CHAPTER 3
BUSINESS SOLUTIONS FOR SUSTAINABLE PALM OIL IN BORNEO

Summary

- The palm oil industry in Borneo has undergone rapid growth, and continues to expand to meet growing world demand. Indonesia's and Malaysia's palm oil production amounts to 85% of the global supply and production in Borneo in 2008 was 16.5 million tonnes, representing more than a third of this.
- Palm oil plantations require the complete conversion of land use; if concessions are placed in high conservation value areas it can result in a significant loss of ecosystem value. The challenge for the governments' vision enshrined in the Heart of Borneo (HoB) Declaration is to ensure that as the cultivated area increases adequate protection is given to the HoB.
- Future revenues from the industry can be maintained and even increased, by concentrating on increasing productivity, particularly amongst small holders, expanding plantations on idle lands and developing downstream processing industries to add value without increasing pressure to convert natural forests.

Recommendations

- Government planners should ensure concessions are not allocated in high conservation value areas of the HoB, but rather on idle land with low conservation values.
- A shift to sustainable production, independently certified through the Round Table for Sustainable Palm Oil (RSPO), will result in improved environmental performance on existing and new plantations.
- Investors, traders and consumers should help drive sustainable management through financing and sourcing certified production.

More information can be found in the solutions sections:

Introduction

Palm oil plantations dominate large parts of Borneo's landscape. There are more than 3.6 million ha of palm oil plantations across Borneo, much of this was once lowland tropical forest. Without the appropriate planning and regulation palm oil expansion could threaten the integrity of the HoB. WWF recognises that the industry continues to be a major contributor to the economic and social development of the communities in Borneo. There is however, increasing awareness of the environmental and economic costs brought about by the conversion of high conservation value areas. These potential costs of palm oil expansion can be avoided but this will require wide ranging implementation of sustainable practices, along with changes in regulation and the way national and regional governments zone and allocate land.

The challenge for the governments' vision encapsulated in the HoB Declaration is therefore to ensure that as producers look to expand the area under plantations, the value of the HoB forests is adequately maintained through conservation and sustainable use. Most importantly, government planners should aim to ensure concessions are not allocated in the most high value areas of the HoB, and that the activities of new and existing large and small scale plantations are regulated effectively. In addition, a shift to sustainable production, independently certified through the Round Table for Sustainable Palm Oil (RSPO), will result in better environmental performance on existing and new plantations. There is also a strong role for palm oil buyers to provide the incentives for change, through greater demand for RSPO products over unsustainable palm oil, and for financiers to drive better practices through implementation of sustainable investment criteria.

Palm Oil Production

Oil Palms were introduced to Borneo by the Dutch and British in the nineteenth century. It was not until the late twentieth century that production moved from principally small household plots to large scale commercial plantations. In particular, the industry has undergone enormous growth over the last 2 decades.[48] Indonesia and Malaysia account for more than 85% of the global palm oil supply, producing nearly 40 million tonnes per year from over 10 million hectares (ha) in cultivation.[49]

Palm oil production in Borneo in 2008 was 16.5 million tonnes, representing more than a third of Indonesia's and Malaysia's combined production (Table 3.1). Since 2000 the total planted area in Borneo has increased by around 5% per year in Malaysia[50] and by 9% per year in Indonesia[51] reaching 3.6 million ha in 2008[51].

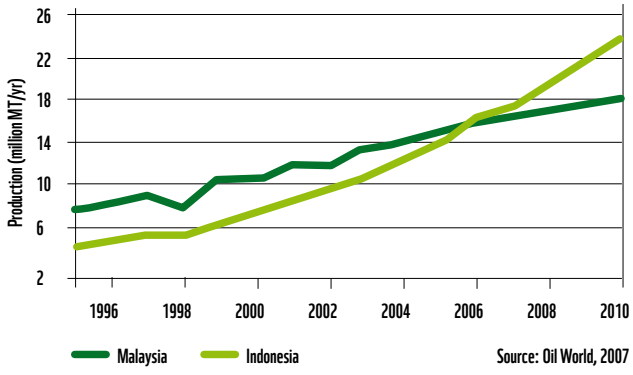


FIGURE 3.1: CRUDE PALM OIL PRODUCTION IN INDONESIA AND MALAYSIA

[48] Oil World, 2010
[49] Oil Palm Industry Economic Journal, 2003
[50] MPOB, 2009
[51] Indonesian Commercial Newsletter, November 2009
[52] BPS Kalimantan, 2009; MPOB, Statistics on Commodities, 2009; Department of Agricultural Sarawak, 2009

	Production (tonnes)			Area (ha)
State	2006	2007	2008	2008
West Kalimantan	557,000	520,000	523,000	410,000
Central Kalimantan	6,300,000	6,400,000	6,400,000	712,000
East Kalimantan	1,400,000	2,000,000	1,700,000	410,000
South Kalimantan	360,000	430,000	435,000	190,000
Sarawak	1,500,000	1,600,000	1,800,000	740,000
Sabah	5,400,000	5,600,000	5,700,000	1,200,000
Total	15,517,000	16,550,000	16,558,000	3,662,000

Sources: BPS Kalimantan, 2009; MPOB Statistics on Commodities, 2009; Sarawak Department of Agriculture, 2009

TABLE 3.1 REGIONAL PALM OIL PRODUCTION IN BORNEO

The palm oil industry is an important part of the national economies of Indonesia and Malaysia, representing 4.5%[53] and 3.2%[54] of GDP respectively. Palm oil also provides a significant source of employment for many of Indonesia's and Malaysia's rural poor employing more than 3 million in Indonesia[55] and 1.5 million in Malaysia[56]. Further developments in palm oil offer continuing potential for economic and social development, but if environmental concerns are not adequately addressed the costs associated with environmental degradation in the long run, may outweigh the benefits from palm oil production.

FIGURE 3.2: PALM OIL PLANTATIONS IN BORNEO

Consumption and export

Indonesia's domestic consumption totals around 5 million tonnes per annum, about a quarter of its annual production of crude palm oil.[57] Malaysia uses around 2 million tonnes.[58] This domestic consumption is comprised of use in cooking oil, food products, cosmetics, oleo-chemicals and biodiesel production.

[53] Technology and Research Ministry, 2010
[54] New Economic Model for Malaysia, 2010
[55] World Bank Group palm oil strategy, 2010
[56] East Coast Economic Region Development Council, 2010
[57] Indonesian Commercial Newsletter, November 2009
[58] Global oils and fats business magazine, October 2010

While domestic consumption is increasing, the vast majority of crude palm oil production in Indonesia and Malaysia is still exported. The main export market is Asia, which represents more than 60% of exports with only a little over a quarter of exports going to the more mature European and American markets (see Figure 3.3). China, India, and Pakistan are likely to remain the dominant drivers of export growth for Indonesian and Malaysian palm oil. Global demand for palm oil is expected to continue to grow and palm oil is already a significant source of foreign exchange, generating export revenues of USD 12.4 billion[59] in Indonesia and USD 14 billion[60] in Malaysia.

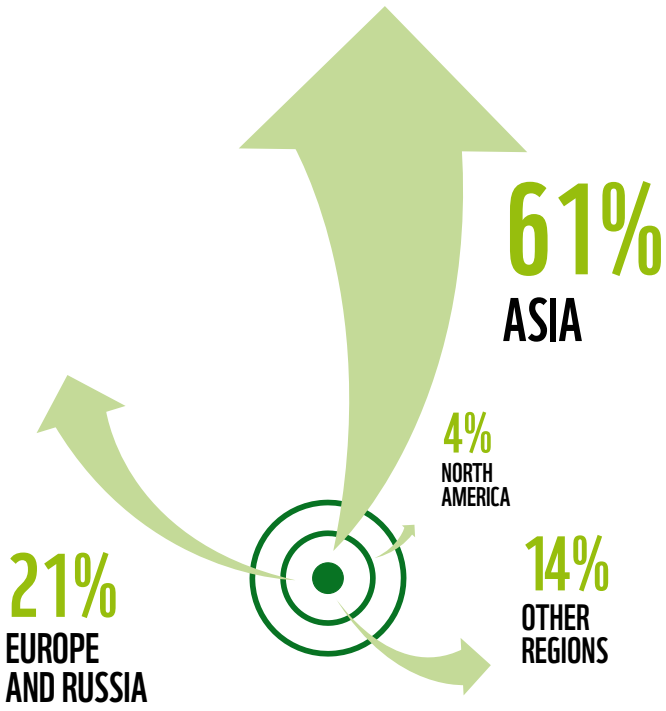


FIGURE 3.3: EXPORT DESTINATIONS FOR PALM OIL FROM INDONESIA AND MALAYSIA

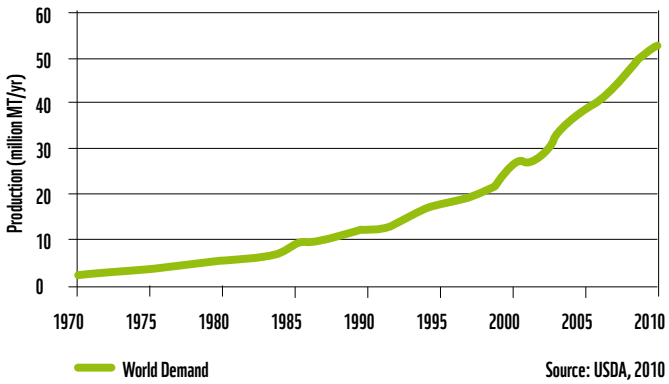


FIGURE 3.4: GLOBAL PALM OIL DEMAND

[59] Hatta Rajasa, Indonesia's Coordinating Minister for the Economy, interviewed in Bali, 2009
[60] MPOB, Statistics on Commodities, 2009

Production and infrastructure developments

Both Indonesia and Malaysia recognise that the exponential growth of palm oil demand shows no sign of abating and the governments are looking to build on their prominent position in the market. Malaysia's New Economic Model to 2020 envisages annual growth of 13.7%, from increases in planted area, improved yield, and greater capacity for downstream refining industry. Indonesia's Road Map of Development of CPO Processing Infrastructure also hopes to increase the value-added from palm oil production by increasing processing and refining capacity. Improved productivity and greater development of downstream processing are both important ways in which the palm oil industry can increase revenues and value added without increasing pressure on the HoB forests.

Adding value

As part of this, in Indonesia the government is planning five new industrial clusters, including three focusing on the development of the palm oil industry.[61] They aim to decrease exports of crude palm oil, and increase downstream exports, and thus increase production value-added. One of these clusters is to be based in East Kalimantan, with the others in Riau and North Sumatra. The government is directing part of their fiscal stimulus towards these developments, and is actively seeking private investment, offering a range of incentives to push the plans forward.

Similarly, in Sabah the palm oil clusters at Lahad Datu, Sandakan, and Kimanis continue to expand and diversify, including a USD 50 million refinery to be built by the Mewah Group.[62] In Sarawak, Bintulu and Tanjong Manis in Mukah Division have been identified as potential sites for clusters due to their proximity to deep-sea ports. Furthermore, the Malaysian government is planning a significant increase in refining capacity as part of a new palm oil cluster in the USD 35 billion East Coast Economic Region in Johor, Peninsular Malaysia which could ultimately process crude palm oil from all over Malaysia. National developments such as these will serve to drive continued demand and growth in the palm oil sector and put increased pressure on land use in the HoB. This may well be further exacerbated by international developments and new markets, including the rapid growth of biodiesel markets. For example, there are currently 20 operational biofuels plants in Malaysia, including 3 in Sabah. A further 91 licences have been approved for the construction of biodiesel plants, however, only 7 of these are currently under construction.[63] In addition, Neste Oil opened the world's largest biodiesel refinery in Singapore in November 2010, supported by the Singapore Economic Development Board.

FIGURE 3.5. PALM OIL STORAGE AFTER PRIMARY PROCESSING

Improved productivity

Included in the governments' plans for investment in the palm oil infrastructure are proposals for new and improved road networks. This is important because poor transportation infrastructure is one of the major barriers to increasing productivity - palm oil kernels need to be processed within two days of harvest or the fruit starts to decompose, reducing its yield. But improved transport infrastructure can be a double edged sword for vulnerable areas; on the one hand road improvement may serve to increase productivity, reducing pressure for new forest conversion, but on the other, new roads may open up previously inaccessible areas for development. If new roads result in improved access to intact forests this could lead to increased encroachment and illegal logging.

[61] Industry Minister Mohamad S. Hidayat, interviewed in Jakata Post, August 2010.
[62] Company announcement, August 2010
[63] USDA Foreign Agricultural Service, Malaysia Biofuels Annual, 2010

FIGURE 3.6: ACCESS IS IMPORTANT TO ENSURE HARVESTS REACH THE PROCESSING FACILITY

Increased productivity is an important mechanism through which growing demand can, at least partly, be met without expanding planted areas. Together with access to processing facilities, productivity can be improved by providing assistance to smallholders. The Indonesian Palm Oil Commission estimates that smallholder productivity is about 2.5 tonnes per ha, compared with 4.1 tonnes per ha on large private plantations. This difference is largely due to the quality of smallholder seeds and their cultivation techniques. Smallholder plantations are particularly common in Indonesia and in Kalimantan they represent about 25% of the planted area.[64] Smallholders represent 5% and 11% of the palm oil area in Sarawak and Sabah, respectively.[65] Both countries are working towards improving productivity through smallholder replanting grants for quality seeds (including high yielding genetically modified varieties under development) and strategic replanting of ageing plantations.[66] Supporting smallholders to increase production and assist in the reduction of environmental impact offers significant potential to reduce the conversion pressure on forests.

FIGURE 3.7: REPLANTING ON INDUSTRIAL PLANTATIONS MAXIMISES USE OF LAND

Plantation expansion

Alongside efforts to increase productivity, both Indonesia and Malaysia are increasing their total planted areas. For example, Malaysia's Third Industrial Master Plan seeks to have 2.7 million ha planted by 2020, an increase of 800,000 ha from 2008.More ambitious still, Sarawak aims to have 2 million ha of plantations by 2015, an increase of 1.3 million from 2008.[67] This growth is expected to be outside of the HoB, as Sarawak currently has no concessions for palm oil plantations inside the HoB. On the other hand, new palm oil concessions in Kalimantan, particularly West Kalimantan, have been allocated inside the HoB boundaries. There are 1,600,000 ha of concessions inside the HoB; 770,000 ha of active concessions in Sabah,[68] and 830,000 ha of active and newly allocated concessions in Kalimantan,[69] these represent a significant threat to the ecological integrity of the HoB.

[64] BPS Kalimantan Tengah Dalam Angka 2009
[65] MPOB, Statistics on Commodities 2009
[66] Oil palms start to yield fruits after about 5 years, reaching peak production at the age of 8 to 11 years, after which point they start to decline in productivity.
[67] Land Development Minister Dr James Masing, 2007
[68] MPOB, 2009; plantation considered to be inside HoB if it lies within one of the16 districts within the Sabah HoB region.
[69] Ministry of Agriculture and Agriculture Agency (District/Kabupaten level) and WWF Palm Oil company field Survey 2008

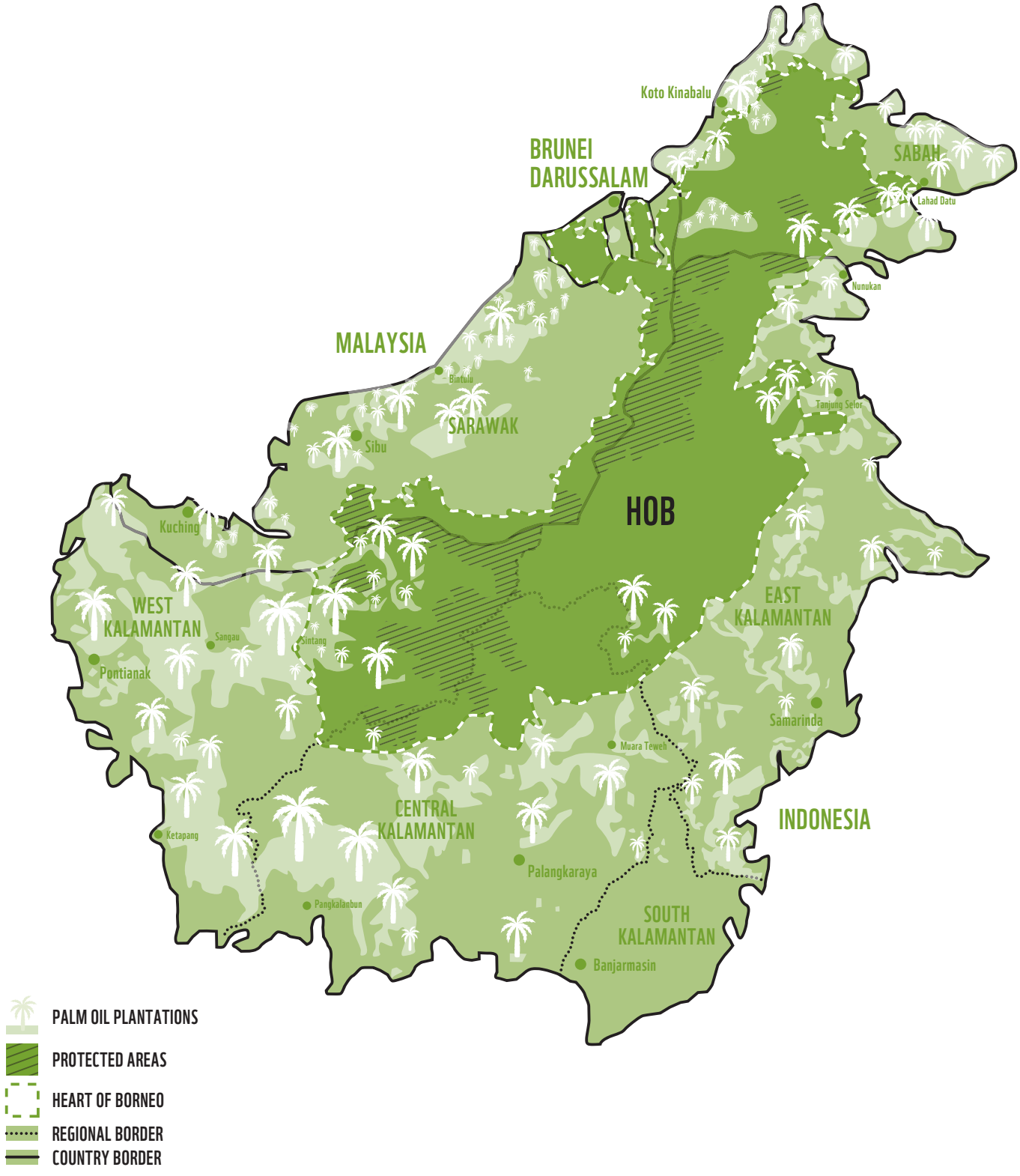


FIGURE 3.8: ILLUSTRATIVE MAP OF PALM OIL CONCESSIONS IN BORNEO

NB: This map provides an illustrative estimate of the location and size of concessions based on publically available information; it is not intended to be a precise representation.

Developments in Sustainable Palm Oil

The RSPO is a multistakeholder intiative through which industry, financiers, and NGOs have come together to develop a much needed set of principles and criteria to define sustainable palm oil. This ensures that key stakeholders such as international buyers and NGOs have a mechanism to support a sustainable palm oil industry. The RSPO is a voluntary certification scheme, providing environmental and social guidelines which signatories must adhere to, and it could help minimise the environmental impact of palm oil in the HoB. Certification allows producers to access markets for sustainable palm oil and potentially to achieve a price premium. Producers have voiced concerns that the premium is currently low and may be insufficient to cover the costs of RSPO certification. However, it is expected to increase significantly as the demand for RSPO certified palm oil increases.

The first RSPO plantations were certified in 2008, and membership has grown rapidly since. RSPO production is predicted to reach 3.5 million tonnes in 2010, 7.5% of total world production.[70] In Borneo there are currently 145,000 ha of RSPO certified plantations[71] of which 12,000 ha are within the HoB boundaries[72]. For the most part, these are run by the large international producers with significant markets in western countries. However, the RSPO has a specialised task force which is working to bring RSPO certification to small holders and community groups.

[70] www.rspo.eu
[71] 25.000 ha in Sarawak and 120.000 ha in Sabah
[72] www.rspo.eu

When environmental decline becomes an economic reality

Despite promising prospects for future demand and the importance of the palm oil industry for providing jobs in rural areas and generating export revenues, continued expansion involving clearance of high conservation value areas will have high environmental and economic costs.

Recent analysis suggests that the economic and social costs of the loss of valuable environmental services (like fresh water provision, erosion control and carbon storage) outweigh the short term economic gains from clearance of high conservation value areas and conversion to alternative land uses. The value to society of intact tropical rainforest has been estimated at over USD 6,000 per hectare per year[73] on average, compared with private returns of around USD 2,100 per hectare per year[74] from mature palm oil plantations. While well managed palm oil plantation can provide some similar services to forests, such as erosion control, plantations cannot offer many other services including cultural and aesthetic values, comparable carbon storage or water filtration services.

In the medium to long term, the impacts on producers of nutrient loss and land erosion, loss of clean water supplies and disruption of local climate caused by large-scale deforestation can lead to declining productivity and in some cases complete ecosystem collapse, with significant economic and social costs associated. As an example, from the 1950s to the end of the century China significantly depleted its natural forests in order to meet increasing demand for timber. In the process, key ecosystem services such as watershed protection and soil conservation were severely comprised. This reached a tipping point in 1997 when severe droughts caused the lower reaches of the Yellow River to dry up for 267 days, threatening industrial, agricultural, and residential water users. Then, in 1998, major flash flooding occurred in almost all major river basins, devastating large areas, resulting in a significant loss of life, the displacement of millions of families, and causing approximately USD 30 billion of damage.[75]

Mechanisms must therefore be put in place that recognise the full societal value of forests, including the valuable services that remaining intact forests provide to existing palm oil plantations. A change in the incentive structures which currently favour forest conversion is needed. This does not mean an end to palm oil expansion in Borneo, but should encourage a reallocation of new palm oil concessions to less valuable areas (e.g. already idle lands) and encourage improved environmental practices on existing plantations to ensure that any benefits are not outweighed by costs to society.

Shifting plantations to idle lands can be a win-win solution. Conservation of remaining standing forest maintains the value of the forest ecosystem services and by planting on idle land it is possible to improve the environmental quality of the land at the same time as producing palm oil revenues. WWF is planning to test this from an environmental, social and economic point of view in the work in the district of Kutai Barat in East Kalimantan.

Business does not need to face the challenge of the shift towards a green economy alone. All beneficiaries of ecosystem services need to work together to protect Borneo's remaining forests; international finance should be provided to recognise services provided internationally (such as carbon sequestration), and action is needed from national and state governments to realign incentives and support businesses that are affected.

[73] The Economics of Ecosystems and Biodiversity, UN, 2010
[74] Koh, L.P., Wilcove D.S. (2007) Cashing in palm oil for conservation. Nature 448, 993-994.
[75] Sun et al. The long march of green: The chronicle of returning agricultural land to forests in China, China Modern Economics Press, 2002, as reference in TEEB for Business, 2010.

ENVIRONMENTAL AND SOCIAL CHALLENGES AND SOLUTIONS

Government plans to drive further palm oil expansion and industry development in Borneo demands that ever more careful attention be paid to environmental and social concerns, especially given the presence of plantations inside the HoB.

Better environmental practices are being implemented by leading companies who are also seeing revenue opportunties and benefits through good management of environmental risks. State, national and international governments, NGOs, investors, and consumers can also help to drive the changes, and provide the appropriate technical assistance, regulatory frameworks, and price signals.

Table 3.2 outlines some of the key potential environmental issues which can arise due to inappropriate choice of locations or poor management of palm oil plantations.

Habitat loss	Conversion of high conservation value areas and their ultimate replacement with palm oil plantations results in reduced habitat and the loss of 80-90% of species; many of which may be endemic or threatened.[76] Orang-utan habitat declined 39% between 1992 and 2002.[77]
Carbon emissions	Borneo's forests are a carbon sink of global importance; deforestation releases this carbon contributing to global climate change.
Fire	Despite its use being illegal across Borneo fire is still used to clear forests. In 1997/8 fires burnt 9.7 million ha of land, releasing huge quantities of carbon dioxide and fires can still be severe; most recently in May 2010.[78]
Watershed degradation	Palm oil plantations often use chemical fertilisers and pesticides. Inappropriate use can result in polluting run-off entering watercourses and contaminating groundwater through leaching. This in turn can pollute drinking water for downstream communities and adversely affect aquatic wildlife and fishing yields. Inappropriate irrigation and diversion of watercourses can also lead to water shortages.
Land degradation	Deforestation, forest fires, and peat land drainage expose the land to soil erosion. If land is left uncultivated, or is not effectively managed, soil erosion and land degradation can occur, particularly on sloped land. Heavy rain and wind removes topsoil rendering the land less productive for agriculture, and reducing the chance of forest regeneration. This can increase the frequency and severity of unpredictable flash floods threatening lives, infrastructure, and the environment.
Social Issues	The allocation of palm oil concessions does not always take into consideration the traditional land rights of indigenous and other communities. These communities may use the land for crops and fruit trees, or for social activities. Plantation expansion can result in conflict and displacement.

TABLE 3.2: POTENTIAL ENVIRONMENTAL ISSUES DUE TO INAPPROPRIATE LOCATIONS OR POOR MANAGEMENT OF PALM OIL PLANTATIONS

The issues above are addressed in the following solution boxes. These highlight the appropriate practical actions that different stakeholders can take to reduce their impacts and therefore reduce business risks. In addition, the solutions identify how WWF can help companies and governments successfully implement more sustainable practices.

[76] WWF, Borneo: Treasure Island at Risk, 2005
[77] Husson S. et al: The Status Of The Orang-utan In Indonesia; Report to the Orang-utan Foundation, UK, 2003
[78] http://www.restorpeat.alterra.wur.nl/download/Fires%20in%20Indonesia%201997-2006%20Hotspots%20RSS.pdf (detected by NOAA, ATSR & MODIS)

High Conservation Value Areas

What's the issue?

Forests are valuable for many reasons; regulating water flow, preventing floods and land slides, storing carbon and providing habitat for endangered species. If high conservation value areas are not identified and managed the economic and environmental damage caused by their conversion for oil palm might outweigh the benefits.

New plantations should also avoid carbon rich peat lands and swamp forest. About 50% of all newly planned large plantations in SE Asia are located in peat land areas[79]. According to Wetlands International, this is a particular problem in Sarawak where the rapid expansion of plantations is largely on peatlands.[80] Until recently drainage of 'deep peat' (more than 3 meters) was prohibited in Indonesia. However, a recent Indonesian Ministerial decree reduced this protection by stating that conversion and drainage of peat more than 3 meters deep is now permissible if 70 percent or more of the area is less than 3 meters in depth. A key reason for the change is to allocate more land for palm oil.[81] This development will inevitably have repercussions for global climate change.

In the past, some palm oil concessions that have been awarded on forest lands have not been planted following clearance. For example, in West Kalimantan, the regional administration has issued license to reserve 2 million ha of forest lands for oil palm plantations since 2002 but only 350,000 ha of those concessions have ultimately been planted, with the remainder left idle after the trees were felled.[82] It is important that idle or cleared lands such as these are prioritised for any new plantations.

What did you tell us?

Regulators play an important role – "Central and local government need to clarify and harmonise spatial plans and the guidelines for land allocation."

Need for better and quicker services to identify and manage high conservation value areas (HCVA) - HCVA assessment can be a slow process in Borneo due to lack of assessors, and there is a need for better industry specific management guidance.

Cooperation for conservation - Wildlife corridors and conservation initiatives need to be planned at a landscape level requiring potentially complex multi-stakeholder cooperation.

Restricting HCVA access - HCVA are often in relatively remote areas; restricting access from small scale and illegal actors can cause conflict and be resource intensive.

Solutions and guidance

HCVA need to be identified prior to allocation of concessions and long before any clearance and planting. In situations where habitat is fragmented wildlife corridors connecting fragmented forests should be set up and maintained to allow migration and ensure population viability. WWF and RSPO guidelines firmly recommend that new palm oil plantations do not replace HCVAs or any area required to maintain or enhance HCVA.

See: www.hcvnetwork.org for the latest tools and guidelines for HCVA identification and management.

See: www.wwf.or.id/berita_fakta/publications/?13160/Panduan-Identifikasi-Kawasan-Bernilai-Konservasi-Tinggi-di-Indonesia for Indonesia's HCVA toolkit

[79] Hooijer et al. 2006. Peat-CO2; CIFOR, 2009; The impacts and opportunities of oil palm in Southeast Asia. 2009. Paper no. 51.
[80] Status of Peat swamp forests in Malaysia, August 2009, Wetlands International
[81] Impacts of increasing biofuel demands on carbon dioxide emissions from peatlands, Wetlands International; Decree details: Peraturan Menteri Pertanian nomor: 14/Permentan/PL.110/2/2009
[82] Indonesian Commercial Newsletter, November 2009

Responsible Cultivation Areas

What's the issue?

Just as there are areas of forest with high conservation values, there is also a lot of available land, particularly in Kalimantan, that has relatively low conservation value; usually because it has been heavily degraded by past activities and then abandoned. This land can in many cases be used to gain the economic and social benefits of palm oil plantation development without serious environmental trade-offs once land titles and tenure rights are clarified.

In the past, some plantation concessions that have been awarded on forest lands have not been planted following clearance. It is important that idle or cleared lands such as these are prioritised for any new palm oil plantations.

What did you tell us?

Regulators play an important role – "Central and local government need to clarify and harmonise spatial plans and the guidelines for land allocation".

Adequate compensation is needed –"If we are awarded a concession, what incentive is there for us not to use it?" – Suitable replacement plots should be provided where forest concessions are given up and support for relocation will be needed.

Better access –"Many of these areas have poor transport links, and it is more expensive to reach mills." – The attractiveness of existing plots of idle land for use as forestry plantations can be enhanced by providing improved infrastructure and access to markets.

Solutions and guidance

The allocation of land is a government process which is why WWF are working hard with the government in Indonesia and Malaysia to support good land use planning which takes the value of standing forests into account.

1) Use of idle lands

Areas with low conservation value and idle land can provide ideal sites for new plantations if land title and tenure rights have. been clarified.

As part of WWF's efforts to support the growth of the sustainable biofuels industry we supported Ecofys in the development of a tool to help identify areas which may be suitable for responsible plantation cultivation, including those which:

- Have low conservation values;
- Have low carbon storage;
- Have resolved any land tenure issues; and
- Have appropriate land use designations in the national and local spatial plans.

This was developed for energy crops and piloted in West Kalimantan. We aim to continue to develop this tool to make it relevant to other plantation crops as well as combining it with our HCVA tools to offer useful high level information on areas with high and low conservation value across landscapes important to WWF.

See: www.ecofys.com/com/publications/documents/EcofysRCAmethodologyv1.0.pdf

The World Agroforestry Centre (ICRAF) rapid tenure assessment tool also provides more information on how to assess land tenure issues in the siting of a plantation.

See: www.worldagroforestry.org/sea/projects/tulsea/inrmtools/RaTA

2) Land swaps

One new idea with a potentially high impact is to work with government and business to swap concessions from high value conservation areas to conservation value idle lands. If this proves acceptable to business, communities and government it has the potential to secure many hundreds of thousands of hectares of currently allocated forest lands, whilst maintaining the economic growth and opportunity associated with the palm oil industry. It is also possible that the significant carbon savings associated with these swaps could be converted into carbon credits and used to compensate communities and businesses for any costs associated with the swap.

WWF are currently involved in discussions to identify a pilot area and an implementation coallition soon, look out for news on our website.

3) See HCVA solution above for guidance on identifying and managing HCVA

Species Management Practices

What's the issue?

Borneo is home to some of the world's most charismatic species, such as the pygmy elephant, orang-utan and rhino. There are 511 IUCN Red List threatened species in Borneo which are in danger of further decline without careful management.[83]

The perceived conflict between the palm oil industry and some of Borneo's most charismatic species and has caused significant negative international publicity for the industry in Indonesia and Malaysia.

What did you tell us?

Animals can cause damage – Some of the animals found in Borneo can eat or trample young oil palms causing disruption to plantation activities and costing operators money.

Environmental and Social Sustainability – Consultations indicated that the rights of local communities should be the priority; WWF agrees that human well-being should be the top priority but also asserts that with good species management, humans and animals can coexist comfortably and both local communities and animal populations can benefit.

Multi-stakeholder process – Species conservation requires consideration at the landscape level which requires cooperation between landholders.

Solutions and guidance

Toolkits and training are available for companies who have important species in and around their palm oil plantations. These solutions can help to reduce the impact of plantations on key species as well as avoiding animal conflict which can be costly for plantation owners; for example, by outlining measures to reduce the likelihood that large animals cause damage to plantations.

See for example: www.rspo.org/files/resource_centre/HEC%20BMP%20guide%20v1.0%2020050729.pdf for guidance on managing human-elephant conflict around palm oil plantations.

http://rafflesia.wwf.or.id/library/admin/attachment/books/OU_BMT_report.pdf for guidance on managing human-orangutan conflict around palm oil plantations.

wwf.panda.org/borneo/greenbusinessnetwork for links to further specific species management resources.

The case study below shows how PPB Oil Palms Berhad (PPBOP) has successfully established a wildlife corridor. These are effective practices to link fragmented habitat and provide a channel for wildlife migration.

CASE STUDY - PPB OIL PALMS BERHAD UNDERTAKES RIPARIAN MANAGEMENT PROJECT

The Issue

The Segama river flows through PPB Oil Palms Berhad's (PPBOP) RSPO certified Sabahmas plantation in Lahad Datu. The river and its riparian areas provide important habitat for more than 150 proboscis monkeys, an endemic species. The river also supports several downstream communities.

The Response

In recognition of the importance of riparian areas, PPBOP is investing RM3 million to initiate a five-year riparian management project in collaboration with the Sabah Forestry Department. The legal buffer zone is 20 meters, and as part of their sustainability commitment PPBOP is extending this by an additional 30 meters. To this end, they are planting 150,000 trees along a 47 km stretch of the riparian zone covering a total of 382 hectares and providing a corridor for wildlife to the Tabin Forest Reserve.

The Results

The additional habitat linking the riverine areas and the reserve are expected to benefit the proboscis monkeys and other wildlife living in the adjacent area. It is also hoped that it will provide research insights into riparian rehabilitation in the tropics.

[83] www.iucn.com

RSPO Certification

What's the issue?

Many palm oil companies want to run their businesses responsibly and in balance with communities and the environment. The RSPO has worked with the industry, together with social and environmental NGOs, to develop a set of principles and criteria which companies can use to ensure they strike that balance and can demonstrate it to their investors and customers.

What did you tell us?

Smaller producers are disadvantaged – Respondents from smaller upstream-only operators suggested that any price premiums from the sale of certified production were captured by downstream traders and not passed on to local producers.

Technical capacity – "Large companies have greater resources to devote to changing practices, smaller producers are disadvantaged."

More support needed for companies committed to making progress – "Our company experienced increased NGO targeting since pursuing RSPO certification."

Solutions and guidance

Certification to the RSPO indicates that a palm oil producer is addressing the major environmental challenges associated with production. See solution box on 'Driving demand for sustainable palm oil' below for more information on the increasingly strong demand for RSPO certification from palm oil buyers.

Examples of RSPO guidance:

- To address issues relating to land and watershed degradation RSPO advises that companies avoid cultivation on highly erodible land, including steep slopes, riverbanks and peat lands; these should be identified during the environmental impact assessment.
- The use of fire to clear land should always be avoided.
- Recommended management practices that maintain or improve soil fertility and thus ensure the continuing productivity of plantations include; land terracing, cover crops, road maintenance, and soil integrity monitoring.
- Chemical use can be reduced through the use of organic alternatives, such as kernels and other waste by-products, and integrated pest management can reduce pesticide use.
- Treatment ponds and vegetative buffers can be employed to reduce run-off and watercourse pollution and optimal irrigation timing and drip-irrigation in nurseries helps to minimise water usage.
- Potential social conflict on community or indigenous lands need to be identified and the Free Prior and Informed consent of those groups given prior to concession allocation. Plantations should only be permitted if producers have legal ownership or use rights, and where this is not contested by local communities with demonstrable claims.

See: www.rspo.org for more information on RSPO.

WWFs team of palm oil experts on the ground in Borneo can also offer advice and support, please contact us via email: borneo.gbn@wwf.panda.org

Other organisations offering support to companies wanting to achieve RSPO certification include:

- The Forest Trust (TFT): Adapting knowledge of forest management and supply chain expertise, TFT is working to bring positive change to the palm oil industry. Present in plantations and mills, TFT staff bring technical support to improve management practices and standards to meet buyer's responsible purchasing guidelines and meet RSPO standards. See: www.tft-forests.org/product-groups/page.asp?p=6277
- Pro Forest and Wild Asia: ProForest and Wild Asia's Stepwise Support Programme (SSP) is one of the first global support programmes specifically designed for the oil palm sector. ProForest and Wild Asia both share the common goal of promoting sustainability in agriculture through a combination of training, policy development, field assessments and supply chain audits. See: www.wildasia.org/main.cfm/stepwise

Improving Smallholder Productivity

What's the issue?

Smallholders represent a significant portion of palm oil production in Borneo, for example they manage up to 25% of the planted area in Kalimantan[84]. However, smallholders generally have a lower productivity, often due to lower quality seeds and less efficient production practices. The Indonesian Palm Oil Commission estimates that smallholder productivity is about 2.5 tonnes per ha, compared with 4.1 tonnes per ha on large private plantations. Increasing the productivity of smallholders would not only provide rural communities with a greater income, but it would reduce the pressure to further increase planted area.

What did you tell us?

Smallholders are disadvantaged – "It is hard for smallholders to gain certification, but we need technical assistance to improve our productivity."

Solutions and guidance

The RSPO has a task force dedicated to promoting the interests of smallholders in the RSPO process. Efforts are being made to produce standards and procedures to allow smallholders to get certified, and to raise awareness amongst smallholders as to the potential benefits of RSPO. A 'Protocol for Group Certification' is also under development so a number of smallholders can work together towards certification, improving the efficiency of the process for all concerned.

See: www.rspo.org for more information on this programme.

WWF is also beginning to work with smallholders in Indonesia to help them obtain RSPO certification, see our website for more details.

Other efforts to support smallholders include:

- Wild Asia is working to build practical and workable models to promote sustainable oil palm production for small plantation businesses and smallholders. Through training workshops and advisory support, the project aims to create a support model for small businesses and smallholders that are influenced by RSPO mills that operate within their vicinity.
- The Princes Rainforest Project recently released a report suggesting that smallhlder productivity improvements could be linked to payments for Reduced Emissions from Deforestation and Degradation (REDD+): www.rainforestsos.org/wp-content/uploads/pdfs/REDD-and-Agriculture-Proposed-Solutions-from-Private-Sector.pdf

[84] BPS Kalimantan Tengah Dalam Angka 2009

Responsible Finance

What's the issue?

Palm oil companies must answer to their investors and other financiers to demonstrate that funds are being put to good use and that their activities will not expose financiers to undue risks or unwanted attention from activists and the media. Many of the environmental issues potentially caused by oil palm plantations can be avoided through the application of best management practices (some of which are outlined in the solution boxes above) and we understand that investors can provide an important source of encouragment to implement these best practices.

What did you tell us?

Incentive to act for larger producers – Larger producers seeking investment, particularly from international banks and investors find responsible lending criteria to be an important incentive to act; 25% noted access to finance an important motivation for sustainability.

Local lenders less concerned – Smaller business investors and lenders are often less concerned about sustainability and smaller operators have less exposure to different forms of finance so financing criteria do not provide a strong incentive.

Solutions and guidance

Sustainable Finance Handbooks:

A number of major banks have joined the RSPO; these include International Finance Corporation, Rabobank, Standard Chartered Bank, WestLB AG, Credit Suisse, ANZ Banking Group, and HSBC. Members are required to abide by the RSPO Code of Conduct and direct their investment accordingly.

WWF has produced a practical handbook to help financial institutions develop and implement a responsible palm oil financing and investment policy: http://assets.panda.org/downloads/the_palmoil_financing_handbook.pdf

The World Business Council for Sustainable Development and PricewaterhouseCoopers developed a toolkit to inform the responsible financing of activities which impact on forests: www.pwc.co.uk/pdf/forest_finance_toolkit.pdf

New Financial Incentives

What's the issue?

Forests provide society with valuable ecosystem services; however, often governments and private companies often do not take these values into account when allocating concessions and making decisions to clear forests for plantations and this can result in a net loss in value to society. New types of financial incentive are being developed to help private actors to take these public values into account and these could provide palm oil companies with a supplementary revenue streams to support sustainable activities. Many of these ideas are under development, but there is considerable momentum within the field and good prospects of growth.

For example, the carbon markets currently provide payments for reduced carbon emissions through the Clean Development Mechanism (CDM) of the EU Emissions Trading Scheme. In addition, a new mechanism is being developed to provide payments for Reducing Emissions from Deforestation and forest Degradation (REDD+) and this may well provide revenue opportunities for palm oil companies if they can demonstrate (in accordance with methodologies that are being developed) that they are helping to create verifiable emissions reductions.

What did you tell us?

Financial incentives – NGOs and governments need to help producers learn about the new financial incentives available and how to take advantage of them.

"If my company is protecting a 'public good' we need to know how we can be rewarded or compensated for this."

Solutions and guidance

WWF is working with the three HoB governments to help them to understand the value of the HoB forests and also how to sustainably finance the delivery of the HoB Declaration. In October 2010 the three governments launched a sustainable financing assessment for the HoB. This outlines finance sources which are available to support companies, governments and communities to meet the HoB Declaration, see our website for more details.

There are tangible advantages available from new financial incentives for palm oil producers. For example, a large palm oil producer in Sabah is working to develop a CDM project at one of their palm oil mills.[85] The project hopes to avoid the equivalent of 130,000 tonnes of carbon emissions over 7 years through wastewater treatment and biogas generation, at current carbon prices this would be worth more than USD 2 million[86].

WWF has a number of initiatives underway to help producers, investors and regulators access new financial incentives. WWF US is also a partner in The Natural Capital Project - this project has developed a tool called INVEST (Integrated Valuation of Ecosystem Services and Trade-offs), a tool which helps to map and value the services provided by nature. We are working with the three HoB governments to use this tool in the HoB. Its outputs will be of interest to government policy makers and companies alike.

For more information see: wwf.panda.org/borneo/greenbusinessnetwork

The Princes Rainforest Project also recently released two reports on how the palm oil sector could benefit from REDD+ credits in future through either swapping concessions granted on idle lands or through producitvity gains. These proposals are at an early stage of but may provide interesting alternative revenue opportunities for palm oil companies in future.

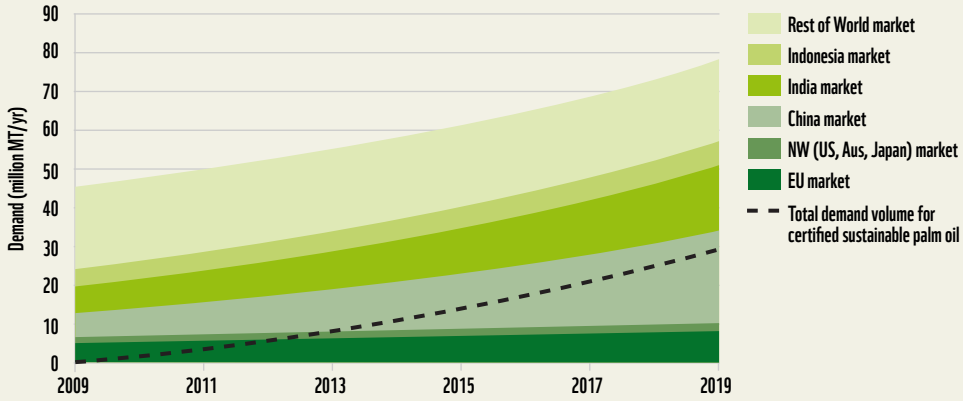
www.rainforestsos.org/wp-content/uploads/pdfs/REDD-and-Agriculture-Proposed-Solutions-from-Private-Sector.pdf

[85] UNFCCC (CDM-SSC-PDD)
[86] 26/11/2010: CER price Euro 12.26 (Bluenext.eu) = circa USD 16 * 130.000 CERs = USD 2.08 million (un-discounted)

Driving Demand for Sustainable Palm Oil

What's the issue?

RSPO certification addresses many of the concerns raised by consumers regarding the potential impacts of palm oil production on the environment. However, producers do face costs in achieving RSPO certification and need to be compensated with price premiums to encourage continued expansion of RSPO. Producers have indicated that price premiums are currently small and limited to specific markets and it is therefore important that demand for RSPO certified palm oil continues to increase at least in line with increases in supply. Demand for sustainable palm oil is increasing rapidly, and the RSPO has predicted that demand may reach 30 million tonnes by 2019 (Figure 3.9).



Verburg, presentation given to RSPO board, Düsseldorf, October, 2010

FIGURE 3.9: PREDICTED DEMAND FOR PALM OIL, AND PROPORTION OF DEMAND FOR CERTIFIED PALM OIL.

This predicted increase is based in part on the firm commitments of numerous major companies and retailers to exclusively source sustainable palm oil; for example, Walmart has committed to only use RSPO certified palm oil in Walmart branded products by 2015 and similar commitments have been made by Nestle, Proctor & Gamble, Unilever, and Kraft to name a few. In addition, the Netherlands, Europe's largest importer and exporter of palm oil (about 2 million tonnes annually), is the first country to commit to only sourcing from certified producers for its national industries by 2015.[87] While American and European markets are increasingly demanding sustainably sourced palm oil, markets in the rest of the word, particularly Asia, have to date been less concerned with the provenance of supply. Given the dominance of Asia in driving increased palm oil production, spreading awareness and demand for sustainable products in these markets will be an important challenge.

What did you tell us?

Greater incentives required - "Changing management practices and incorporating sustainability factors is expensive." "The European market is small relative to the Asian market and certified palm oil isn't priced much higher anyway."

Solutions and guidance

RSPO certification is an increasing requirement of major international brands, retailers and financiers, including all those signed up as RSPO members. WWF advises palm oil buyers to source 100% RSPO certified and is working hard to ensure that demand for RSPO palm oil continues to strengthen.

- Buyer scorecard: Consumer pressure in Europe and America is driving the uptake of sustainable products by retailers. In 2009 WWF published a scorecard of retailers and brands in Europe who were buying RSPO certified oil, this scorecard aimed to recognise and reward the good performers as well as encouraging others to follow their lead. The market showed a sharp increase in demand in the month following the launch of this scorecard.
- Working with Asian markets: WWF know that more needs to be done to encourage the Chinese and Indian markets to buy sustainable oils and WWF now have active programmes to do just that in both countries. To find out more about progress visit our website.
- Company Partnerships: Across the world WWF's 'Market Transformation Initiative' aims to work with the top 100 most influential brands and retailers whose buyers have significant concentrated power to influence many thousands of supply chains and individual producers. We are forming partnerships in many countries with leading companies who are willing to go beyond minimum standards and develop and implement best practice on sustainable commodity sourcing. For example our partnership with UK retailer, Marks & Spencer, lead to that company implementing a 100% sustainable palm oil sourcing policy. We have also been engaged by Walmart, the world's largest retailer, who recently launched a commitment to source 100% sustainable palm oil for their own brand products by 2015.

For further information on these programmes as well as information for palm oil buyers see: wwf.panda.org/what_we_do/footprint/agriculture/palm_oil/solutions/responsible_purchasing/

[87] Manifesto of the Task Force Sustainable Palm Oil, Netherlands, 2010

The business case for sustainable palm oil in Borneo

The economic case for reducing deforestation and improving environmental practices is increasingly being recognised at national and international levels based on the value which intact ecosystems deliver to society.

At the level of an individual company the business case for sustainable practices can be more complex. A range of challenges, often linked to cost and technical capacity, have been identified by producers and these are addressed in the preceding sections. Notwithstanding these challenges, the business benefits of improving environmental practices are increasingly recognised by some palm oil producers in Borneo.

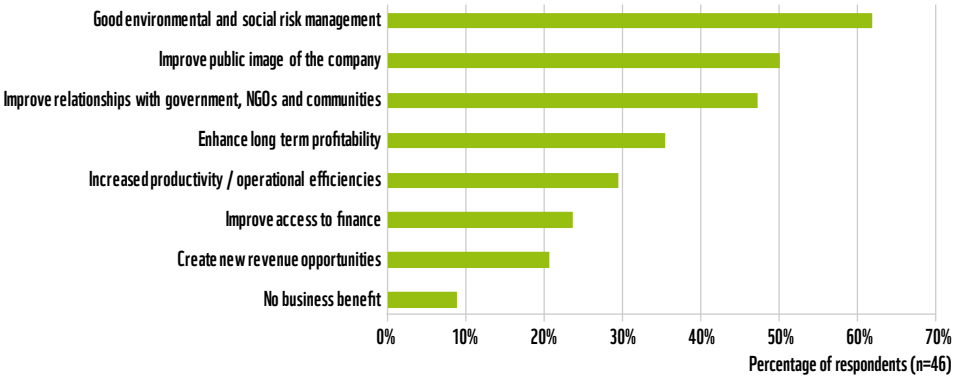


FIGURE 3.10: BENEFITS OF GOOD ENVIRONMENTAL AND SOCIAL PRACTICES AS REPORTED BY PALM OIL PRODUCERS IN BORNEO

Figure 3.10 is based on interviews and surveys with 46 respondents from palm oil companies operating across all the states of Borneo. 62% of this group identified good environmental and social risk management as a benefit of sustainability activities while 50% thought their company would benefit from an improved public image. More than a third (35%) of respondents thought that sustainability activities would improve their profitability in the long term and 29% cited increased productivity or other operational efficiencies as a reason to pursue sustainable practices.

Furthermore, as indicated in the solution boxes on previous pages; from increasing demand for RSPO certified palm oil and new international funds for avoided deforestation; to heightened enforcement of existing regulation and new financing requirements from lenders; many factors are coming together to strengthen the business case for sustainable palm oil in Borneo.