50 per cent of the orang-utan density found in primary forest.⁹¹

Illegal logging accounts for at least 70 per cent of the timber supplied to the Indonesian processing sector, and occurs across the orang-utan's range, including within the boundaries of supposedly protected areas.⁹² Logging that is illegal, or that is legal but unsustainable, leads to a shortage of timber, and conversion of forests to agricultural plantations inevitably follows in these degraded areas.⁹³

Degradation of protected areas

Even protected areas inhabited by orang-utan are not safe. Between 1985 and 2001, the protected lowland forests of Kalimantan, in Borneo, declined by more than 56 per cent.⁹⁴ The current state of Kutai National Park, in East Kalimantan, is a clear indication of the failure of the protected area system in Indonesia, and serves as a cautionary tale for conservationists working to ensure the safety of remaining orang-utan populations from further habitat destruction.

Since the late 1960s, Kutai has been overrun by logging concessions, industrial complexes, open-pit coalmines and human settlements. Two intense fires in 1983 and 1998, partly sparked by oil-palm plantations, were responsible for the loss of 95 per cent of the lowland forest. Now, only around 10 per cent of the Park remains forested, slashing the orang-utan population from an estimated 4,000 in 1970 to less than 500 today.⁹⁵

Habitat conversion for agriculture

Orang-utan are able to survive in disturbed secondary forests, albeit at reduced densities, but logging concessions become reclassified as ‘conversion forest’ when less than 20 cubic metres of commercially valuable timber species remain per hectare. Although these severely degraded habitats would still be able to support low levels of biodiversity, once this exploitation threshold is reached, the land becomes available to be completely clear-cut and cultivated with agricultural crops.⁹⁶

One example of this was the Mega-Rice Project, described as “the largest and most destructive agricultural conversion project in the world in recent times”⁹⁷. Between 1996 and 1998, 1 million hectares of swamp-forest were destroyed in Central Kalimantan in an attempt to increase Indonesia’s rice-production capacity. This development faced considerable opposition because it had been proven that reclamation of peat-land flood plains can cause the development of acidic soils and hydrological disturbance, and can result in die-off of surrounding forest cover, while sustaining very low agricultural productivity. Predictably, the project was an unmitigated failure, and not a single blade of rice was ever planted. The land was abandoned, but the project had already claimed an important area of orang-utan habitat and displaced thousands of animals.⁹⁸

Yet lessons remain unlearned, and the conversion of forest to agriculture continues on a massive scale. The rapid expansion of oil-palm plantations across Borneo and Sumatra has already involved the clear-felling of millions of hectares of forests, and all unprotected (and even some protected) lowland forests are vulnerable to eventual future conversion. Research has shown that 20,000 hectares of the Tripa and Truman-Singkil swamp forests, which, along with the nearby Kluet swamps, are known to support the highest densities of orang-utan in Sumatra, were converted to oil-palm plantations between 1990 and 2000. Half of this area was lost in the space of only two years.⁹⁹ In Sabah and Sarawak, an estimated 80,000 hectares of forest is converted to plantations every year – an area about the size of New York City.¹⁰⁰

In August 2005, the Government of Indonesia announced a project to build the world's largest oil-palm plantation along its border with Malaysia on the island of Borneo, which will slice right through a proposed protected area. This project would have a devastating impact on the local people and destroy one of the most biodiversity rich forests left in South-East Asia, home to an orang-utan population.

Habitat fragmentation

After their habitats have been fragmented, orang-utan are particularly vulnerable to population decline. This is due to their large home ranges, low population densities and slow reproductive rates.¹⁰¹ Infrastructure developments lead to inevitable increases in habitat degradation as the forest is opened up, facilitating access to previously undisturbed areas. Work has already begun on the construction of the Ladia Galaska road system in Aceh, which cuts through the Leuser ecosystem and promises extensive fragmentation and destruction of the forest.¹⁰² An estimated 64 per cent of orang-utan habitat has been affected negatively by infrastructure developments.¹⁰³ The construction of new roads will mean increased access to forests for hunters and poachers, and an inevitable further decline in population numbers.¹⁰⁴ Oil-palm plantations are now the most significant cause of habitat fragmentation in Borneo and Sumatra.

The Globio Report, a multivariable spatial computer modelling exercise for the UNEP/UNESCO Great Ape Survival Project (GRASP), concluded in 2002 that if infrastructural development continues at the same pace as in previous decades, only 1 per cent of orang-utan habitat would remain unaffected by 2030.¹⁰⁵

Hunting and poaching

There is a huge demand – locally, nationally, and internationally – for infant orang-utan as pets. Young orang-utan are highly dependent on their mothers for survival and development, and in order to obtain an infant for the pet trade, it is necessary to kill the mother.¹⁰⁶ It has been estimated that for every infant that survives the process of capture and transport, at least four adult females and three other infants will have died.¹⁰⁷

The development of oil-palm plantations helps drive the trade in infant orang-utan in two ways. Firstly, by opening up the forest, the plantations aid access to hunters looking for infant orang-utan. Secondly, orang-utan frequently stray into plantations as a result of their habitat being destroyed and are killed as 'agricultural pests'. Many infant orang-utan captured as a result end up in the pet trade.

6 Case studies

This section presents a series of case studies highlighting the threat of the oil-palm industry to the orang-utan. These cases demonstrate that even the most important areas for orang-utan conservation are under attack by the industry.

Case study 1

Under threat: World-renowned Tanjung Puting National Park¹⁰⁸

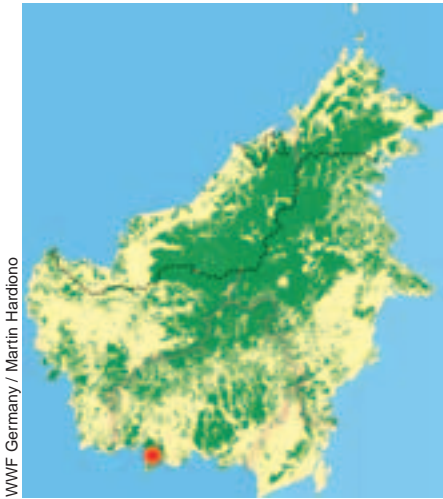
Tanjung Puting National Park in Central Kalimantan, Indonesia, is world-renowned for its orang-utan inhabitants, and makes an essential contribution to the protection and continued survival of the Bornean orang-utan in the wild, providing habitat for an estimated 6,000 individuals.¹⁰⁹ The park covers 415,000 hectares and consists of a variety of forest types, including tropical heath, peat swamps, and mangroves. It is an area of high biodiversity, supporting more than 200 bird species, 17 reptile species and 29 mammal species, many of which are endemic to Indonesia and are endangered.¹¹⁰

The original park boundary was extended in 1996 to its present size. There are two settlements located within the park boundaries and others along its north-western and eastern borders. Transmigration and gold-mining sites add to demand for land in the region outside the park. The park's northern border already consists of palm-oil plantations and there has been a history of encroachment and other negative impacts by plantations on the park.

In December 2002 as much as 30,000 tonnes of palm-oil mill effluent leaked into the Sekonyer River after settling ponds at the Wana Sawit oil-palm plantation ruptured. This damaged the aquatic ecosystem, threatening endangered freshwater fish species and polluting the water resource on which local people depend. In May 2003, Wana Sawit planted oil palm on up to 380 hectares of once-forested land inside the park's border.¹¹¹ In June 2004, a series of roads up to 10km long were discovered leading from this area further into the park, facilitating illegal logging and extensive degradation of the protected forests.

In 2004 NGOs uncovered plans by three other plantation companies to expand their operations. Examination and satellite analysis of these plans revealed that over 17,000 hectares of park land, and nearly the whole of what is supposed to be 'buffer zone' along the eastern border, would be lost if the proposed expansion took place. The plans incorporate a large expanse of dense primary forest, arousing strong suspicions that the profits to be made from the timber were an additional motivation for the proposal. In every case, the companies use inadequate (or even non-existent) demarcation of park boundaries to support their assertions that they would not be operating on park land. However, satellite images have revealed these claims to be false.

In November 2004 the newly-elected Indonesian President said he was putting the protection of Tanjung Puting on the national agenda, initially allaying fears that the national park would be damaged by the plantation companies. Following a multi-stakeholder meeting in March 2005 at which the local (Seruyan Regency) and provincial governments expressed support for the expansion of the oil-palm plantations, the Minister of Forestry in Jakarta sent a letter to them saying that all new planting must



stop until the matter had been resolved. On June 25 2005 the Minister of Forestry held a meeting with the Bupati of Seruyan Regency and cancelled the three concessions that the Bupati had awarded.

However, the very next week, it emerged that the minister had cancelled those three concessions in order to designate five new ones that would intrude even more deeply into the Park. Most worryingly, he has proposed a redefinition of Tanjung Puting's boundaries, which would decrease the size of the national park by a quarter.

The ministry itself is in a state of confusion. When the Orangutan Foundation approached departmental heads (directors and director-generals), a number had not heard of these plans, while some others had. They explained that the decision had been taken by the minister alone, without consultation within his department. No maps of the proposed border changes were officially available in Jakarta, but an Orangutan Foundation project manager was able to obtain a copy of a Government map showing some of the border changes from an oil-palm plantation manager.

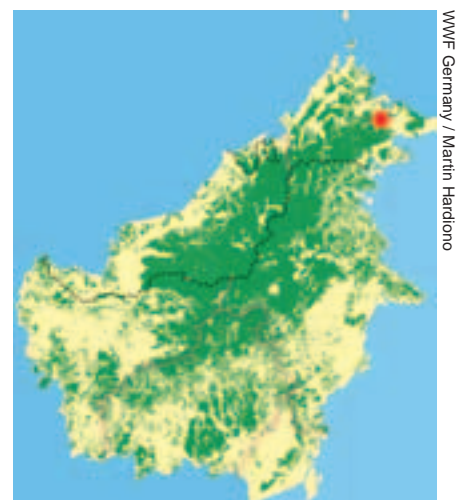
This case study demonstrates the extreme level of the threat of the palm-oil industry to the orang-utan. **Even Indonesia's most prestigious national park for orang-utan conservation is not safe from the advancing frontier of oil-palm development.** Tanjung Puting has infamously been plagued by rampant illegal logging, and the park was already facing a conservation crisis. Plans to breach the Park's boundaries for palm-oil development threaten to turn this crisis into a conservation disaster of global significance.

Case study 2

The demise of Malaysia's biodiverse wetlands: Kinabatangan, Sabah

The floodplain of the Kinabatangan River, in Malaysia's Sabah state, consists of a patchwork of undisturbed and exploited wetland rainforests and freshwater lakes. The forests are home to endangered Asian elephants and Sumatran rhinos, and are one of only two places in Asia that are inhabited by 10 primate species. These include proboscis monkeys, gibbons, and the largest population of orang-utan in Malaysia, at higher densities than any other population surveyed.¹¹² Yet commercial activities are threatening this stronghold of the Bornean orang-utan subspecies *Pongo pygmaeus morio*, with conversion of forests to oil-palm plantations being the most significant cause of forest loss.¹¹³

Several forest reserves were created in Sabah in the 1970s, but were subsequently reallocated for agricultural development, and by 1996 half of the forest had undergone conversion. The landscape now consists of patches of protected forest surrounded by expansive oil-palm plantations and secondary forest degraded by logging activities. The river basin is the largest remaining forested floodplain in Sabah, containing some of the only remaining freshwater swamp forests in South-East Asia, but the area has been severely fragmented, and has suffered widespread pollution from palm-oil mill effluent, pesticides and fertilisers, as well as sediment from land-clearing activities.¹¹⁴



WWF Germany / Martin Hardiono

A recent survey showed that 1,100 orang-utan remain in approximately 41,000 hectares of multiple-use forests across the Kinabatangan floodplain, with 230 individuals thought to be living outside protected areas. If the forest fragments were to undergo regeneration and greater connectivity, this would constitute a reasonably large and potentially viable population.¹¹⁵ However, the Kinabatangan Wildlife Sanctuary – an area of 27,000 hectares of highly degraded forest¹¹⁶ – is currently fragmented into 10 separate units by a matrix of oil-palm plantations and other land uses, preventing the migration of animals, including elephants and orang-utan.

Flooding is common along the river and, although this is a natural occurrence, the frequency, intensity and impact of the floods are amplified by the human activities on the floodplains – particularly land clearance.¹¹⁷ At the beginning of 2000, around 10,000 hectares of oil-palm plantations were inundated for 22 days, along with 80 per cent of the wildlife sanctuary, incurring significant financial losses for the plantation companies and the state.

Before the arrival of oil-palm plantations along the Kinabatangan river basin, the area constituted a rich and varied habitat for a diverse range of species, and was perhaps the most important wetland orang-utan habitat in the world. Although the disturbed forests still represent an important site for orang-utan, the high population densities are thought to be a direct consequence of habitat clearance in the vicinity, forcing individuals into high concentrations in remaining fragments.

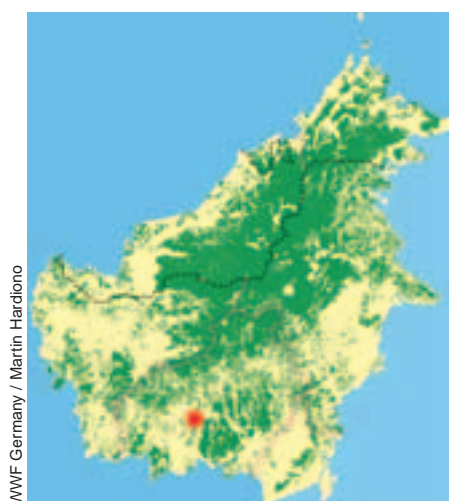
Malaysia is the world’s biggest palm-oil producer. This case study demonstrates that it has achieved this status at considerable cost to the environment, and to the orang-utan.

Case study 3 Overcrowding in rescue centres

The rapid rate of deforestation in Kalimantan is illustrated by the overcrowding at orang-utan rehabilitation centres across the island. The Orangutan Care Centre and Quarantine, located at Pasirpanjan and managed by Orangutan Foundation International, was originally intended as a temporary home for confiscated pet orang-utan waiting to be reintroduced to the forest. However, the centre’s capacity and resources are now under increasing pressure from an influx of orang-utan originating from forests throughout the region that are being cleared and converted for plantation development.

A massive acceleration in the creation of new plantations took place in the first half of 2004. During this period, 93 per cent of the orang-utan entering a rehabilitation centre at Nyaru Menteng in Central Kalimantan (managed by the Borneo Orangutan Survival Foundation) originated from forest being cleared for conversion to oil-palm plantations.¹¹⁸

The proportion of orang-utan brought to this centre that are under two years of age has increased explosively since 2000, from 26 per cent to almost 80 per cent. A marked increase in habitat destruction, and the associated slaughter of adult females and illegal trade of their offspring, is the only explanation for such a dramatic increase in confiscated infants.¹¹⁹



WWF Germany / Martin Hardiono

Since 2003, the Nyaru Menteng Orangutan Rescue and Rehabilitation project has been operating in several oil-palm concessions owned by the Makin Group in the area of Parenggean. One of the companies is in the process of creating a 30,000-hectare plantation and 65 per cent of the land has already been cleared and planted with oil palms. The area is predominantly primary lowland forest with a high density of orang-utan, as well as other endangered species, such as gibbons, sun bears, slow lorises and proboscis monkeys. An estimated 900 orang-utan will have been killed or displaced by the time the development of this plantation is complete.¹²⁰

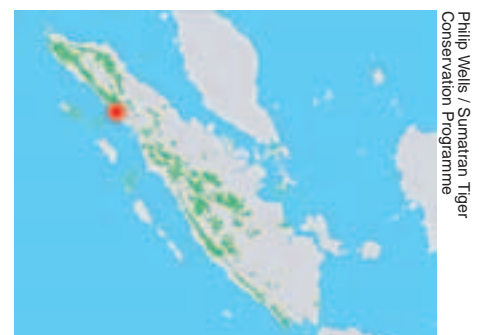
Forest clearance has led to a high degree of fatal conflict when the animals feed from fruit trees in the workers' villages as well as the young palms on the plantation estate. Until recently, the plantation company dealt with orang-utan 'pests' by paying the local people 150,000 Rupiah (equivalent to about £15) for each animal killed. Since 2003, the Nyaru Menteng project has been working under an agreement with the plantation company whereby the managers have ceased to pay bounties for the killing of orang-utan, and communicate directly with 'rescue teams' when there are human-wildlife conflicts within the plantation or the surrounding villages. Between June and December 2003, 19 adult orang-utan, seven of whom had infants, were rescued from this plantation. In 2004, this figure rose to 52 adults with 11 infants, and seven gibbons.

Conflict is inevitable when agricultural development encroaches into the habitat of an endangered and protected species. However, the process of dispatching a rescue team to a plantation to capture an animal, transporting it to the rehabilitation centre for health checks, and translocating it to an area of forest not inhabited by wild orang-utan, is complicated and expensive. These costs are paid by the charitable organisations managing these centres, but the plantation companies, which are directly responsible for the clearance of the forests, should cover these costs. Co-operation between these companies and rescue centres in order to ensure a reduction in unnecessary deaths is a vital step, but is not a solution to the underlying problem: the conversion of the forests.

The recent experiences of these orang-utan rescue centres reinforces the evidence that oil-palm companies are having a devastating impact on orang-utan populations and that this problem is getting worse.

Case study 4 Abandoned land: the Tripa Swamps, Aceh¹²¹

The Tripa Swamps are situated on the west coast of Aceh. Between 1993 and 1997, forest cover in this area declined from an estimated 59,500 hectares to 22,500 hectares, with an associated 62 per cent reduction in orang-utan numbers from around 1,350 to 510. Since then, the situation has worsened. The most recent surveys concluded that only around 280 orang-utan now survive in these swamps – a loss of more than 1,000 individuals in just over a decade.¹²²





This deterioration has been largely attributed to the conversion of large tracts of the forest to oil-palm plantations. Five major companies have been identified as the primary agents in this massive conversion:

- Gelora Sawita Makmur, known as GSM (around 8,000 hectares)
- Agra Para Citra (around 13,000 hectares)
- Kallista Alam (around 12,000 hectares)
- Cemerlang Abadi (around 6,000 hectares)
- Patriot Guna Sakti Abadi I and II (around 6,500 hectares in total).

Each of these companies cleared their concessions in the mid 1990s and constructed drainage canals through the peat-swamp soils. Recent surveys conducted by the Sumatran Orangutan Conservation Programme (SOCP) indicate that only about 50 per cent of some concessions (Gelora Sawita Makmur, Agra Para Citra and Patriot Guna Sakti Abadi II) have actually been planted with oil palms.

In the late 1990s, as President Suharto's regime fell from power, the conflict between the Acehese separatist movement and the central Indonesian Government forces escalated dramatically. Throughout Aceh, it became inadvisable for people to stray far from their villages. As a result, illegal logging subsided in many areas, and the ability to manage large plantations effectively in many parts of the region became problematic. As a direct result, many companies' activities have been seriously compromised in recent years and areas that were planted in the mid-1990s have been left in a semi-abandoned, largely unmanaged, and non-profitable state.

Since then, SOCP has found natural forest regeneration already occurring in the unplanted parts of the cleared areas, and it is thought that filling in drainage canals and reclaiming parts of the uncultivated land could provide moderately good prospects for eventual regeneration of large parts of the swamp forests.

During the tsunami of December 2004, the remaining coastal strip of forest served to protect many communities further inland, so there is considerable local government interest in reclaiming and regenerating coastal forests in the region. The SOCP is already working with local stakeholders to explore what options may exist for the conservation and regeneration of the Tripa Swamps.

Aceh's orang-utan population has been devastated by the development of the palm-oil industry in the region. Despite the dramatic decline in numbers, the population of orang-utan at Tripa may still be viable, but it is only the security situation which has thus far saved the remaining habitat from conversion. **While the tsunami may have generated interest in preserving coastal forests, unless the current plantation concessions are revoked and the forest allowed to regenerate, the remnant orang-utan population will be extinguished as soon as it is safe enough for the palm-oil companies to resume work again.**

Case study 5

The living dead: Sampan Getek, North Sumatra¹²³

In 2002, field-workers from the Sumatran Orangutan Conservation Programme (SOCP) received reports of a number of orang-utan surviving near the village of Sampan Getek, in Kabupaten Langkat, northern Sumatra, which appeared to be completely isolated from the Leuser Ecosystem. They identified eight individuals, including two adult males, two sub-adult males, and two adult females with infants. The presence of infants suggested that the population was still breeding. One of the infants was estimated to be two-to-three years old.

An assessment of the habitat revealed that the forest where the group lives is completely surrounded by a mature oil-palm plantation owned by Perkebunan Nusantara II, preventing them from returning to the Leuser forests, about 5–6 km away, and home to an estimated 3,560 orang-utan.¹²⁴

The area where the small group is living is largely planted with young oil palms and small-scale locally-owned rubber plantations, which have reduced the population's effective range to less than 1,000 hectares of scrubby remnant forest along stream valleys. These patches retain some fruit trees, and the boundaries of individual farmers' rubber gardens often contain a number of species of domesticated fruit trees. The orang-utan are able to survive by exhausting the available fruit supplies within a scrubby forest patch, and then travelling rapidly through the mixed oil-palm and rubber plantation areas to another forest fragment, eating some of the domesticated fruit species on their way.

It is highly unlikely that these individuals would have travelled across a large expanse of oil-palm plantations to arrive at this limited, inadequate habitat. The situation suggests that the orang-utan have been trapped in the area by the conversion and development of the forest around them, and confined to increasingly shrinking forest patches. The local people have reported that orang-utan are killed in the vicinity every fruiting season. Three individuals had been shot in 2001 before the SOCP fieldworkers arrived in the area. Lethal conflict appears to be restricted to the fruiting season, when orang-utan passing through villagers' rubber and fruit gardens eat the commercially valuable fruits.



Philippe Weills / Sumatran Tiger Conservation Programme

The situation at Sampan Getek does not represent a unique scenario by any means. Fragmentation of forests by plantation development is a pervasive issue across Borneo and Sumatra. Small, isolated populations of orang-utan are likely to become much more common in the coming few years, and all are likely to meet the same fate and eventually die out.

The relocation of even small numbers of orang-utan to more extensive forests is fraught with problems due to the cost of such an operation, and the necessity of avoiding disease risks and increased competition with existing wild populations.¹²⁵ Thus it is imperative to tackle the underlying problem through land-use planning strategies, leaving corridors between fragments to allow animals to disperse, and avoiding conversion of high conservation value forests altogether. Until now, such basic but vital conservation measures have barely ever been undertaken across Borneo and Sumatra.

Once isolation has occurred, the forest habitat is often insufficient, both in quantity and quality, to sustain viable populations of orang-utan in the long term. Trapped in these tiny patches, the orang-utan have no hope of survival, and in conservation terms they can play no further useful role in the genetic survival of the species. They are the ‘living dead’.

Case study 6

Rehabilitation at risk: Bukit Tigapuluh National Park, Sumatra¹²⁶

Bukit Tigapuluh National Park represents the largest remaining block of dry lowland forest on Sumatra. In 1990, the forest block directly adjacent to the national park covered in excess of 1 million hectares. By 2000, forest conversion and fragmentation had reduced the forest cover by 50 per cent. The whole area is a key component of conservation efforts ongoing across the island, and is inhabited by a huge array of species including Sumatran tigers, tapirs and elephants. Bukit Tigapuluh was the first protected area to be established on a landscape of expired logging concessions, and although the national park covers approximately 150,000 hectares, it incorporates only around 35,000 hectares of primary forest. The forests beyond the boundary of the protected area are under threat of conversion to oil palm.

In 2000, the Sumatran Orangutan Conservation Programme (SOCP) undertook surveys for signs of orang-utan presence in the park. Historical reports of orang-utan living in the area date back to the 1830s, but the fieldwork team found no indication that this was still the case. Nevertheless, an assessment of the forest to determine its potential suitability as orang-utan habitat revealed that the density of fruit trees was comparable to that found in Ketambe, a study area within the Gunung Leuser National Park which sustains very high densities of orang-utan.

In January 2003, the Bukit Tigapuluh ecosystem became the site of an orang-utan reintroduction programme managed by the Frankfurt Zoological Society and the Indonesian Ministry of Forestry. The project has been reintroducing orang-utan into the selectively logged forests beyond the boundary of the national park, and now has 53 Sumatran orang-utan living there, two of which were born in the wild. Thanks to the success of the reintroduction programme, the forests of Bukit



Tigapuluh should be recognised as being of great importance for the long-term survival of the Sumatran orang-utan.

SOCP and the Sumatran Tiger Conservation Program (STCP) are collaborating to extend the boundaries of the national park, integrating a large section of the lowland forest ecosystem, and increasing habitat both for reintroduced orang-utan and for wild tigers. Securing additional protected areas around the current park boundary involves negotiation with a wide range of stakeholders, including the palm-oil and wood and pulp industries. It is hoped that the expansion will be achieved through the incorporation of logging concessions adjacent to the park, although these are commonly converted into plantations following expiration. The forests have been selectively logged but still constitute suitable orang-utan habitat.

Despite strong government support for the park extension, there are a number of constraints to the plans – not least, the pressure to convert the inactive logging concessions to oil-palm plantations. This has already been observed within proposed park buffer zones where, following the expiration of a logging concession, all remaining trees with no commercial value are clear-cut for pulpwood, followed closely by the establishment of an oil-palm plantation.

In June 2004 the oil-palm company Wirakarya Sakti submitted to the provincial government of Jambi a proposal to establish a new oil-palm plantation in the district of Tanjung Jabung Barat and Batanghari. The company has requested almost 66,000 hectares of land, 80 per cent of which still remain forested. This plantation would convert the whole of the very south of the Bukit Tigapuluh National Park into an oil-palm plantation.

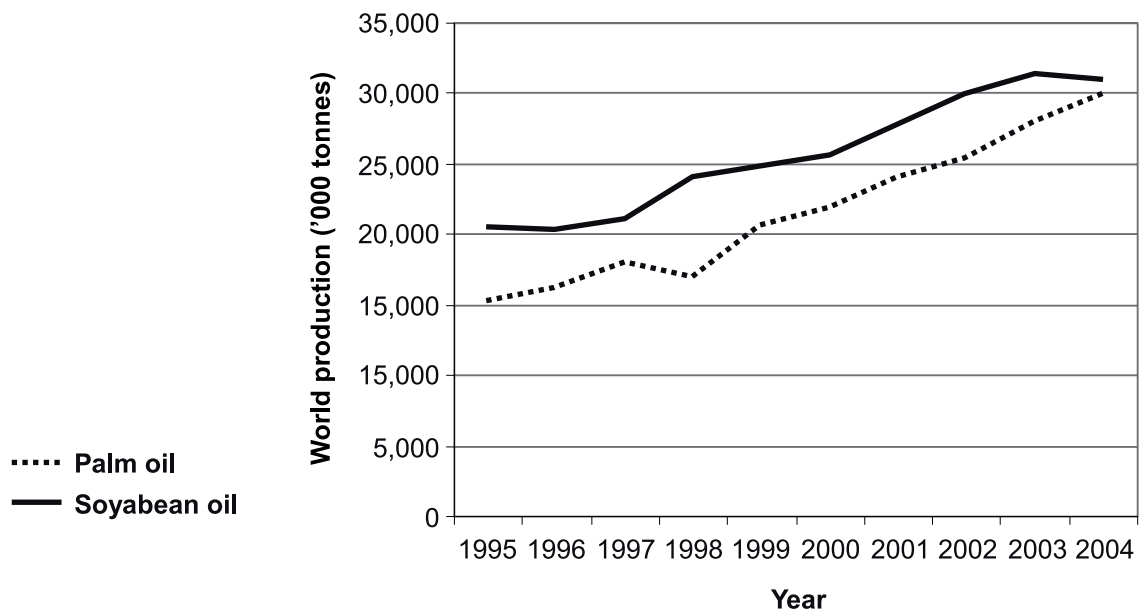
A race is on to secure protection status for these forests before they are converted to plantations. If the national park boundaries were extended to incorporate the adjacent expired logging concessions, the combined area would be able to sustain a significant and entirely viable population of an estimated 1,000 orang-utan. **Large-scale oil-palm development would eliminate this potential and degrade the last large, intact expanse of lowland forest in Sumatra into a biological desert.**

7 The global market opens its jaws

Global palm-oil production has approximately doubled every decade since 1980,¹²⁷ and its growth has been mostly confined to two countries: Malaysia and Indonesia, which between them hold 96 per cent of Asia's land area under cultivation with oil palm.¹²⁸

In 2002, about 23 per cent of world production and 51 per cent of global trade of edible oils consisted of palm oil and palm kernel oil – both derived from the oil palm.¹²⁹ In the edible oils sector, palm oil is second only to soya-bean oil in terms of global production, and in recent years the steep growth curve in the production of palm oil (see Figure 2) has led the industry publication *Oil World* to predict that palm oil will become the most-consumed edible oil in 2012 due to its lower production costs and higher yield per hectare compared to that of other edible oils.¹³⁰

Figure 2: World production of the two leading edible oils (1995–2004)¹³¹



In 2004, Malaysia and Indonesia together accounted for 85 per cent of global palm-oil production, and 89 per cent of global exports of this commodity.¹³² Other producing countries include Papua New Guinea, Nigeria, Thailand and Colombia. There is a large domestic market for palm oil within producer countries, especially Indonesia and Malaysia, but in 2004, 78 per cent of the palm oil produced globally was exported, with the primary importers being the European Union, India and China, together making up almost 50 per cent of world trade in refined and crude palm oil (see Table 1, below).

Table 1: The top three destinations of global palm-oil exports in 2004

Country	% of Global Imports
EU	17
China	16
India	15

Between 1995 and 2002, there was a massive 90 per cent increase in palm-oil use in the European Union, and in 2004, the European Union (EU) imported more than 3.8 million tonnes of palm oil, accounting for 17 per cent of global trade of this commodity. Other markets expanding their palm-oil imports include Pakistan and Bangladesh. The EU is the most important export destination by far for Indonesian palm-kernal oil, as well as being a dominant market for palm-kernel meal, used in livestock feeds.¹³³

By 2020, palm-oil production is projected to double, to 48.6 million tonnes, to meet increased demand from India and China. The majority of this growth in production will take place in Indonesia, and in the Malaysian states of Sabah and Sarawak on Borneo. By this time, Indonesia is expected to more than triple the area under oil-palm cultivation, potentially reaching 16.5 million hectares.¹³⁴

The income-generating potential of this crop is set to rise exponentially with the development of bio-fuels. Increasing crude oil prices have encouraged governments to invest in alternative fuel sources, including the use of cleaner-burning, renewable edible oils for energy. The inexpensive nature of palm oil puts the industry in prime position to capitalise on this expansion, but if land allocation policies remain unchanged, the associated increase in land converted to plantations is likely to be catastrophic for the remaining rainforests in Indonesia and Malaysia.

The usage of bio-fuels creates a dilemma in terms of the net environmental benefits of using low-carbon fuels. Increased demand for this fuel over standard diesel is beneficial in terms of carbon emissions, but under current land-conversion patterns, increased production in South-East Asia to meet higher global demand would inevitably involve further extensive forest clearance.

In particular, peat-swamp forests, including those in Tripa, Singkil, and Kluet in Sumatra, and Sebangau, Mawas, and Tanjung Puting in Borneo, play a major role in carbon sequestration. This forest type is being promoted as a carbon sink and used in international carbon offset agreements, while palm oil is concurrently publicised as a carbon emission-reducing fuel. Peat-swamp forests, however, are increasingly becoming prime targets for oil-palm expansion, despite regulations against the development of deep peats and lower productivity relative to other soils. It is crucial that the expansion of oil-palm plantations does not lead to the clearance of forests and, in particular, peat forests.

A further source of increased demand is linked to a new US Government regulation stipulating that by January 2006, food products must clearly list the content of trans fat, which comes from partially hydrogenated vegetable oil and is associated with heart disease.¹³⁵ Many food manufacturers are currently seeking alternatives to trans fat, and despite the fact that palm oil is high in saturated fat, it is a likely contender as it does not usually go through the hydrogenation process, which produces the trans-fatty acids that are reported to have negative effects on health. At present, European and UK food manufacturers are not subject to the same legislation, but they are likely to follow the lead of the United States and increase demand for palm oil due to similar health concerns regarding trans fat.

8 UK plc turns a blind eye



Three types of palm oil are imported into the UK:

- Palm oil – derived from crushing the oil-palm fruit
- Palm-kernel oil – derived from crushing the oil-palm nut
- Palm-kernel meal – the remains of the crushed oil-palm nut.

The UK is the second-biggest importer of palm oil in Europe behind the Netherlands. Two-thirds of its palm oil is imported from Indonesia and Malaysia.

Palm oil is a major ingredient in many products and processed foods, including margarine, ice cream, crisps, chips, instant noodles, pastry, chocolate and instant soup. Palm-kernel oil is used in biscuit dough and filling creams, ice creams and coffee whiteners. Derivatives of palm oil and palm-kernel oil are also used in soaps, shampoo, cosmetics such as lipsticks and detergents. Palm-kernel meal is used as feed for livestock.

Palm oil and palm-kernel oil are now used so widely that they are found in about one in 10 products in UK supermarkets. Very few of these products are labelled as containing palm oil. Most are labelled as containing ‘vegetable oil’.

UK palm-oil imports

Between 1995 and 2004, palm-oil imports into the United Kingdom doubled to 914,000 tonnes, representing 23 per cent of total EU palm-oil imports. The UK’s import of Indonesian palm oil has increased by 42 per cent since 1995, and now represents a 23 per cent share of the UK market. Malaysia is the market leader, with 42 per cent, and Papua New Guinea has 17 per cent of the UK market (see Table 2, in Appendix 1).

UK palm-kernel oil imports

Between 1995 and 2004, palm-kernel oil imports into the United Kingdom increased by 6 per cent to 68,000 tonnes, representing 11 per cent of total

palm-kernel oil imports into the European Union. UK imports of Indonesian palm-kernel oil have increased by 85 per cent since 1995.

Indonesia's market share on the UK palm-kernel oil market is now 41 per cent, Papua New Guinea holds 13 per cent, and Malaysia holds 15 per cent of the market. Re-exports of Indonesian and/or Malaysian palm-kernel oil from the Netherlands have decreased by 51 per cent, but still account for 17 per cent of UK imports (see Table 3, in Appendix 1).

UK palm-kernel meal imports

Between 1995 and 2004, palm-kernel meal imports into the United Kingdom doubled to 766,100 tonnes. This represents 28 per cent of total palm-kernel meal imports into the EU. Malaysia dominates the UK palm-kernel meal market, with 67 per cent of the market. Palm-kernel meal imports from Indonesia have increased by 466 per cent since 1995, and now account for 25 per cent of the UK market (see Table 4, in Appendix 1).

The UK's greasy palms

As the second biggest European importers of palm oil, more than 100 UK companies either import or buy palm oil. Below is a selection of UK companies that are likely to buy palm oil or invest in palm-oil companies. This is not a definitive list – many other UK companies are also likely to be involved. Some companies are repeated in more than one section.

Table 5: Selection of UK companies likely to buy or invest in palm oil

Trading companies

Agriproject Ltd
 Archer Daniel Midland
 BBS Oils-Vegetable Ltd
 Euromark Ventures Ltd
 Fontannaz Commodities Ltd
 Gardner Smith (SE Asia) Pte Ltd
 Global Choice Ltd
 Guthrie Symington Ltd*
 Hampshire Commodities Ltd
 Harris Tobias Ltd
 Kerfoot Group plc
 Prestige Securities
 Rais Enterprises Ltd
 Rockmor Ltd

Refining companies

Aarhus United UK Ltd*
 Britannia Food Ingredients Ltd
 Cargill plc*
 Karlshamns UK Ltd*
 Pura Foods Ltd

Producers of food ingredients

Aarhus United UK Ltd*
 Abitec Group Ltd
 Arkady Craigmillar Ltd*
 BFP Wholesale Ltd
 Britannia Food Ingredients Ltd
 Croda Food Services Ltd

Edible oils and fats packers and traders

CYB Group plc
 Pura Foods Ltd

Producers of cakes and pastry

Allied Bakeries Ltd
 British Bakeries Ltd
 Hazlewood Cakes & Desserts Ltd
 Northern Foods plc
 RHM Ltd
 Vandemoortele UK Ltd
 Warburtons Ltd

Producers of sugar confectionery

Cadbury Schweppes plc*
 Nestlé UK Ltd

Snacks, crisps and chips

Cadbury Schweppes plc*
 Golden Wonder Ltd
 Procter & Gamble UK & Ireland Ltd
 United Biscuits Ltd
 Walkers Snack Foods Ltd

Producers of pre-fried chips

Boots Frites UK Ltd
 Garden Isle Frozen Foods Ltd
 McCain Foods (GB) Ltd

Producers of oleochemical ingredients

Cognis *
 Croda Chemicals Europe Ltd
 Stephenson Group

Producers of cosmetics

Beiersdorf UK Ltd
 Body Shop International plc*
 Boots
 Colgate-Palmolive (UK) Ltd

Coty (UK) Ltd
 Crabtree & Evelyn Ltd*
 Elizabeth Arden (UK) Ltd
 Estée Lauder Cosmetics Ltd
 Henkel Ltd
 L'Oréal (UK) Ltd
 Lever Fabergé Ltd*
 LVMH Perfumes & Cosmetics UK Ltd
 Procter & Gamble UK & Ireland Ltd
 PZ Cussons plc
 Standard Soap Company Ltd

Fund managers

Aberdeen Asset Management plc
 Chelsea Financial Services plc

Biofuel Companies

PetroPlus Ltd
 Biofuels Corporation Ltd

Food Emulsifiers

Damisco*

*Member of the Roundtable on Sustainable Palm Oil (see below).

In February 2005, Friends of the Earth wrote to 96 UK companies asking them to trace all their palm oil, adopt minimum standards to ensure it came from non-destructive sources and join the Roundtable on Sustainable Palm Oil, an initiative that aims to 'promote the growth and use of sustainable palm oil'.

Only 18 of these 96 companies responded to Friends of the Earth. None of those companies that responded were able to prove that they could trace all their palm oil back to non-destructive plantation sources. The majority were unable to identify where their palm oil originated. Of the companies listed above, by September 2005, only 15 (marked with an asterisk in Table 5) have joined the Roundtable on Sustainable Palm Oil (RSPO).

9 UK supermarkets palm off responsibility

UK supermarkets are major end-users of palm oil. As many as one in ten products sold in large supermarkets contain palm oil. As the UK's largest and most profitable supermarket Tesco should play a leading role in driving demand for palm oil from non-destructive sources. However, by September 2005 neither Tesco, nor any of the other major UK supermarkets, were able to give assurance that the palm oil they use is sourced from such places, and none had joined the Roundtable on Sustainable Palm Oil.

In a letter to Friends of the Earth, Tesco stated that it is “*ready to actively participate as soon as the issues to address are clear and there is a need and a value for our further involvement.*” However, the problems associated with palm oil have been discussed for many years. It is hoped that Tesco will not wait for all the lowland forest in Borneo and Sumatra to be destroyed and for the orang-utan to become extinct before deciding that the issue is “clear”.

Tesco goes on to state that it is raising the palm-oil issue with the British Retail Consortium (BRC). While the involvement of the BRC in the UK is welcome, this is no substitute for Tesco or any other supermarket to work actively to make sure that all the palm oil they use comes only from non-destructive sources.

To provide an indication of the variety of products that contain palm oil in a UK supermarket, Table 6 below shows a selection of Tesco's own-brand products that contain palm oil:

Table 6: Tesco own-brand products containing palm oil

All breads
All crisps
Tesco iced buns 6 pack
Tesco value fry chips
Tesco vegetable gravy granules
Tesco lightly salted tortilla chips
Tesco sunflower oil spread
Tesco American oven chips
Tesco big chips
Tesco mushroom quiche
Tesco crinkle-cut fry chips
Tesco organic shorties
Tesco rough oat cakes
Tesco finest maple and pecan cookies
Tesco fish fingers
Tesco mixed nuts and raisins
Tesco organic ginger crunch
Tesco finest savoury biscuit selection
Tesco sage and onion stuffing
Tesco hot-cross buns
Tesco shredded vegetable suet
Tesco value chocolate spread
Tesco soap
Tesco value seafood sticks

Switch to another oil?

Companies criticised for the adverse social and environmental impacts of their activities often take the easiest route to a better reputation – switching supply to another product with the same properties.

Soy oil is the global leader in the edible oils market and can often be used interchangeably with palm oil. It is produced from soy beans, a crop mainly grown on large monoculture plantations in South America. This oil is imported into Europe and used in a wide range of different products, just like palm oil. The soy bean story echoes that of palm oil. Small farmers are not able to compete. As with the palm-oil industry, soy production is associated with deforestation, habitat fragmentation, forest fires, pollution and adverse social impacts.

Switching to another oil is therefore not the solution. Market buyers should use their influence to ensure the oil they do buy, whether palm or soy, comes from non-destructive sources.

All too often, UK supermarkets pass the buck and blame the original producers of the product or ingredient they buy for any associated negative impacts. They fail to acknowledge that as a retailer, they often play a critical role in driving destructive production methods and rewarding bad practice.

The failure of the majority of UK companies linked to the palm-oil trade to ensure that they are buying all their vegetable oil from a non-destructive source is further evidence that stronger legislation is needed in the UK to make corporations act more responsibly. High environmental and social standards related to UK corporate behaviour, including purchasing decisions, should be the norm, not a niche. The consumer should not have to trawl through products displayed in the supermarket aisles searching for a product from a non-destructive source. They should be able to shop with confidence, knowing that none of the products they buy are linked to rainforest destruction, human rights abuse or worker exploitation.

Over the coming year, the UK Government will be taking the Company Law Reform Bill through Parliament, in the biggest company law shake-up for a generation. At present, the draft Bill only requires company directors to ‘consider’ the impact of their company’s operations on the community and the environment. Friends of the Earth and other members of the Corporate Responsibility (CORE) Coalition believe that the bill should require companies to act to minimise their impacts, and not just think about them.

In addition, the Government must ensure that UK companies label the exact type of vegetable oil (in other words, ‘palm oil’) that is contained in the products they sell. It should also require them to provide information on the plantation source.

At present, UK companies have a legal obligation under company law to maximise profit for their shareholders. All too often, this is at the expense of the global environment. Those companies prepared to take action to minimise their environmental footprint and act as responsible corporate citizens are often left at a competitive disadvantage. UK companies have a strong legal incentive to act destructively. This incentive must now be removed.

10 Conclusions and recommendations



Ian Redmond

The survival of the orang-utan on Borneo and Sumatra is under immediate threat from the disappearance of its forest habitat. The conversion of vast tracts of forest land to oil-palm plantations must now be recognised as one of the greatest catalysts for this destruction. If forest conversion for oil palm continues, the industry will be significantly contributing to the extinction of both species of orang-utan.

Forest conversion is not necessary for future growth in the oil-palm sector. Greater productive efficiency and the redirection of plantation development on to the millions of hectares of abandoned and heavily degraded land would greatly reduce the destruction of Indonesia's and Malaysia's forests.

It would be naïve to expect a voluntary move to degraded lands. Instead, the Indonesian and Malaysian Governments need to introduce legislation to ban forest conversion. However, Indonesia's extraordinarily high rate (70 per cent) of illegal logging makes it clear that it is more than just new legislation that is needed. Corruption must be tackled and legislation has to be fully enforced.

It is also evident that the fate of the orang-utan is deeply intertwined with those of millions of indigenous people on Sumatra and Borneo. The devastating deforestation is often allowed to happen because the customary owners of the land have had their land stolen. The Governments of both Indonesia and Malaysia must recognise immediately the customary land rights of indigenous peoples and local communities. Their prior, informed consent must be achieved before any plantations are established.

The international community has to recognise its responsibility in driving the destructive development of oil-palm plantations, and must act accordingly. Most manufacturers and retailers in the international market have failed spectacularly in their duty to ensure that they are not buying palm oil from destructive sources. It is time for governments to take firm action to force them to do so.

In the UK, the Company Law Reform Bill, which is now passing through Parliament, must ensure that company directors are given a clear legal duty to minimise the negative social and environmental impacts of their business, including their purchasing decisions. Similar legislation is needed in other key palm-oil markets. Governments must also act to ensure that the supply chain for vegetable oil becomes far more transparent. Too many companies are hiding their destructive purchasing decisions behind the corporate veil of commercial confidentiality.

The continued survival of the orang-utan, as well as countless other species, hangs in the balance. Further expansion of the oil-palm industry is inevitable, but forest conversion need not be. If forest destruction continues at the same scale and speed, the orang-utan will be lost within 12 years. The countdown to extinction has begun.

Recommendations for producers

Palm-oil producers should join the Roundtable on Sustainable Palm Oil and make sure that the following minimum criteria are fulfilled:

- Forest conversion must cease.
- Fire must not be used for land-clearing.
- Before plantations can be established, any conflicts with local communities must be resolved in a manner that respects their rights.
- Conflicts with local communities on existing plantations must be resolved.
- The UN Norms for Multinationals on human rights and labour conditions must be obeyed.
- Use of pesticides and herbicides must be minimised and palm-oil mill effluent must be recycled.
- Prior to the development of a new plantation, full social and environmental impact assessments must be carried out.
- Independent audits must be undertaken to verify that the above criteria are being implemented.

Recommendations for buyers and investors

- There must be no investment in or purchase of palm oil, or products containing palm oil, unless the above criteria are fulfilled.
- All palm oil must be traced from plantation to market, and this information must be made publicly available.
- Buyers and investors must join the Roundtable on Sustainable Palm Oil.

Recommendations for the UK Government

- The Company Law Reform Bill must include clear legal duties on company directors to minimise the negative social and environmental impacts of their business, including their purchasing decisions.

- It must be compulsory for UK companies to label the exact type of vegetable oil in products that they sell (for example, as “palm oil”) and to disclose the original plantation source.

Recommendations for Indonesian and Malaysian governments

- Any forest conversion for plantation development must be banned.
- Future oil-palm development must be directed on to land that has already been cleared, while respecting the rights of local people.
- The customary rights of local people must be recognised and support must be offered to facilitate the resolution of conflicts on oil-palm plantations. In particular:
 - Prior informed consent with the local communities should be legally required before any land conversion takes place.
 - Communities must have the legal right to access information about the impacts and future expansion plans of oil-palm companies.
- Clearance of peat-forest land must be banned.
- The Governments must ensure that the status of the protected area network, including include the world famous Tanjung Puting National Park, is maintained and held secure. The Bukit Tigapuluh National Park in Sumatra should be expanded.
- Plans to plant palm oil on the border of Kalimantan and Malaysia must be abandoned and joint work must be carried out to increase conservation areas in this high conservation-value eco-region.
- The Governments must ensure that full social and environmental impact assessments are carried out prior to the development of any new oil-palm plantations, and their results made public and incorporated into the management plans.
- The Governments must actively seek to protect further areas of high biological diversity and critical orang-utan habitat, and to provide technical and financial assistance to ensure the long-term management of these sites.
- Further appropriate sites for the release of rehabilitated orang-utan must be identified.
- A system of legal deterrence (confiscation and prosecution) must be actively promoted to challenge the illegal trade in orphan orang-utan.
- The wise-use approach of multiple stakeholder involvement in protecting and sustainable management of remaining forest areas must be supported.

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Appendix 1

Table 2: Palm-oil imports into the United Kingdom by country (in 1,000 MT)

Country	1995	1998	1999	2000	2001	2002	2003	2004	Growth %	Share%
Malaysia	73.4	181.2	224.6	197.9	224.9	345.2	375.6	387.8	428 %	42 %
Indonesia	150.2	125.6	134.7	120.7	118.0	181.4	173.3	214.0	42 %	23 %
Papua New Guinea	161.1	96.3	113.5	157.9	173.6	167.0	160.5	158.1	-2 %	17 %
Colombia	0.0	50.4	58.7	63.9	60.1	38.9	58.2	98.2	-	11 %
The Netherlands	15.3	28.3	37.1	29.5	21.8	22.7	36.9	43.1	182 %	5 %
Brazil	0.0	5.4	4.5	18.6	24.5	5.0	0.0	0.0	-	-
Germany	0.1	3.0	1.3	0.9	0.6	6.6	8.4	5.3	5200 %	1 %
Other countries	61.9	12.5	7.4	29.3	26.3	26.9	35.7	7.5	-88 %	1 %
Total	462.0	502.7	581.8	618.7	649.8	793.7	848.6	914.0	98 %	100%

Sources: Oil World Annual 2000, ISTA Mielke, Hamburg, May 2000; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2003; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2005

Table 3: Palm-kernel oil imports into the UK by country (in 1,000 MT)

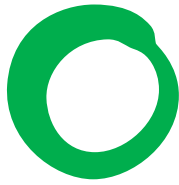
Country	1995	1998	1999	2000	2001	2002	2003	2004	Growth %	Share %
Indonesia	15.0	19.2	17.1	16.5	34.9	36.2	30.9	27.8	85 %	41 %
Netherlands	23.1	45.4	44.9	33.0	16.0	7.9	13.7	11.3	-51 %	17 %
Malaysia	10.9	8.5	6.0	3.6	1.8	4.1	12.0	10.4	-5 %	15 %
Papua New Guinea	11.2	11.9	11.4	8.6	7.6	8.5	10.0	8.6	-23 %	13 %
Other countries	4.1	6.3	6.5	14.5	4.1	4.6	12.2	9.9	141 %	15 %
Total	64.3	91.3	85.9	76.2	64.4	61.3	78.8	68.0	6 %	100%

Sources: Oil World Annual 2000, ISTA Mielke, Hamburg, May 2000; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2003; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2005

Table 4: Palm-kernel meal imports into the UK by country (in 1,000 MT)

Country	1995	1998	1999	2000	2001	2002	2003	2004	Growth %	Share %
Malaysia	262.5	267.5	294.5	252.3	231.4	262.9	398.4	512.9	95 %	67 %
Indonesia	33.8	77.8	78.1	74.7	66.5	85.5	91.8	191.4	466 %	25 %
The Netherlands	1.2	0.0	15.9	0.7	4.3	17.3	6.0	30.6	2450 %	4 %
Nigeria	67.9	24.1	28.3	24.5	34.6	25.0	32.4	27.5	-59 %	3.5 %
Other countries	8.2	3.6	14.6	7.6	5.7	1.1	11.8	3.7	-55 %	0.5 %
Total	373.6	373.0	431.4	359.8	342.5	392.1	540.4	766.1	105 %	100%

Sources: Oil World Annual 2000, ISTA Mielke, Hamburg, May 2000; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2003; Oil World Annual 2003, ISTA Mielke, Hamburg, May 2005



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The Ape Alliance

www.4apes.com

The Ape Alliance is an international coalition of 65 organisations working for the conservation and welfare of all apes. Founded in 1996, it works to:

- develop position papers on key issues, such as bushmeat, palm oil or the use of apes in entertainment and biomedical laboratories
- lobby collectively for enactment and/or enforcement of legislation to improve the welfare and/or conservation of apes
- campaign for greater public awareness of ape issues and increase respect for apes
- facilitate information exchange between member groups, and co-ordinate activities to maximise their beneficial effect.



The Borneo Orangutan Survival Foundation

www.savetheorangutan.info

The Borneo Orangutan Survival Foundation, with its 13 supporting agencies worldwide, works towards the conservation of the orang-utan and its rainforest habitat. In addition to operating two rehabilitation projects for more than 500 orang-utan in Borneo, the organisation is involved in far-reaching conservation efforts for the rainforest itself. It also works with local people to support them in non-destructive uses of land, while providing them with higher sustainable income.



The Orangutan Foundation (UK)

www.orangutan.org.uk

The aim of the Orangutan Foundation is to support conservation work in Indonesia and Malaysia, and to raise funds and awareness in the UK and overseas. As part of its Indonesian conservation programme, it actively supports the protection of Tanjung Puting National Park and other areas of critical orang-utan habitat. It also seeks to advise government policy and educate the public.



The Sumatran Orangutan Society

www.orangutans-sos.org

The Sumatran Orangutan Society is dedicated to the conservation of the critically endangered Sumatran orang-utan. Through education and awareness, the organisation aims to help preserve the orang-utan and its ever-diminishing forest home for future generations.

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