Key Sustainability Issues in the Palm Oil Sector

A Discussion Paper for Multi-Stakeholders Consultations
(commissioned by the World Bank Group)

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A. Introduction

Background

Palm oil, which is produced from the fruits of the African oil palm (*Elaeis guineensis*), has become a major, global agricultural commodity, used in a host of food and non-food products and most recently touted as a promising feedstock for biofuel production. The oil palm is cultivated entirely in developing countries in the humid tropics where it often forms an important basis for local economies, both as an export and as a raw material for local industry. The World Bank Group, with its mission to reduce poverty, sees this commodity as one which can play an important role in furthering economic development in these countries as well as securing a rising standard of living for the rural poor when the full range of environmental, social, economic and governance risks are addressed, and contributing to global food security.

The World Bank and the International Finance Corporation (IFC) have, since 1965 and 1976 respectively, invested in and supported the development of this sector in Latin America, Africa and Asia Pacific. These investments in both public and private sector projects have focused on both primary production as well as downstream processing of palm oil, and have in some cases addressed complementary infrastructure, area development and smallholder linkages. Although these investments have been carried out within the framework of the Bank's and IFC's agricultural development policies and procedures applicable at the time, neither institution has worked within a comprehensive strategy for this particular sector.

In recent years, there has been increasing concern about sustainability issues in the sector, particularly related to production in Indonesia and Malaysia (the two largest producers of crude palm oil). These concerns were recently highlighted for IFC by the Office of the Compliance Advisor/Ombudsman (CAO) in relation to several IFC investments in the sector. In particular, the CAO recommended that IFC develop a comprehensive strategy for its investments in the sector, to ensure that its investments are consistent with IFC policies and procedures and are clearly contributing to sustainable development. The President of the World Bank Group subsequently directed that a global strategy should be developed to ensure a common approach to the palm oil sector across the World Bank Group and that the WBG would not approve any new investments in palm development until such a comprehensive approach is in place.

IFC, in cooperation with the World Bank, is therefore undertaking a major strategy preparation exercise for its activities and future direction for the palm oil sector. IFC and the World Bank recognize that many of the issues which a have arisen in the palm oil sector are common to other agricultural commodity sectors. It is anticipated that the insights from developing this palm oil sector strategy will be applied in other sectors and to global agribusiness in general, and are expected to be addressed in future strategy development.

Objectives

The primary objectives of the palm oil sector strategy preparation exercise will be to:

- Listen to and learn from a broad range of stakeholders through a robust consultation process, in order to obtain their views on the WBG's engagement in the palm oil sector and exchange ideas on issues facing the sector;

- Assess options on how the WBG can pragmatically address the issues in the sector, including identifying the WBG's investment and advisory roles and the conditions under which those should take place;
- Identify approaches and mechanisms for mitigating environmental and social risks associated with the palm oil sector;
- Indentify opportunities and benefits associated with sustainability aimed at enhancing development in the palm oil sector, including mechanisms to realize those positive impacts consistent with the World Bank Group's capacities; and
- Provide a sound foundation for scaling up the palm oil sector's positive development impacts, including the identification of the appropriate measures for monitoring and evaluation.

Approach

The development of the WBG strategy will be conducted in five stages, covering:

Analytical and preparatory work

During this phase the World Bank Group palm oil strategy development team will seek external expertise to help design a credible, open and participatory process to develop the strategy. The team will review and draw on lessons learnt from other consultative processes conducted across the World Bank Group and elsewhere. In addition, the team will seek to identify and bring external expertise into the palm oil strategy development process.

Preparation of an 'Issues Paper'

The Issues Paper will seek to define the broad and specific issues facing the sector, and establish a basis for the consultations to follow. The Issues Paper will be prepared by an external consultant, who will bring an external industry perspective, and an internal World Bank Group team. The Issues Paper will be publicly disclosed and will form the basis for defining a number of key questions that can assist in providing a framework for the stakeholder consultations.

Inclusive stakeholder consultations

A consultation process will be carried out to engage a diverse group of stakeholders including civil society organizations, affected communities, donors, shareholders, partners, private sector representatives, governments, agriculture, and agribusiness-oriented think-tanks. The consultations will be aimed at listening to stakeholders' views and identifying common ground, where possible, on how the World Bank Group can address the issues facing the palm oil sector. The format of the consultations will include multi-stakeholder groups and one-on-one meetings, as well as electronic and web-based consultations open to all interested parties. The World Bank Group team will organize regional multi-stakeholders consultations in East Asia (Indonesia), West Africa (Ghana) and Latin America (Costa Rica) as well as in USA (Washington DC) and Western Europe (Amsterdam). A professional and neutral facilitator will moderate the multi-stakeholder consultations.

Preparation of the Draft Palm Oil Strategy Paper

The draft strategy, to be prepared by the consultant and the project team, will take into account stakeholders' views and outline a strategic framework and a set of principles to guide World Bank Group future engagement in the palm oil sector. The draft report will be disseminated electronically to stakeholders for the final review and revised as needed to take into account final comments received.

Presentation of the Final Palm Oil Strategy

The final strategy will be submitted to the World Bank Group senior management for consideration and endorsement, and released publicly.

This document, ***Key Sustainability Issues in the Palm Oil Sector*** addresses the second stage of this process. This paper provides a general overview of the sector and the issues facing it, and seeks to help provides a framework for the upcoming discussions with a wide range of stakeholders.

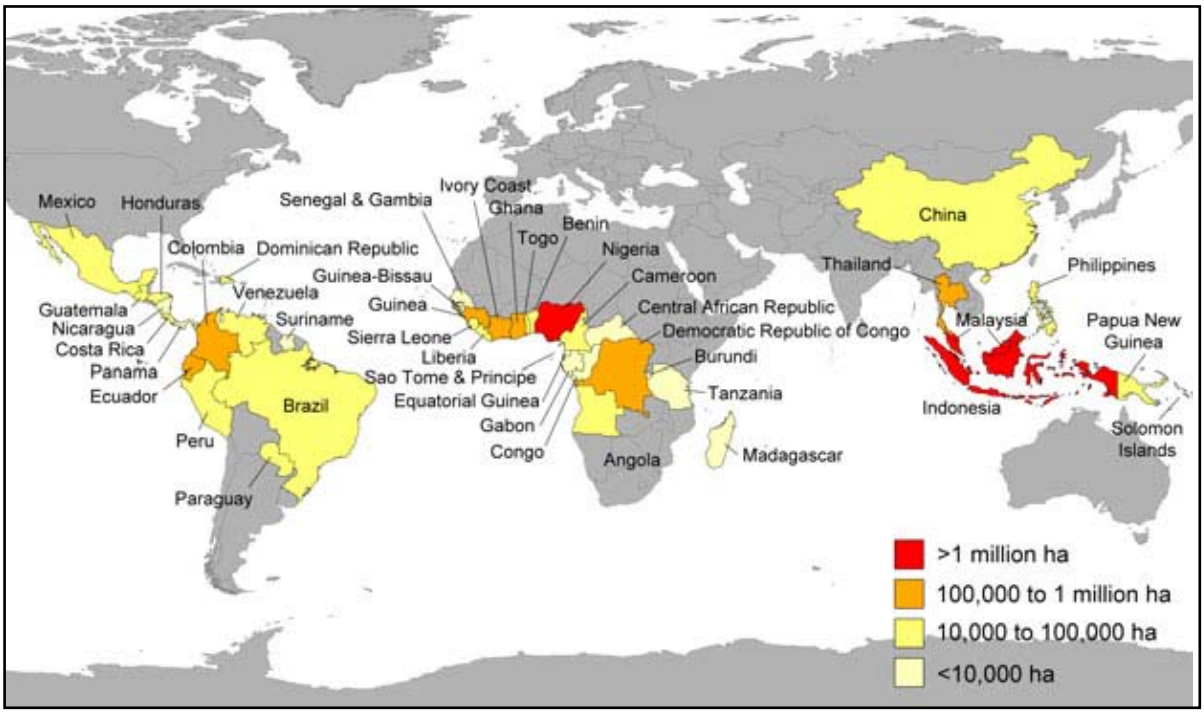
B. Overview of the Palm Oil Sector

Introduction

Originating in West Africa, the oil palm, *Elaeis guineensis* Jacq., has over the last century been an increasingly important driver for the economies of producing countries in South-East Asia, Papua New Guinea, Central and West Africa, and to a lesser extent in tropical Latin America. Today, palm oil is the most important tropical vegetable oil in the global oils and fats industry, in terms of production and trade. Originally used in its crude form for cooking in its homeland, palm oil has evolved into an international commodity with many food and non-food applications. More recently it has been promoted as a feedstock for the production of biofuels. It is a highly versatile product and can be found in more than 50 percent of the packaged products in supermarkets, ranging from cooking oils, margarine, ice cream, cookies and chocolates to soaps, detergents and cosmetics. Global brands such as *Flora, KitKat*, *Dove* and *Persil* contain ingredients derived from palm oil.

This section provides a brief overview of the palm oil industry with regard to its development, its position in the global oils and fats industry and its role and contribution to economic development. The future development of the sector is also discussed.

Figure 1: Map showing the extent of oil palm cultivation in 43 oil palm-producing countries in 2006



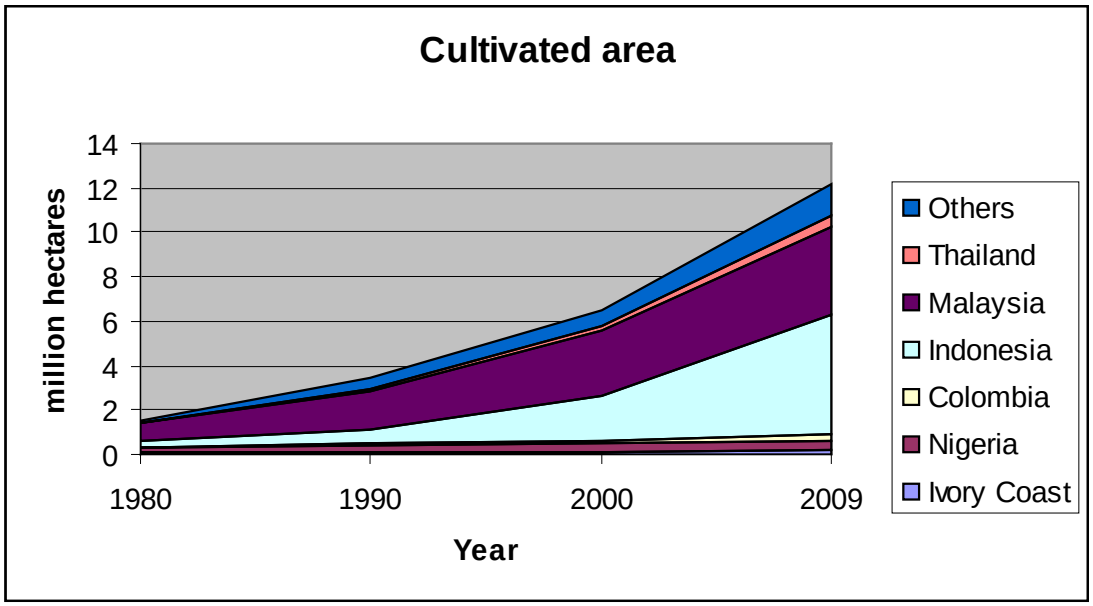
Source: (FAO 2007). Cited by Koh and Wilcove (2008)

Development of the palm oil sector

Although commercial planting of oil palm commenced early in the 20th century, centered in Congo, Malaysia and Indonesia, large scale expansion did not gain momentum until the 1960s. Today, oil palm is cultivated in about 43 countries in the world (Figure 1). The growth of the industry in the last 4 decades, in terms of planted area and production are presented in Figure 2 and Table 1. While global plantings of oil palm grew eight-fold in the past 4 decades to over 12 million ha in 2009, the area under cultivation in Malaysia increased by 5 times and in Indonesia by a phenomenal 23 times over the same period. Expansion of oil palm plantations in Indonesia has been particularly rapid since 2000, with the area covered by mature oil palm increasing to 5.35 million ha in 2009. In terms of annual growth of planted areas, the 1980s saw an annual planting of about 100,000 hectares which increased to about 200,000 hectares per year in the 1990s. From 1999 to 2003, the estimated rate of planting was about 500,000 hectares per year. (Chandran, 2010b.)

The global production of palm oil increased more than nine-fold since 1980 to 45.1 million tonnes in 2009, supplying the major markets including the European Union, China, Pakistan, India and Indonesia. In line with the very rapid expansion of planted area, Indonesia overtook Malaysia as the world's biggest palm oil producer in 2007. Together, Indonesia and Malaysia account for 85 percent of the global production. Significant increases in production were also seen in countries such as Thailand, Ecuador, Colombia and Papua New Guinea, which collectively accounted for 6.6 percent of the world's production for 2009.

Figure 2: World Areas of Mature Oil Palm (million hectares)



Source: Oil World (various years)

Table 1: World Production Of Palm Oil ('000 tonnes)

Country	1980	1990	2000	2009
Indonesia	691	2,413	6,900	20,900
Malaysia	2,576	6,095	10,800	17,566
Nigeria	433	580	740	870
Colombia	74	226	516	794
Cote d'Ivoire	182	270	290	n.a.
Thailand	13	232	510	1,310
Ecuador	37	120	215	436
Papua New Guinea	35	145	281	470
Others	768	786	1,699	3,236
Total	**4,809**	**10,867**	**21,951**	**45,111**

Source: Oil World (various years)

Palm oil development is dominated by the private sector in the main producing countries. Expansion was driven initially by European companies, particularly those from the UK that had established rubber, tea and coffee plantations in the late 1800s and early 1900s in Asia. Following sustained declines in rubber prices in the 1960s, these companies started to diversify into palm oil. Latterly, the exponential development seen has been driven largely by locally-based companies. Currently, the top 10 plantation companies have a combined market capitalization of US$79.1 billion (31 Mar 2010) and own about 2.3 million ha of plantations producing 9.7 million tonnes. (Bloomberg, 31 Mar 2010). This is equivalent to about 22 percent of the world's palm oil production. Recent mergers and acquisitions have resulted in the emergence of several mega plantation companies, such as Sime Darby Berhad and Wilmar International Ltd.

The development of the palm oil industry in other producer countries has also been driven by the private sector. For example, New Britain Palm Oil Ltd established the first plantations in Papua New Guinea in the mid 1960s (NBPOL, 2007), while in Brazil Agropalma is the leading player with more than 39,000 ha of oil palm plantations, making it the largest in Latin America (Brito and Baiao, 2009). Multinational Unilever NV also had plantation interests in Malaysia, Africa, Colombia and Thailand but has been divesting these upstream investments since 1990.

Smallholders, often in Asia under government auspices, have contributed significantly to the development of the palm oil sector, either as participants in land development schemes or as independent growers, cultivating from a few hectares to about 50 to 100 ha of land. Globally, about 3 million smallholder heads of family are involved in the sector (www.rspo.org). In Malaysia, of the total area of 4.49 million hectares planted under oil palms in 2008, about 30 percent was under 'scheme' or organized smallholders (those related directly to large plantation operations) while about 11 percent was managed by independent smallholders. Smallholders in Indonesia started cultivating oil palm in 1975, and in 2009 it was estimated that both scheme and independent smallholders collectively account for 43.8 percent of the national total area planted under oil palm. In Thailand, about 76 percent of the total mature oil palm area was under smallholdings in 2009 (Dallinger, 2010, *pers com*). In PNG, smallholders account for about 42 percent of the total planted oil palm area of 134,000 ha and about 35 percent of the national palm oil production of 2.1 million tonnes in 2008 (Orwell, 2009). A study in 2006 (Vermeulen and Goad, 2006) showed that in Nigeria more than 80 percent of national production is produced from semi-wild or intercropped holdings covering 1.6 million hectares.

Palm oil in the global oils and fats industry

The edible oils and fats market has expanded with world population growth, increased per capita consumption, and the desire to replace animal fats in the human diet. Overall production of vegetable oil increased by 335 percent since 1980 (Table 2). Among the major vegetable oils, the growth in production of palm oil has been phenomenal, truly an emerging markets success story, with a ten-fold increase from 1980 to 2009 while its major competitor, soybean oil, increased by 2.7 times during the same period. Palm oil exceeded soybean oil in terms of global production in 2005. By 2009, palm oil production of 45.1 million tonnes was equivalent to 34.0 percent, while the market share for soybean oil, rapeseed oil and sunflower oil were 27.0 percent, 16.2 percent and 9.8 percent respectively.

Table 2: World Production of Vegetable Oils, 1980-2008 (Million Tonnes)

Type of Vegetable Oil	1980	1990	2000	2009
Soybean Oil	13.4	16.1	25.6	35.9
Palm Oil	4.5	11.0	21.9	45.1
Rapeseed Oil	3.5	8.2	14.5	21.5
Sunflower Oil	5.0	7.9	9.7	13.0
Palm Kernel Oil	0.6	1.5	2.7	5.2
Other Vegetable Oils	12.8	16.1	18.1	12.0
Total Vegetable Oils	**39.8**	**60.8**	**92.5**	**132.8**

Source: Oil World (Various Years)

The significant growth in production, consumption and market share of palm oil is to a large extent due to its cost competitiveness vis-à-vis other vegetable oils and animal fats. Palm oil, the cheapest oil among soybean oil, rapeseed oil and sunflower seed oil, has been able to capture new markets and make inroads into markets that have traditionally preferred other oils. Palm oil is also very versatile in many processing applications.. Concerns over the health hazards associated with trans-fatty acids (TFA) and genetically modified organisms (GMO) have also raised the demand for palm oil. Palm oil, which requires little or no hydrogenation for production of margarine, bakery shortenings and confectionery fats is an accepted substitute compared to vegetable oils which need hydrogenation to produce these products. Palm oil is not derived from a GMO.

Another key reason for palm oil's dominance in the vegetable oils market is its inherent crop productivity compared with the oil seeds. The average oil yield of palm oil is 3.80 tonnes per ha which is 9.3, 7.6 and 5.8 times higher than soybean oil, rapeseed oil and sunflower oil respectively (Oil World 2008). In terms of land utilization, palm oil required about 11.2 million ha of land for its production in 2008 while soybean oil required 91.32 million ha.

Although about 80 percent of current world palm oil output is consumed for food/edible use, non-food uses are increasingly becoming important, contributing to greater demand and higher prices for palm oil. Usage in soaps, detergents and surfactants, cosmetics, pharmaceuticals, nutraceuticals and some household and industrial products has been growing because of the move away from petroleum-based products and thus opens up non-traditional demand for palm and palm kernel oils. The global desire to substitute at least a small portion of fossil fuel use with renewable fuels has given rise to increased demand for vegetable oils, one of the feedstock for biofuels. In addition to the concern for the environment, relatively high fossil fuel prices have created a demand for alternative cost-effective and clean fuels.

Role and contribution of palm oil to development

In the 21st century, agriculture continues to be a fundamental instrument for sustainable development and poverty reduction. Three of out four poor people in developing countries live in rural areas and most depend on agriculture for their livelihoods. Promoting agricultural development is clearly an imperative for meeting the Millennium Development Goal of halving poverty by 2015 and continuing to reduce poverty and hunger for several decades thereafter.

Palm oil is a staple part of the national diet in many developing countries, and a central pillar of rural development in some tropical countries as well as a major generator of employment and income. Palm oil accounts for about one third of the global production of edible vegetable oils with further expansion likely in areas where the industry has not been developed yet, e.g. Sub-Saharan Africa.

Contribution to economic development and growth

In South-East Asia, oil palm-based agricultural development has been a major driver of development and agricultural diversification in Indonesia and Malaysia. Prior to the 1960s, both countries' tree crop sectors had been largely dependent on the production of rubber, and Malaysia and Indonesia were the world's largest producers. However, following the slump in rubber prices and thus national earnings, Malaysia embarked on a diversification programme that drove the large scale development of the palm oil sector. The decision to diversify followed recommendations by a World Bank mission that resulted in the establishment of the Federal Land Development Authority (Felda) in July 1956 with the dual objectives of resettling the poor and landless and diversifying away from rubber. The first Felda scheme with oil palm was started in 1961. Today, Felda is the largest producer of palm oil in Malaysia with 720,000 ha of oil palm and 112,635 landless families resettled (Ahmad Tarmizi, 2009).

The palm oil sector has been a major contributor to the export earnings of the producer countries. In Malaysia, the export value of palm oil and its derivatives rose from RM 2.98 billion (USD 903 million) or 6.1 percent of national total in 1980 to RM45.61 billion (USD 13.8 billion) in 2007. During the Asian financial crisis during 1997/98, palm oil was the top foreign exchange earner, exceeding the revenue derived from crude petroleum and petroleum products and forestry by a wide margin. According to Prof. K.S. Jomo (Jakiah Koya 2009) of the UN Department of Economic and Social Affairs, "it was the palm oil industry that saved" Malaysia during the economic crisis by spurring economic growth. The palm oil sector is also a major export earner in Indonesia, contributing about USD 7.9 billion in 2007 (World Bank, 2009).

Beyond its primary function as edible oil, the palm oil industry has become the catalyst for the development of palm-based industries such as production of specialty fats, cocoa butter substitutes, oleochemicals, soaps, household detergents, nutraceuticals and more recently as a feedstock for bioenergy. The Finnish oil refiner, Neste Oil, is building the world's largest biodiesel plant in Singapore; when completed in late 2010 the plant, which will use mainly palm oil as the feedstock, would have an annual capacity of about 800,000 tonnes (Virki, 2007). Another major palm-based biofuel producer is Sime Darby Berhad which has a total production volume of 290,000 tonnes per year from its plants in Malaysia and CleanerG BV in the Netherlands (The Sun, 2010). Currently, Indonesia has an installed capacity of 1.2 million tonnes of oleochemicals per year and about 3 million tonnes of biodiesel per year (Jurianto, 2010).

Employment

Owing to the low level of mechanization in perennial plantation tree crops, field operations, particularly fruit collection, are a labor intensive process and use large numbers of workers. Thus, the palm oil sector is a major employer. In line with the expansion of the planted oil palm area, in Malaysia the number of people employed in the sector grew from 92,352 in 1980 to about 570,000 in 2009 (Ministry of Plantation Industries & Commodities, 2009). It is estimated that another 290,000 are employed in downstream operations. In Malaysia the sector also provides employment for migrant workers from Indonesia, Thailand and Bangladesh who provide substantial remittances to their home countries.. Estimates of the number employed in the palm oil sector in Indonesia vary considerably but the general view is that about over three million people are involved in the industry.

Social development and poverty reduction

In Malaysia the palm oil sector also is considered to have played a key role in rural poverty eradication through land development agencies such as the Federal Land Development Authority (Felda), the Federal Land Consolidation and Rehabilitation Authority (Felcra) and various state development agencies in Malaysia. The contribution by Felda is documented in *Felda's Fifty Years: Land Pioneers to Investors* (Lee and Tengku Shamsul, 2006).

In the mid-1990s in Malaysia, an alternative land development scheme called *Konsep Baru* (New Concept) was launched by the government for the development of oil palm plantations on Native Customary Rights (NCR) land. Under this land lease scheme, a three-way joint venture company is formed among a private company (holding 60 percent share), the local community (30 percent share) and the relevant government agency (10 percent share). The private company leases the land for a 60-year tenure and provides the financial capital for development of the oil palm plantation (Vermeulen and Goad, 2006). This investment model is now being used for development of oil palm on NCR land in the State of Sarawak.

In Indonesia, the nucleus estates scheme (*Perkebunan Inti Rayat* or PIR) that was introduced by the government and supported financially by the World Bank between 1978 and 2001, played a key role in developing oil palm for smallholders. The PIR scheme was an integral part of the transmigration (*transmigrasi*) program to resettle the poor and landless from Java, Bali and Sumatra to less densely populated islands, particularly Borneo (Kalimantan). Under this scheme, a government-linked plantation company develops plasma areas of 2 hectares each for the settlers around the company's nucleus estate (Vermuelen and Goad, 2006). At its peak between 1979 and 1984, 535,000 families, or almost 2.5 million people, were moved under the transmigration program. Between 1986 and 1999, the PIR scheme developed 164,000 hectares of nucleus estates and 425,000 hectares of plasma smallholder areas (Rosediana Suharto, 2009). From 1995, the Indonesian government introduced the KKPA (*Koperasi Kredit Primer Angota*) scheme which eventually replaced the PIR schemes. This is essentially a finance programme which enables local farmer cooperatives to access funds at subsidized repayment rates. Under the KKPA scheme, which gives the cooperatives greater autonomy than PIR schemes, 193,000 ha of plasma areas and 79,000 ha of nucleus estates were developed between 1995 and 2000 (Rosediana Suharto, 2009).

Future development of the palm oil sector

Future palm oil needs for food, non-food and biofuel

The demand for palm oil for edible use is expected to continue to rise with population growth, increased per capita

consumption and as the developed world moves away from saturated animal fats. While the per capita consumption of oils and fats during 2008/09 in the EU-27 and the United States were 59.3 and 51.7 kg respectively, the consumption in developing countries like India, Pakistan and Nigeria were 13.4 kg, 19.9 kg and 12.5 kg respectively. As the developing world aspires towards a better quality of life and per capita consumption shifts towards the present world average of 23.8 kg per person, a further leap in production of vegetable oil will be required to meet the future demands. (Bek-Nielsen, 2010)

Assuming a population increase of 11.6 percent (based on World Bank's projection of 7.58 billion people in 2020) and a 5 percent increase in per capita consumption, an additional 27.7 million tonnes of vegetable oils will have to be produced by 2020. If this higher demand is to be met by palm oil, an additional 6.3 million ha would need to be planted, assuming that there is 10 percent improvement in productivity per hectare. However, if the increase were to be provided by soybean oil, an additional 42 million hectares of land would have to be cultivated.

In the biofuel sector, countries around the world have been setting national biodiesel blending targets varying from 1 percent in the Philippines to 10 percent in the EU by 2020. If the planned mandates materialize, it has been estimated that an additional 4 million hectares of oil palm would have to be planted to meet the requirements of EU while another one million hectares are needed to satisfy China's demand (Sheil *et al*, 2009).

Future production of palm oil

Given the strong demand for palm oil, where will the future production come from? The Indonesian government has a vision of becoming the "best sustainable palm oil producer in the world", with the objective of producing 40 million tonnes of palm oil by 2020, of which 50 percent would be for food and 50 percent for energy (Jiwan, 2009). This means national production would have to double in the next 10 years. Greenpeace (2009) estimated that to meet this demand, an additional 300,000 hectares of new land would have to be planted with oil palm annually.

In view of limited land availability, the expansion of oil palm in Malaysia is expected to slow, particularly in Peninsular Malaysia and Sabah. However, the Sarawak State government has recently announced that it is opening large tracts of land for oil palm cultivation. This will increase the national land area under oil palm from 4.67 million ha to 5.4 million ha. (Wong, 2010).

Other countries are expected to expand their planted areas to meet rising global demand. Thailand is expected to increase its oil palm area by 80,000 ha per year until 2012 (Dallinger, 2010 *pers.com*). There are reports that Chinese companies are negotiating for extremely large tracts of land in DR Congo and Zambia (Economist, 2009) for establishment of oil palm plantations. Similarly, Malaysian companies are looking at similar expansion in Brazil, in the Amazon basin. Malaysia and Brazil has set up a joint venture to open up about 100,000 hectares for oil palm in Brazil. (New Straits Times, 2009). There is also substantial interest in expanding the limited areas of oil palm presently growing in West Africa.
Expansion of the industry on this scale is cause for considerable concern among many stakeholders, particularly local communities which may be affected by these developments and NGOs. These concerns are discussed further in Section D (The Palm Oil Debate) and E (Challenges and Opportunities for the Palm Oil Sector).

C. World Bank Group Experience in the Palm Oil Sector

Overview of World Bank Investments

Since 1965, the World Bank (IBRD/IDA) has committed nearly US$1 billion over 35 projects in the palm oil sector, in 12 countries in Africa, Latin America and Southeast Asia. About fifty percent of this commitment went towards financing a series of projects in Indonesia. Many stand-alone projects focused on oil palm, while others included crops such as rubber, coconut, coffee etc. Most of the projects were implemented in the 1970s and 1980s and were repeat or follow-on projects within countries. Regionally, most projects were based in West Africa and East Asia with only one project implemented in Latin America during this period. Three projects are currently in implementation, while the balance has been completed and closed.

Countries	Committed Amount (mln, $)*
Benin	4.6
Burundi	8.8
Cameroon	118.4
Congo, Democratic Republic of	9.0
Cote d'Ivoire	53.1
Ghana	39.9
Liberia	12.0
Nigeria	172.9
Indonesia	500.6
Malaysia	14.0
Papua New Guinea	21.8
Panama	19.0
Total	**974.0**

**most of the projects were stand alone focusing on oil palm, however there were some which included other crops such as coconut, rubber and coffee. In addition, there are a few projects which may have very small amounts going towards oil palm.*

The objective of these projects was to help improve productivity in the palm oil sector through investments in planting and replanting oil palm over several thousand hectares of land. These public sector projects included construction of palm oil processing factories and mills and also included associated facilities such as collection roads, buildings and other infrastructure (housing, medical and administrative buildings, store sheds, vehicles and equipment etc.). Projects supported the establishment and operation of nucleus estates, provided funding for extension services and credit facilities to develop smallholder farms, and in some cases promoted out-grower schemes. Some third and fourth generation projects expanded their scope and settled landless families on prepared land, and created productive employment on the estates and in the palm oil mill to raise the incomes of smallholders and employees.

Selected Country Experience

Indonesia

Indonesia has been a central focus of World Bank lending for oil palm development projects, with slightly over half of the total lending for the sector. Over the 1969 to 1983 period, seven projects were financed by the Bank. This was a period of considerable emphasis by the Government of Indonesia (GOI) on developing the agricultural sector, and the government established a range of government-sponsored (public sector) operations in the palm oil and other sectors.

The seven Bank projects were generally successful in establishing new plantations and introducing smallholders to oil palm cultivation. Results achieved included:

- Nearly 100,000 ha of oil palm planted and replanted (total)
- 12,000 smallholder families (rubber and oil palm) benefited and 24,000

new jobs generated on the nucleus estates and smallholdings *(North Sumatra I)*
- 2.59 million tons of palm oil production *(North Sumatra II)*
- Rubber and oil palm components benefited about 10,000 poor smallholder families and generated about 6,000 new jobs on the nucleus estates and smallholdings (*NES V)*
- 900 kms of road improved/ built *(NES V)*

The projects were assessed by IEG, which found the first five projects to be satisfactory according to their internal rating scheme, while the last two, which were considered larger and more complex, were unsatisfactory due to the poor performance of the responsible agencies, and logistical and management difficulties. Land titling was identified as being subject to delays, and remains a challenge to this day. It was noted that in one case in West Java there were difficulties with competing land claims from local communities which did not want to participate in the project. Based on the disappointing performance of the public agencies, the GOI subsequently encouraged private sector development of oil palm plantations.

Nigeria

Nigeria was the second largest recipient of World Bank palm oil sector projects, with six projects over the 1975 to 2009 period. One project is still under implementation. Results achieved included:
- 42,658 ha of oil palm planted (total)
- 384 km of roads improved *(Eastern Central and Nucleus)*
- Two small mills with capacities of 1 ton and 3 ton FFB/hr were rehabilitated *(Tree Crops)*
- 30 tons/hour of milling capacity was installed *(Eastern Central and Nucleus)*

In its review of these projects, IEG rated only two of five to be satisfactory. Issues that were identified included poor management, high labor costs and questions over land use rights for smallholders.

Cameroon

From 1967 to 1982 the World Bank funded six palm oil projects in Cameroon. The main objective of these projects was to increase the production of palm oil in the western region and improve the financial efficiency of public enterprises. Results achieved included:
- 10,464 ha of oil palm planted and 4,682 ha felled and replanted resulting in a net increase of 5,782 ha *(Camdev I)*
- Successful institution building of the Camdev company
- 8,280 ha of oil palms planted *(Socapalm I)*
- 2,031 ha of oil palm planted (281 ha estate and 1750 ha smallholder) *(Camdev II and Socapalm II)*

Out of the six projects, four were rated satisfactory by IEG. The first two projects (Camdev 1 and Socapalm) were satisfactory and their objective of increased production of palm oil was largely met. Socapalm was a new company and its management performed reasonably well. Despite their success, both the projects faced financial difficulties. Follow-on projects (Camdev II and Socapalm II) financed by the Bank were unable to address the financial difficulties but introduced smallholder out-grower schemes. These new additional components did not perform well either and financial situation of both companies deteriorated further. Finally, the World Bank decided to suspend further investments in this sector due to questions of profitability and competitiveness of palm oil production in Cameroon.

Papua New Guinea

The World Bank has had three projects in Papua New Guinea over the 1977 to 2008 period which primarily addressed oil palm. Two are closed while one project (Smallholder Agriculture Development

Project) is still under implementation. Results of the first two projects included:

- 50,000 tons of palm oil produced in 5,583 ha of land benefiting 1517 smallholders (Popondetta Smallholder Oil Palm)
- 8,230 ha of oil palm planted in new blocks (8,230 ha) (Oro Smallholder Oil Palm)
- Access road of 345 km built (Oro Smallholder Oil Palm)

IEG rated the first two closed projects satisfactory and moderately satisfactory respectively. Success was attributed to good suitability of the area for cultivation of palm oil with regard to soil and climate, and good management by the project staff. There were difficulties in providing inputs (fertilizer) for cultivation which reduced productivity.

Lessons Learned

Lessons learned from the World Bank's experience in the sector include the following:

The nucleus estate approach to smallholder tree crop development has not worked well: Experience with the series of seven nucleus estates and smallholders (NES) projects in Indonesia suggested that the NES approach to smallholder tree crop development did not work as originally envisioned. While the estates had the capacity to implement projects physical components, such as tree crop establishment and civil works, they had insufficient expertise in the promotion of smallholder development which could only be achieved if there was full coordination among government agencies with expertise in this field.

Land tenure and land titling ambiguities for smallholders delayed project implementation: Land tenure issues repeatedly surfaced in many projects and in the majority of the cases, projects were not able to address land disputes which continued throughout the project life, causing serious delays. At the outset of the projects, land for crop developments should have been secured legally as well as through in-depth consultation with the project beneficiaries. There were serious problems when land acquisition was undertaken late in the process.

Weak management capacity of public sector estate companies: The projects overstretched the management capacity of the public sector estate companies that were responsible for implementation of the crop planting, development of infrastructure as well as in coordinating extension and credit of smallholders were involved. Funding was also a problem. Most of the public sector estate companies lacked financial flexibility and were vulnerable to delays and reductions in the funds released for the projects from the government budget. Financial management was a major problem and these parastatals performed poorly in managing large commercial investments.

Infrastructure components (i.e. roads) not well integrated into the project: In several projects, the access roads were given less attention which led to serious delays in its construction and maintenance. Staff housing and in some projects, construction of processing plants had to be built with follow-on projects.

Primary focus on physical targets and rapid expansion of plantings: Quantitative targets for planting were given disproportionate attention. Interventions were therefore not equipped to focus on other components of the project which resulted in cost overruns and extension of closing dates. As a result, follow-on projects incorporating additional financing were needed to rescue public enterprises under financial difficulty.

Inadequate knowledge of the palm oil industry in general and insufficient understanding of the oil palm competitiveness in selected countries: In the case of Cameroon, the World Bank

was engaged in the country for 15 years with six projects. Towards the end, it concluded that the sector was not financially viable and palm oil was not competitive in world markets. During project preparation, appraisal targets for production, yield and revenues were not backed by any sector studies.

Overview of IFC Investments

IFC has engaged extensively throughout the supply chain in the palm oil sector, with investments in plantations (Indonesia, Thailand, Ghana, Nicaragua) as well as palm oil refining (Indonesia and Ukraine) and palm oil trading (Indonesia and Singapore). Since 1976, IFC has invested US$311 million in 26 palm oil related projects. This compares to net commitments of US$5.5 billion in the agribusiness sector over the same period, and US$80.1 billion invested in total by IFC. A summary of these investments is provided in Table 3.

IFC's early investments (1970s and 1980s) focused on smaller-scale processing as well as oil palm cultivation. Most of the investments in Africa were done through the Africa Enterprise Fund (AEF), which focused on SME-scale investments. These, and the project in Brazil, included investment in oil palm plantation development as well as expansion or upgrading of crude palm oil mills, palm kernel crushing, and associated facilities (bulk storage, effluent treatment). Environmental and social review of these investments was minimal, as these preceded any formal requirements by either IFC or the World Bank.

Subsequent investments, since the 1990s, have focused on larger plantation operations in Indonesia, with investments in operations in Bengkulu, West and South Kalimantan, and North and South Sumatra. These were located on existing agricultural lands (transmigration projects) or degraded lands (*Imperata* grasslands).

Table 3: IFC Investments in the Palm Oil Sector

Country	Year	Committed Amount (mln $)*	Status
Brazil	1980	4.7	closed
	1982	6.1	closed
	1993	0.6	closed
Cameroon	1976	0.8	closed
	1978	0.4	closed
	1981	0.2	closed
	1985	1.9	closed
Cote d'Ivoire	1987	2.0	closed
	1993	4.7	closed
	1996	3.8	closed
Ghana	2007	12.5	active
Honduras	2009	30.0	active
Indonesia	1990	12.7	closed
	1996	35.0	closed
	2002	11.5	closed
	2003	14.0	closed
	2003	12.0	closed
	2004	33.3	closed
	2007	50.0	closed
Mexico	2006	1.0	closed
Nicaragua	2009	25.0	active
Philippines	1982	11.0	closed
Thailand	1987	4.7	closed
Ukraine	2006	17.5	active
	2008	45.0	active

Other recent plantation investments have been in Nicaragua and Ghana, and further investments in Africa and Latin America are expected in the future.

Since 2004, IFC has been more active in moving down the palm oil supply chain, with substantial investments in trading (Wilmar Trading-short-term trade finance support) and in refining (Ukraine). These investments have resulted in criticism of IFC for insufficient attention to supply chain issues with regard to sustainability in trading and refining operations, which has in turn prompted this current strategy exercise for the palm oil sector.

IFC-financed companies generally performed well and were able to grow their business over time in spite of unexpected difficulties along the way with

one investment (Brazil) failing after experiencing disease problems and then ceasing operations. The main challenges to implementing (palm plantation) projects and achieving expected returns were: (i) the long gestation of palm plantations and heavy capital commitment that is required upfront, (ii) frequent claims over disputed lands; and, (iii) economic and financial crises in the country of operation. Although land claims were generally resolved through local mechanisms, they often resulted in delayed planting and production Economic crises had a negative impact on the financial performance of plantations because of the direct impact of devaluations, of policies that lowered the revenue base (e.g. export tax), but also because Governments were often unable to deliver on their budgeted commitments (e.g. to support financially the development of smallholder's plantings); under these circumstances private sector companies had to step in and fill the financial gap at a high additional cost.

Palm oil projects were also found to have had strong economic impacts for the countries involved. They supported the emergence of a class of private companies that, in Indonesia, took over the development of palm oil production from the mixed performance of state-owned estates (see World Bank experience above). They also had a significant economic impact on the livelihoods of local communities. The industry estimates that one job is created for each 5-hectare plantation developed. Common attributes for permanent workers have included housing, medical care, transport, water and electricity.

A key component of some of the projects, particularly in Indonesia, was the transfer of land for the development of small oil palm holdings. While the implementation of these schemes was sometimes delayed for reasons previously mentioned, and the economics was strongly impacted by economic crises, it eventually resulted in the establishment of a sector of smallholders who are able to derive a decent livelihood from their production, while benefiting from their access to the nucleus's infrastructure and technical support.

Finally, IFC engagement in the investment ensured that all investors adjusted their Environmental and Social policies and processes to the WB guidelines and, from 2006 to IFC's Performance Standards.

Lessons Learned

While a number of generic lessons to all IFC investments would apply, palm-oil related projects differed particularly with regard to the followings:

The need for careful selection of clients: IFC's investment experience shows that clients vary greatly in their capacity to understand and respond to environmental and social issues. In a sector such as palm oil, where there are a number of major issues of concern to stakeholders, clients need to have the capacity to deal with these issues as needed, or they need to be able to obtain or develop such capacity rapidly. It is important not to assume that the names and reputations of sponsoring companies will guarantee good management in any specific case—careful and regular monitoring is needed in every case in order to ensure that productivity/ management is continuously benchmarked.

The need for careful attention to questions of land acquisition and land tenure: Questions in regard to land use and land ownership can arise in all countries in which IFC works, even in areas where land ownership may be relatively settled and codified. Where land use rights are being transferred from local communities to private sector companies, by government fiat, there is a particular need for care in ensuring that procedures meet local laws and regulations and do not disadvantage local peoples.

The need for careful attention to biodiversity issues: Even though oil palm plantations today do not cover an overall area as large as other commodities, areas suitable for oil palm cultivation in the world are also the richest in terms of biological diversity. Concerns over loss of biodiversity are well known. The conversion of primary tropical forest to agriculture has been shown to result in major biodiversity loss. Lands that are planned for conversion to oil palm (or other crops) must be analyzed for their biodiversity/conservation value, and areas designated as being Critical Habitat (as per IFC's PS6) or of High Conservation Value (or similar designations) need to be protected.

The importance of working effectively with local communities to ensure that benefits are appropriately shared and issues properly managed: Especially in cases where communal lands have been transferred to private control, there is a need for companies to work with local communities both to build support for their business as well as to demonstrate that positive development benefits can accrue to the community.

The value of developing appropriate partnerships with stakeholders, such as roundtables, in order to address sector-wide issues: Strengthening the private sector more broadly, beyond financing of specific businesses, can be achieved through mechanisms such as roundtables, which bring together a variety of stakeholders to address issues. Roundtables provide a measure of internal governance for the private sector, and seek to transform the market through development of mutually-agreed standards for sustainability in the sector.

The value of working within a defined and agreed strategy for a sector: IFC recognizes the shortcomings of engaging on a transaction by transaction basis in the absence of an overarching strategy.. Effectively targeting investment interventions is best accomplished through a thorough understanding of the sector and a comprehensive strategy for its development. Such a strategy should address how different investment products and advisory services[1] can be targeted to address local conditions—particularly those relating to environmental and social issues. The strategy needs to define how IFC will work, through both its investment and advisory services, with all components of the private sector as well as addressing certain regulatory issues.

The need for adequate attention to supply chains: Concerns over supply chains, particularly for agricultural commodities, have become much more pronounced in recent years. Consumer concerns over environmental and social issues in production, trade and processing of commodities are now important risks that need to be addressed.

[1] IFC's Advisory Services are designed to complement the traditional investment lending. Additional details are provided in http://www.ifc.org/ifcext/about.nsf/Content/TAAS

D. Context: The Global Palm Oil Debate - Palm Oil Development and Sustainability

Introduction

A Google search (April 3, 2010) for 'oil palm' and 'deforestation" yielded 106,600 references and views while 'oil palm' and 'biodiversity loss' gave 23,700 hits - most of the views relate to the on-going global debate over the production of palm oil and its role in deforestation, biodiversity loss, climate change and social conflicts. The debate is highly polarized with the pro-development side asserting that palm oil is a highly sustainable industry that feeds the world while the pro-conservationists have blamed the palm oil sector as being the underlying cause of deforestation and other environmental and social ills.

This section provides a brief overview of the debate as it is unfolding, the players, and the key areas of contention. The intention is to provide the context for discussion of the key challenges and opportunities for the palm oil sector that will be covered in Section E.

What is it about?

As described in Section B of this paper, production of palm oil has increased significantly over the past three to four decades, with the major producers now being Malaysia and Indonesia. The expansion in planted area and production in recent years has been particularly rapid in Indonesia, which overtook Malaysia as the world's largest producer in 2007.

In general, the massive expansion in the palm oil industry did not really catch the attention of the major NGOs until the "the year the world caught fire" (WWF, 1997). In that year, which also coincided with the Asian financial crisis, vast forest fires occurred in Indonesia, Papua New Guinea, Brazil, Colombia and Africa. The fires in Indonesia caused much of South-East Asia to be shrouded in smog and haze for extended periods.

The fires of 1997 catalyzed WWF Nederland to work on establishing the underlying causes of the fires which had decimated large tracts of primary forests (AidEnvironment 2007). A follow-up study by WWF and IUCN (Rowell and Moore, 2000) identified the use of fire for clearing land prior to oil palm cultivation as one of the major causes of the forest fires in Indonesia. The study also linked several market players, including Unilever and financial institutions to the palm oil boom in Indonesia. This report prompted WWF Germany to conduct their "Burning forests for margarine" campaign to make German corporations accountable for using palm oil in margarine and other products (AidEnvironment, 2007).

In a study commissioned by Greenpeace Nederland, Wakker (2000) documented the involvement of major Dutch banks (including ABN-AMRO, ING Bank, Rabobank and MeesPierson) in financing investments in oil palm plantations by Indonesian companies as well as Malaysian corporations. In response to a joint campaign by Greenpeace Nederland, Milieudefensie and Sawit Watch Indonesia, ABN AMRO Bank, Rabobank and Fortis Bank agreed to commit to forest conservation and implement lending policies to limit deforestation or the use of fire in clearing land (Focus on Finance News, 2001).

A key initiative was the WWF Forest Conversion Initiative (FCI) which was conceived in 2001 to reduce the conversion of high value conservation forests for development of oil palm and soybean farms. To achieve this goal WWF employed a combination of approaches

such as development of best management practices, engagement of market actors along the palm oil supply chain and influencing investment policies for plantations development (WWF, 2009).

While concern over deforestation was the initial focus, the impact of expansion on loss of biodiversity and on land and social conflicts became visible from the work and campaigns by various social and environmental NGOs. Sawit Watch, a consortium of local social NGOs in Indonesia, working together with the Forest Peoples Programme and other international NGOs championed the cause of the local and indigenous communities (Colchester *et al*, 2000, Colchester *et al*, 2006 and Marti, 2008). Concerns over the loss of biodiversity made the orangutan the iconic focal point of campaigns by Borneo Orangutan Survival International (BOS International) (www.savetheorangutan.org) and the Sumatran Orangutan Society (SOS) (www.orangutans-sos.org) and other NGOs.

With the growing demand for biofuel and biodiesel from palm oil, particularly following the announcement of the EU directive on renewable energy with regard to sustainability criteria for biofuels, attention turned to the possible impacts of palm oil production on CO_2 emissions and global warming. The report by Delft Hydraulics (Hooijer et al. 2006) which concluded that deforested and drained peat lands in Southeast Asia are a significant major source of CO_2 emissions drew much attention and support in NGO campaigns. For example, the Greenpeace publication "How the palm oil industry is cooking the climate" (Greenpeace 2007), focused on how Indonesia's peat land carbon stocks are being depleted through development of palm oil.

On the other side of the debate, the palm oil industry and pro-development organizations argue that the palm oil industry has been sustainable for a long time. The positive attributes and contributions of palm oil to national economies and local well-being were promoted by organizations such as the Malaysian Palm Oil Council (www.mpoc.org.my) and the pro-development NGO, World Growth (www.worldgrowth.org). MPOC stated that "palm oil is the only product able to sustainably and efficiently meet a large portion of the world's increasing demand for oil-based consumer goods, foodstuff and biofuel" (MPOC 2009a). In its report, "Palm Oil – The Sustainable Oil", World Growth reviewed the accusations against the palm oil industry and assessed the impacts of palm oil on sustainability and economic development (World Growth, 2009).

Some of the assertions by the pro-palm oil lobby are rooted in the comparative sustainability advantage which palm oil has over the other edible oils, particularly soybean oil, rapeseed oil and sunflower oil. Palm oil is the most productive of all vegetable oils in terms of tonnes per hectare produced, thus requiring much less land. In terms of total use of land, it has been said that the area planted for palm oil is equivalent to less than one percent of the land under world agriculture. Other arguments supporting the palm oil industry include the industry's contribution to national economies, source of employment and poverty reduction through employment and land development schemes in Malaysia, Indonesia and other producing countries. On its ecological footprint, palm oil supporters say that oil palm can be a carbon sink and an efficient sequester of carbon dioxide.

As the debate has developed over time and as transnational NGO campaigns intensified to put pressure on the supply chain and consumers at large, the claims and counter-claims on both sides of the debate have at times pushed the limits of credibility. In their review of "greenwashing" by pro-development

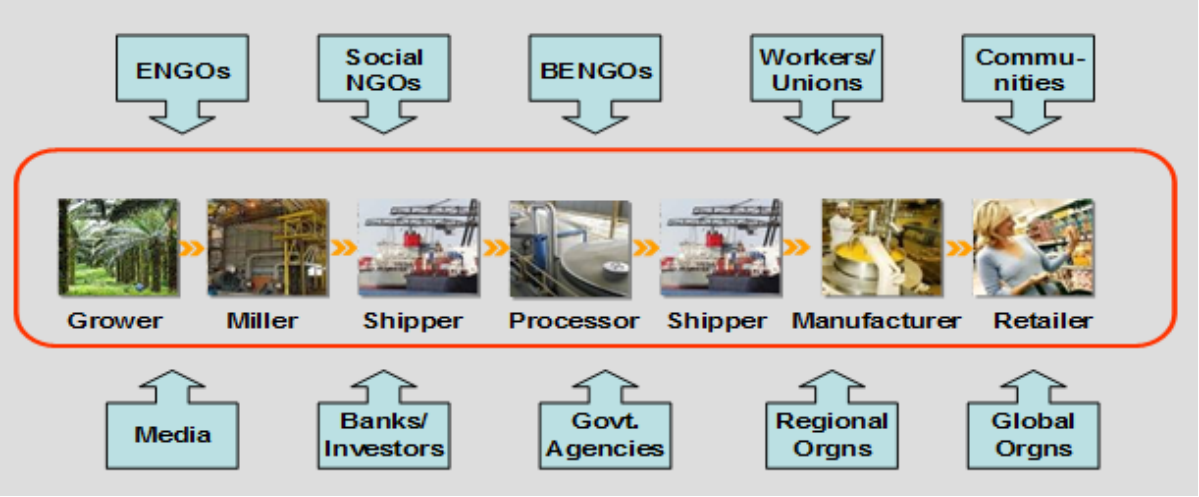
advocates and "blackwashing" by conservationists, Koh *et al* (2010) refuted some of the main assertions by the MPOC such as oil palm is a planted forest and oil palm expansion has not threatened biodiversity and forest conversion has stopped. MPOC's effort to defend the Malaysian palm oil industry through advertisements on BBC World led to complaints (which were upheld) to the UK Advertising Standards Agency (ASA) that many of the sustainability claims could not be substantiated (Guardian, 2009).

On the other hand, Koh *et al* (2010) stated that "environmental activists can also be guilty of inflating claims and employing scare tactics to win public support for their causes". They cited the Rainforest Action Network claims that "orangutans are predicted to become extinct by 2011" but noted that this is unlikely to happen as there are at least 50,000 individuals in numerous wild populations in Sumatra and Borneo. While acknowledging that declining orangutan population is a serious cause for concern, Koh *et al* (2010) cautioned that "unrealistic headlines could undermine public confidence invested in environmental groups, which would then be counter-productive to conservation goals." Another viewpoint came from Dr Marc Ancrenaz of HUTAN, a French grassroots NGO working on orangutan conservation in Sabah, Malaysia for the past 12 years: "The industry is under attack by environmentalists and has adopted a very defensive "greenwashing" approach denying there are the root cause of the problem. NGOs have adopted the opposite strategy called "blackwashing" and blame the industry for all problems encountered in the field, which is not true either. This situation is very sad since the debate in its current stage cannot move in any direction at all. We all need to work together to identify solutions" (Nature Alert, 2010).

Who are the major players?

The traditional palm oil supply chain model tends to focus on the players directly involved in the production and use of palm oil, especially the plantations, millers, refiners, processors, manufacturers and retailers (Figure 3) whom Wheeler and Sillanpaa (1997) called "primary social stakeholders because their interests are directly linked to the fortunes of the company through their relationships". However, the palm oil sector also has range of secondary stakeholders including environmental and social pressure groups, traders, financiers, industry associations and a host of manufacturing and service companies directly related to the sector. Although there has been limited interaction with them in the past, in the context of the present debate these stakeholders are exerting considerable influence on others in the palm oil supply chain, such as retailers and customers, and they could shape the future direction of the industry with respect to sustainability.

Figure 3: Palm Oil Supply Chain



While it is impractical to list all the players in the present debate, the key actors could be broadly grouped under Civil Society Organizations (CSOs), media, palm oil industry, palm oil supply chain and governments.

Civil Society Organizations: Among the CSOs involved in transnational campaigns on palm oil, the key players are environmental NGOs such as WWF, Greenpeace International, Friends of the Earth (FoE) and social and developmental NGOs such as Oxfam International, Forest Peoples Programme and Sawit Watch. WWF International played an early role in engagement with the palm oil supply chain, including the palm oil producers that eventually led to the establishment of the Roundtable on Sustainable Palm Oil in 2004. Greenpeace and Friends of the Earth conducted sustained aggressive campaigns focused mainly on preventing deforestation and biodiversity loss and climate change by leveraging the financial sector and the supply chain in consuming countries to force producers to take action. A major initiative was the call for a moratorium on further expansion of palm oil production worldwide (Greenpeace, 2009). Concerns over social justice and calls for social and land reform were spearheaded by the Forest Peoples Programme (FPP), Sawit Watch of Indonesia and Oxfam International.

The complaints lodged by FPP and Sawit Watch and other NGOs against IFC's non-compliance with its own Performance Standards in the palm oil sector led to the World Bank Group's announcement in August 2009 (World Bank 2009) that it would not approve any new investments in palm oil until a new strategy is in place. Other NGOs campaigned on more specific issues such conservation of orangutan by Borneo Orangutan Survival International, gender issues by Tenaganita for Malaysia and Wetlands International on peat forest conservation.

Media: The local and international print and electronic media have brought the debate to the mainstream and have raised the awareness of the consumers and public at large on the issues surrounding the palm oil industry. Active players include the Guardian, Telegraph, Financial Times, The Independent and the Economist in the UK, and national newspapers such as The Star in Malaysia and Jakarta Post. For example, The Independent's article on "The guilty secrets of palm oil: Are you unwittingly

contributing to the devastation of the rain forest?" (Hickman, 2009) was targeted at the consumers at large. The palm oil debate has been followed globally by TV news channels such as CNN, BBC World and Aljazeera.

Social networks like Facebook and Twitter are playing a significant role, with their ability to mobilize people online to join a campaign against a cause, as clearly demonstrated in the latest campaign by Greenpeace against Nestle for using non-sustainable palm oil and contributing to deforestation. After Nestle got YouTube to remove a Greenpeace campaign video *("Give the Rainforest a Break")* on the grounds of copyright infringement, the alternative media swung into full gear and through postings on Face Book and tweets as well as blogs, the online community was able to drive a PR disaster for the food giant within 4 days of the launch of the Greenpeace campaign on March 17, 2007. (http://prezi.com/kmrh4fmlzsen/nestle-kerfuffle/)

Palm Oil Producers: The palm oil industries in Indonesia and Malaysia are active participants in the debate as they have been the main focus of NGO campaigns. Collectively, they have been represented by associations such as the Indonesian Palm Oil Association (GAPKI) and the Malaysian Palm Oil Association (MPOA). The Malaysian Palm Oil Council (MPOC), which is supported by the industry and the Malaysian Government, has a mandate to promote the market expansion of Malaysian palm oil and its products. The roots of MPOC can be traced back to the Palm Oil Promotion Fund that was set up to address the anti-tropical oils campaigns in the USA in the 1980s. (MPOC, 2009b). Hence, it is not surprising that the MPOC has often maintained an aggressive stance to towards allegations against the industry. It should be noted that there is an underlying perception in the industry that the ongoing campaigns over sustainability could be associated with technical barriers to trade (Pushparajah, 2010).

Governments: The governments of producer countries have also played an active role. Malaysia and Indonesia have established a high level bilateral cooperation at the ministerial level to collectively address issues and concerns relating to primary commodities. The areas of cooperation with regard to palm oil include joint efforts in countering the anti-palm oil campaigns, cooperation on biofuels and biodiesel, sustainable palm oil production and fire and haze control (MPOA, 2009). The cooperation between the world's largest palm oil producers was reflected in the joint effort by the Ministers responsible for the palm oil industry of both countries to address the World Sustainable Palm Oil Conference on September 16, 2008 in London, UK (MPOC, 2008a). In the consuming countries, the EU directive with regard to sustainability criteria for renewable energy has fuelled the debate from the perspective of greenhouse gas emissions and climate change.

Palm Oil Supply Chain: Among the palm oil supply chain players, banks and financial institutions and food manufacturers and retailers were drawn into the debate from the beginning. Dutch banks became involved when they were implicated for funding forest destruction (Wakker 2000) and responded with sustainability policies for supporting investments in palm oil (Focus on Finance News, 2001). Friends of the Earth started their palm oil campaign directed at the retail market, particularly UK supermarkets in 2005 with campaigns such as "Palm oil – rain forest in your shopping bag" and "Oil for ape scandal".

Among the food consumer goods manufacturers, Unilever (which is the world's largest single buyer of palm oil) played a major role in shaping the debate. Besides providing the leadership for the Roundtable on Sustainable Palm Oil

(RSPO) since its formation, Unilever worked with Greenpeace to support a moratorium on deforestation for palm oil in Indonesia and announced that it will source fully traceable palm oil by 2015 (Industry Week, 2008). In December 2009, Unilever took a public stance against deforestation by suspending future purchases of palm oil from its Indonesian supplier, PT SMART (part of Sinar Mas Group) on the grounds of their alleged contribution to destruction and development of peat land (Unilever, 2009). A similar stand was taken against another supplier, PT Duta Palma in February 2010 (Koswanage, 2010). Nestlé followed this approach in March 2010 by discontinuing supplies of palm oil from Sinar Mas following a Greenpeace campaign against "KitKat" (Hornby, 2010).

Dealing with supply chain issues is a central concern for financial institutions. Dealing with smaller processors and traders which may only be able to ensure that a small portion of their material in their supply chain is certifiable is a challenge, and agreement is needed on how best to deal with these situations in order to promote sustainability.

What are key areas of contention?

A review of the publications relating to the palm oil debate shows the following common and recurring issues that are of serious concern to stakeholders, particularly CSOs and local communities. The challenges and opportunities for improvement will be discussed further in Section E of this paper.

Deforestation

Protection and conservation of the remaining tropical forests has been a core programme for NGOs such as WWF and Greenpeace. The objective of WWF's Forest Conversion Initiative is to halt the further conversion of forests to agriculture. Although the RSPO principles & criteria (P&C) has not allowed the development of High Conservation Value Forests since 2005, monitoring by NGOs has shown that significant deforestation continues, particularly in Indonesia. This is in spite of a call for a global moratorium on deforestation for palm oil by the Greenpeace - Unilever coalition.

Biodiversity loss

The major palm oil producing countries are also mega-biodiversity centres but endangered species are under threat globally through expansion of a range of agricultural commodities. The plight of the charismatic, endangered orangutan has been the focal point of numerous campaigns and has been given extensive coverage through the mass media. The biggest threats to the future of the orangutan are illegal logging, forest conversion to agriculture and forest fires. Other flagship species affected by development include elephants and tigers. A related problem has been that fragmentation of natural forest habitats and encroachment by palm oil development has resulted in serious human-wildlife conflicts.

Land conflicts

Land conflicts are a major problem in the palm oil sector. Conflicts occur between smallholders, local communities and indigenous peoples and plantation companies as well as with the government. The implications and consequences for local communities of acquisition of land for palm oil have been well documented in publications such as "Promised Land – Palm oil and land acquisition in Indonesia", "Ghosts on our own land – Indonesian oil palm smallholders and RSPO" and "Land is Life – land rights and oil palm development in Sarawak". In Indonesia, Sawit Watch has documented over 500 land related conflicts while WALHI recorded 200 cases of conflicts in West Kalimantan. In Malaysia, there are more than 150 litigation cases on land disputes involving indigenous peoples, of which about 40 cases are related to palm oil (Marcus *et al*, 2007).

Climate change

As land on mineral soil becomes less readily available, the expansion of oil palm is increasing on peat lands. It has been estimated that Indonesia alone has 22.5 million hectares of peat soil which is about 12 percent of its total land area. Drainage of this massive store of carbon and conversion to palm oil could contribute to enormous greenhouse gas emissions, as well as contributing to seasonal air quality problems.

What are the possible approaches for convergence?

With a clear divide between the two sides of the debate, what are the possibilities of finding common ground for a solution which can address the sustainability issues associated with palm oil? At a meeting among several European NGOs at the WWF office in Zurich in November, 2002, it was decided that the involvement of major players in the supply chain, including the financial sector, producers and users of palm oil is vital for finding a solution. This led to the idea of convening a roundtable to address this issue. After nearly two years of tough negotiations among the parties, particularly over the governance structure of the organisation, the Roundtable on Sustainable Palm Oil (RSPO) (www.rspo.org) was established in April 2004 as a multi-stakeholder platform involving all key players in the supply chain to address the main concerns and progress towards promotion of the production and use of sustainable palm oil. The growth in membership was impressive, starting from less than 50 Ordinary Members in the inaugural year to 322 Ordinary Members and 195 Associate Members at present (March 19, 2010) (www.rspo.org). That it managed to develop standards for production of sustainable palm oil (RSPO Principles and Criteria) within two years of its inception and the development and implementation of certification systems to support the production and trade in certified sustainable palm oil (CSPO) in the subsequent two years is an unprecedented achievement. Trade in CSPO is now a commercial reality and at present, more than 1.57 million tonnes of CSPO are being produced by 11 companies and 28 companies have received a supply chain certification (www.rspo.org) for sustainable management of their plantations. RSPO is actively recruiting members in Africa and Latin America in order to have a more global presence in the industry.

The establishment of RSPO was welcomed by the stakeholders. "The RSPO was a major breakthrough for the strategy of consumer-based branding campaign strategies, and as such, has become one of the most successful stakeholder initiatives of all time" (Pye, 2009). However, since the arrival of the first shipment of CSPO in Rotterdam in November 2007, NGOs and the media have continued with campaigns against RSPO members for continuing deforestation as well as the credibility of RSPO itself (Greenpeace, 2008b; Telegraph UK 2009). One of the strongest critics was Greenpeace which accused the RSPO for green washing (Greenpeace, 2008) in not taking action against errant members. Natural history film maker Judith Curran stated that the RSPO is an "incredibly clever public relations exercise" (Woulfe and Waterford, 2009).

In a recent review of the performance of RPSO, Laurance *et a*l (2010) identified several weaknesses such the governance structure that is seen to be industry-biased, a weak code of conduct, inadequate organizational capacity and the failure to promote a blanket ban on deforestation. They called for serious reform within the RSPO and suggestions for improvement include the need to develop monitoring and enforcement capability. Others have proposed alternative approaches such as a simpler Certificate of Assurance (COA) for producers to be licensed, registered and regulated by the Malaysian Palm Oil Board

(Basiron, 2008). Leveraging on their experience with FSC certified timber; The Forest Trust (TFT) has proposed to develop a unique model for trade in sustainable palm oil using market leverages to prevent deforestation (TFT News, 2010).

In spite of this criticism, May and Juniper (2009) opined that "for all its faults, there is no other forum other than the RSPO that will ever bring together all the major growers of palm oil in Southeast Asia with its major users in Europe and the US."

However, in the absence of a mechanism such at RSPO, there is a valid question as to what alternative global platforms or initiatives exist that could ensure the continued production of palm oil to meet increasing global demand for food and fuel without jeopardising the earth's finite natural resources. Other organizations, such as the Rainforest Alliance or Global GAP, have developed certification systems for other agricultural crops which could be applied to the palm oil sector. The Forest Stewardship Council (FSC) has relevant experience in developing a certification system which might be applicable to the sector. Other organizations such as The Forest Trust (TFT) or the Sustainable Agriculture Network (SAN) may also have relevant approaches which could be considered. Given the different national realities and cultures, another possibility would be for producing countries to develop their own certification systems for sustainable palm oil that could perhaps be accredited by an international organization such as the International Organization for Standardization (ISO). Numerous major producers and manufacturers of palm oil products are already certified according to ISO standards (such as ISO 14001, ISO 22000).

Whatever approach is considered, it is important to not lose perspective: voluntary certification is not the sole solution to all problems. Even the best designed and managed roundtable cannot do everything and solve every issue—it needs to work effectively within a complex and constantly evolving framework of market and technology needs, and international, national and local laws and regulations and industry practices in order to achieve sustainability in the sector.

E. Challenges and Opportunities for the Oil Palm Sector

Introduction

This section considers key challenges confronting the palm oil sector at present. The intention is to highlight for the stakeholder consultations the main issues that the WBG should consider when developing its new strategy for engagement and investments in the sector. Opportunities for addressing the challenges by stakeholders and in particular for furthering WBG's involvement in palm oil sector will be discussed. The list of challenges builds on the areas of contention identified in the preceding section on the palm oil debate. It is recognized that this paper will not be able to cover in depth all issues of concern to all stakeholders, particularly at the regional or local levels, but it is expected that through the series of global consultations that additional issues of significance and opportunities will be identified to support the strategic planning process of the WBG.

Considering that sustainable production and use of palm oil should be based on a framework for sustainable development and good governance, the challenges and opportunities will be discussed under the broad headings covering economic, environmental and social aspects and governance. However, it should be clear that these issues are highly interrelated,

and solutions must address the linkages among them.

Economic Aspects

Economic Aspects – Challenges

Yield Gaps: The most important technical challenge to the palm oil sector is probably the large productivity gap between the actual and achievable yields of palm oil. Although plant breeders have made impressive progress in raising the genetic potential of oil palm yields over the years, the actual yields and the national productivity of oil have stagnated since 1975 in the range of 3.0 to 4.4 tonnes oil per ha (Tinker, 2000). In 2008, the Malaysian national oil yield was 4.08 tonnes per ha (Mohd. Basri, 2009) while the average yield in Indonesia was 3.51 tonnes oil per ha (Rosediana Suharto 2009). Considering that current planting materials are capable of producing more than 8.6 tonnes oil per ha (Henson, 1990), this gap in yield is one of the biggest challenges for the industry.

Improvement of productivity of smallholders is a greater challenge as there is a wide difference between the palm oil production by plantations and small holders. For example, in Indonesia, the average yield of the smallholder sector in Indonesian in 2008 was 2.52 tonnes oil per ha which was about 35 percent and 40 percent lower than the production from private and Government-owned plantations respectively (Rosediana Suharto, 2009). Variability in yield within the smallholder grouping is also significantly greater, which may be due more to differences in farming practices and inputs than in the genetic potential of the plants.

In addition, there are also opportunities to increase CPO mill extraction rates, which could range between 18 to 26 percent, depending on the operator.

Declining Prices and Rising Costs: The next major challenge for the sector is the rising cost of production coupled with declining real price of palm oil. Although the current prices look attractive in real terms, Fry (2009) has shown that that palm oil prices have declined by about 2.3 percent annually since 1950, from about USD 1600 (in 2007 terms) to a long-term average of about USD 400 per tonne of oil currently. Meanwhile, costs of inputs have escalated over time, particularly for fertilizers which now constitute more than 50 percent of the total production cost of palm oil. Prices of fertilizers fluctuate considerably with the price of fossil fuel, and exorbitant increases were recorded recently for example when prices of commonly used fertilizers such as muriate of potash increased by 3 times (Mohd. Basri, 2009). It has been estimated that oil palm productivity needs to increase by 1.0 to 1.5 percent annually to keep pace with rising production costs (about 2-3 percent increase annually) and the declining real price of palm oil (about 2-3 percent decline annually) (Chandran, 2010b).

Poor uptake of certified sustainable palm oil (CSPO): The first shipment of certified sustainable palm oil arrived with much fanfare at Rotterdam in November 2008; however the early excitement turned to disappointment for the growers when it became obvious that the demand for CSPO by the buyers in EU was just a fraction of that anticipated. By mid 2009, when RSPO-certified plantations were able to supply 1.50 million tonnes of CSPO per year, only 15,000 tonnes of CSPO had been taken up by EU manufacturers, many of whom had earlier made public commitments to source only CSPO by 2015 or earlier.

In order to assess actions against words of European companies and to encourage the uptake of CSPO, WWF developed a "Palm Oil Buyers' Scorecard" to assess the progress of sourcing of CSPO by 59 European companies from March to September 2009 (www.panda.org/palmoilsscorecard).

This initiative had an immediate impact on the volume of CSPO traded. When the scorecard results were published in October 2009, the volume of CSPO bought had increased to 195,000 tonnes. But this quantity is less than 5 percent of the EU's total annual consumption of palm oil! However, it is encouraging to note that recent uptake has been very good; about 95 percent of CPSO produced during the first quarter of 2010 has been purchased. Total uptake in the past 12 months was about 50 per cent (Mongabay, 2010a).

Economic Aspects - Opportunities

Closing the Yield Gaps: Improving land productivity is one of the most effective ways for improving the profitability of the sector and mitigating rising production costs. Closing the wide difference between actual and potential yields would also have a positive impact on the environmental bottom-line as increased productivity could reduce the pressure to open new land. This was underscored by a Greenpeace call that "Indonesia must boost yields to save forests" cited in a recent Reuters report (Bhui and Davies, 2009).

Assuming a 20 percent increase in production, an additional 7.7 million tonnes of palm oil could be produced by Indonesia and Malaysia -this is equivalent to the production from about 1.9 million hectares of new plantings. In order to make truly significant changes, the sector should be aiming for a productivity target of 6 to 8 tonnes oil per ha. While this would be a very challenging goal, it is not unrealistic as demonstrated by some companies such as IOI Corporation Berhad which had achieved an average oil yield for the whole Group in excess of 6.0 tonnes oil per ha in 2008 and several estates produced more than 7.0 tonnes oil per ha (IOI Corporation 2008).

While improvement of productivity in existing plantations could be achieved through implementation of Better Management Practices (BMPs) such as efficient management of crop collection, soil fertility, water resources and attention to milling efficiency, timely replanting of oil palms at the end of their economic cycle with superior planting materials would be the most effective long term approach towards raising productivity. Investments by the private sector on R&D in this aspect have been yielding exciting results; for example, PPTP London Sumatra Indonesia's research has developed F_1 hybrid seeds (non-GMO) that are potentially 3 times more productive than conventional planting materials (Sumatra Bioscience, 2008).

In Malaysia, Asiatic Development Berhad and Sime Darby Berhad have made significant breakthroughs in sequencing of the oil palm genome (Oh, 2009). Through a better understanding of the genetic make-up of the oil palm, researches will be able to pinpoint genes useful for producing superior planting materials with desirable traits such as disease resistance, drought tolerance and oils with a higher level of unsaturated fats.

Raising the productivity of smallholders: While private estates have the financial resources and capacity to address the productivity gaps, the smallholder sector needs urgent help to improve their productivity and production practices. Given the right training and technical support and extension service and management inputs, there is no reason that smallholder production cannot approach the productivity of larger estates.

Environmental Aspects

Environmental Aspects – Challenges

In "*World Agriculture and the Environment*", Clay (2004) indentified the main environmental problems arising from production of palm oil as habitat conversion, threats to critical habitats for endangered species, burning and air pollution, soil erosion, use of pesticides and use of fertilizers. While

environmental NGOs generally share these concerns, the main challenges that are frequently featured in campaigns and programmes are deforestation and loss of biodiversity through conversion for oil palm cultivation and timber plantations.

Deforestation: The state of the world's forests has been assessed by the UN Food and Agriculture Organization (FAO) at 5 to 10 year intervals since 1946. In the latest assessment, the Global Forest Resources Assessment 2010 (FRA 2010) (FAO 2010) reported that the rate of deforestation since FRA 2005 show signs of decreasing but the overall loss of forests is still alarmingly high, particularly in South America and Africa. However, it is noted that the rate of deforestation in Brazil and Indonesia, which had the highest net forest losses in the 1990s, has decreased since the last assessment.

On the loss of forests in Indonesia, Rautner *et al* (2005) showed that the forest cover on the island of Borneo had declined from 73.7 percent in 1985 to 50.4 percent in 2005 while the projected cover in 2010 and 2020 was 44.4 percent and 32.6 percent respectively. The total forest decrease in Kalimantan from 1985 to 2002 was about 13.3 million hectares while the forests lost in Sabah and Sarawak in Malaysia was estimated to be 0.25 and 0.40 million hectares respectively. As the remaining lowland forests on the island remain under serious threat from conversion, the governments of Indonesia, Malaysia and Brunei signed a historic declaration in February 2007 to conserve the "Heart of Borneo" covering about 220,000 sq. km of biodiversity-rich tropical forests in the three countries (WWF, 2007).

Loss of forest cover in Sumatra, Indonesia, has also been very alarming, particularly in the Province of Riau which has the largest area of lowland peat forests in the country. An assessment of deforestation and forest degradation from 1982 to 2007 (Uryu *et al*, 2008) showed a 65 percent loss of forest cover over the 25-year period, or a loss of about 4.2 million hectares of forest. It was estimated that the development of timber plantations (*Acacia*) contributed to 24 percent while the cultivation of oil palm contributed to 29 percent of the forest loss following initial exploitation of the timber resource.

Deforestation has significant environmental impacts, including:

- loss of biodiversity
- changes in climate both at the local, broader landscape and global scales (especially when burning is used to clear forest land)
- hydrological changes due to alteration in precipitation retention and rainfall rates

These result in the loss of valued ecosystem services for human populations, particularly poor people who may have no or few other resources.

Discussions of forest loss are complicated by lack of agreed definitions of what types of forest are being destroyed. In most lowland areas, the original tropical forests have already been logged, and the resulting secondary forest may have been further fragmented by agricultural development before being finally felled for oil palm development. One important question that needs to be addressed is whether logged-over secondary forest is suitable for conversion to oil palm.

Loss of biodiversity: Concerns about biodiversity loss are directly related to the loss of natural forests. It is well established that biodiversity in oil palm plantations is very much lower than in natural forests, essentially due to the reduced structural complexity in such plantations. The reduced habitat structure provides fewer niches for flora and fauna. There has been considerable attention focused on charismatic endangered species such as the Sumatran tiger, Asian elephants and the orangutan.

These and other charismatic species are particularly vulnerable when forest areas are cleared, as the increased access leads to increased hunting pressure as well as opening the area to other human settlement. Increased habitat fragmentation and access leads to increased conflicts between humans and these species. A case in point is the elephant-human conflict along the floodplains of the Kinabatangan River in Sabah, Malaysia where the natural forest corridor of the pygmy elephants has been fragmented by development of oil palm plantations. Similar situations have been reported in Riau and Bengkulu provinces in Indonesia.

Among the flagship species, the orangutan in Southeast Asia has become symbolic of the problems regarding deforestation and forest degradation and they have often been used as a 'barometer' of the health of the forests (Eko Hari *et al*, 2007). The plight of the orangutan has been highlighted in numerous publications and NGO campaigns. UNEP's publication, "*The Last Stand of the Orangutan*" (Nellemann *et al*, 2007) assessed the status and future of the orangutan. The Bornean orangutan has been classified by the World Conservation Union (IUCN) as "endangered" while the Sumatran orangutan was listed as "critically endangered". It was recently estimated that the population of the orangutans living in the wild on Borneo Island ranged from 45,000 to 60,000 individuals, most of which are concentrated in Kalimantan while there are only 7,300 orangutans remaining in Sumatra. The survival of this endangered species is seriously threatened by illegal logging, illegal hunting and trade, forest fires, subsistence agriculture and the development of plantation agriculture (notably, oil palm and acacia plantations).

A central problem in regard to biodiversity concerns is that little attention is given during the planning phase for plantation development as to whether the area being converted is of significant biodiversity value—whether it has any Critical Habitat (according to IFC's Performance Standard 6) or is of High Conservation Value (as per the definition adopted by RSPO). There have been few tools to do this in the past, and there has been a lack of attention to this in formal environmental impact assessment procedures.

Climate Change: Concerns about climate change due to global warming initially focused on combustion of fossil fuels for heat and transportation, and the subsequent release of CO_2. With further study it has become clear that a variety of other anthropogenic activities are also contributing significantly to the release of CO_2, and that conversion of carbon-dense tropical forests is likely to be an important part of these. It has been estimated that deforestation contributes to about 18 percent of the global greenhouse gas emissions (Stern, 2006).

With regard to the potential contribution of the palm oil sector to climate change, there are serious concerns that development of plantations on tropical peat lands is resulting in significant CO_2 emissions. As these areas are drained, the peat is exposed to oxidation resulting in significant CO_2 release over an extended period. A Delft Hydraulics study showed that at present, CO_2 emissions arising from decomposition of drained peat lands in Indonesia are likely to be 632 Mt/yr, with the range of 355 to 874 Mt/yr (Hooijer *et al*, 2006). Further, an estimated average emission of 1400 Mt/yr was caused by peat land fires over 1997-2006. These and other data have been cited as ranking Indonesia as the third largest emitter of CO_2 after China and the USA. However, these conclusions have been challenged (Hanim Adnan, 2009; Paramananthan, 2008). As there is no common understanding over the nature and scale of emissions from tropical peat lands, the RSPO has convened a Peat Land Working Group to address the problem (www.rspo.org).

Other significant sources of GHG emissions associated with oil palm are the use of fires for land clearing and the emissions of methane from the effluent treatment ponds of palm oil mills. Although the ASEAN countries have signed the ASEAN Agreement on Transboundary Haze Pollution in 2002 and had adopted regional policy to implement zero burning (ASEAN Secretariat, 2003), use of fire for clearing land for agriculture continues and has contributed to air pollution in the region annually. Use of fires among smallholders and farmers is common as this is a traditional agricultural practice for them and lack access to heavy machinery to do otherwise. There is, however, substantial evidence that the use of fire by plantations has reduced in recent years.

Currently in most countries, there are regulations in place that require the treatment of palm oil mill effluents before they can be discharged into waterways. The most widely used system used is the anaerobic digestion of the effluent through a series of ponds. However, the open ponds are a major source of GHG emissions as methane which is more potent than CO_2 in terms of global warming potential, is released through the digestion process. At present, most of the open pond treatment systems do not capture the methane released. Larger firms are moving to implement technology for the capture and use of methane, but this is often financially out of the reach of smaller operators.

A major challenge to the palm oil sector with regard to climate change is compliance with the European Union (EU) Directive for Renewable Energy which requires biofuels to achieve a minimum 35 percent reduction in emissions compared to fossil fuels by 2010 and this will be raised to 60 percent by 2017. There is also requirements relating to emissions from indirect land use change (iLUC) arising from demand for biofuels. On the reductions in emissions from palm-based biofuels, the EU has ascribed to palm oil a 'default value' of 19 percent reduction compared to fossil fuel and a 'typical' GHG savings value of 36 percent but this has been disputed by the producers as an independent study showed that the potential GHG savings from palm oil could be understated by 20 percent (MPOC, 2008b).

In a recent paper, Pehnelt and Vietze (2010) stated that "the EU Renewable Energy Directive is discriminatory from the outset and the GHG saving values and their interpretation are based on wrong assumptions and faulty calculations. For example, under the Directive biofuel producers in the European Union are permitted to claim higher GHG savings than biofuel producers outside the EU. This is protectionism and clearly in violation of established international trade laws".

Use of pesticides and fertilizers: Misuse of pesticides and fertilizers is frequently cited as a negative impact of oil palm cultivation. In general, pesticide use is low compared to many other crops, but some chemicals used pose significant risks to operators and smallholders and the environment. The RSPO Principles & Criteria require the elimination of the use of chemicals categorized as World Health Organization as Type 1A and 1B, or listed by the Stockholm or Rotterdam Conventions, and that paraquat is be reduced or eliminated (www.rspo.org). Among these hazardous chemicals, the herbicide paraquat gives the most cause for concern as it has poses serious health hazards to the spray operators. The Pesticides Action Network--Asia & the Pacific has called for a ban on paraquat production and use on numerous occasions but to no avail (PAN AP, 2009). RSPO recently commissioned a study to look for suitable replacements for paraquat (Rutherford, 2009) but no clear solutions have been forthcoming. Clearly, this is a challenge that must be addressed on an urgent basis. The overall aim is to

minimize the dependence on herbicides within the context of Integrated Weed Management (IWM) which uses a combination of physical, cultural, biological and chemical control approaches.

Substantial fertilizer use is needed for oil palms on what are often nutrient-poor tropical soils. Environmental impacts relate particularly to improper application resulting in excessive runoff and loss to surface waters, resulting in eutrophication (nutrient enrichment). While nutrient requirements for the palm are commonly based on soil and foliar analyses, the efficiency of use of fertilizers is sometimes questioned. Corley (2009) observed that of the nutrients supplied by fertilizers, only a small fraction of the nitrogen and potassium are exported to the palm oil and kernel. The implication is that there is inefficient recycling of nutrients after replanting and much of the excess nutrients are lost. Thus, he questioned if it was necessary that high inputs of fertilizers should continue. More efficient fertilizer usage would mean lower production cost as well as lower environmental impacts. Again, further research is needed on this point. In the past, the empty fruit bunches (EFBs) were often burned in incinerators at the mill. Current good practice is to either apply the EFBs directly or to compost the EFBs with CPO mill effluent and apply the compost to the plantation, thus returning these nutrients directly to the field for eventual uptake by the palms and interrow vegetation.

Environmental Aspects – Opportunities

Moratorium on deforestation: Greenpeace and Unilever are working together in a coalition and have suggested a moratorium on deforestation in Indonesia (Unilever, 2009b). The proposal calls for a two to three year moratorium on conversion of all types of forests in order to allow the mapping of High Conservation Value Forests and High Carbon Value Landscapes. Based on these maps, a new land use planning policy could be developed at the national, provincial and district levels.

However, the proposal has met resistance from Indonesia, which claimed that it infringes on national sovereignty as well as being a potential trade barrier. Grower members of RSPO felt that the moratorium would not be necessary as compliance with the P&C requirements for development of new land would ensure that HCV forests are not converted.

Use of degraded land for oil palm cultivation: The threat of deforestation

"Degraded Land"

- The term "degraded land" is often used without a clear definition of what is being discussed, and this can lead to confusion when stakeholders use differing definitions. The term "degraded" can refer to the land itself (the soil) or to the forest or vegetation cover that is on it.
- Degraded soil is generally considered to be eroded or leached of nutrients. Some tropical soils are prone to the loss of nutrients and salinization, which results in very low productivity if they can be farmed at all.
- Degraded forests are those in which the structure, species composition, biomass and/or canopy cover are reduced from what is considered to be the original pristine forest cover of the area. (Forest harvesting generally results in forest degradation, rather than deforestation). There can thus be a broad range of forest types which could be termed degraded.
- Any discussion of the use of "degraded land" for growing oil palm needs to be clear on which aspects are considered degraded, and by how much. "Degraded land" may belong to people who may not consider it to be degraded and who may have legitimate claims over this land that need to respected or factored in.

could be minimized if future expansion of oil palm is directed to degraded land (see Box 1 for definition). While reliable authoritative estimates of the extent of degraded land are not readily available, Clay (2004) claimed that there are about 20 million hectares of such land in Indonesia that are suitable for agriculture while the World Resources Institute (WRI) provided an estimate of 15 to 20 million hectares (www.projectpotico.org). The use of degraded land would depend on the cost of rehabilitation and it is also recognized

that it would be more profitable to develop plantations from forest lands as revenue could be realized from the sale from timber that would support the non-productive phases of the plantation. However, if the payment for environmental services is taken into consideration, rehabilitation of degraded land may offer significant carbon sequestration potential (Clay, 2004).

WRI has launched a new project called "POTICO" (**P**alm **O**il, **TI**mber, **C**arbon **O**ffsets) to promote the use of degraded land and reduce the pressure on primary forests and also to curb illegal logging (www.projectpotico.org). "POTICO consists of a portfolio of investments—in sustainable palm oil, FSC-certified timber, and carbon offsets—that is designed to divert new oil palm plantations onto degraded lands and bring the forests that were slated for conversion into certified sustainable forestry."

Mechanisms for reducing GHG emissions: ***CDM***. *A*mong the flexible mechanisms under the Kyoto Protocol, the Clean Development Mechanism (CDM) allows industrial countries to support the achievement of their emissions reduction commitments by earning 'carbon credits' (Certified Emissions Reductions or CERs) through assisting developing countries in achieving sustainable development. This is done through implementing CDM projects that are accepted by the host country and approved (registered) by the CDM Executive Board.

In the palm oil sector, CDM projects have been implemented mostly for the capture of methane gas released from palm oil mill effluent treatment plants and utilizing the biogas for power generation. However, the number of such CDM projects registered is still rather low compared with the number of palm oil mills in operation. High initial capital requirements have been often cited as a barrier for such CDM projects. However, in view of the potential revenue from the CERs, the number of CDM projects could be set to increase. Recently, Felda of Malaysia announced its plan to maximize the use of biomass wastes and effluents from all its 60 palm oil mills into renewable energy through CDM projects involving 56 biogas plants (Hanim Adnan, 2010). Harnessing of biogas for power generation has also been applied though the CDM route by the palm oil industry in Colombia (Becerra and Hoof, 2005).

REDD+. *C*onceived as a key mechanism for the post-2012 climate agreement, REDD stands for "**R**educing **E**missions from **D**eforestation and **D**egradation". The (+) was inserted later to signify the addition of conservation and enhancement of carbon stocks, such as through sequestration. The basic concept is that "countries that are willing and able to reduce emissions from deforestation should be financially compensated for doing so" (Scholz and Schmidt, 2008). Simple as it seems, REDD has generated a huge global debate since it was put on the agenda of the UN Framework Convention on Climate Change (UNFCCC) for discussion at the 11th Session of the Conference of Parties (COP11) in Montreal in 2005. Intense negotiations were seen at the COP15 meeting in Copenhagen in late 2009 as there is much uncertainty over the real benefits and effectiveness of REDD and how it will be implemented and funded.

Many CSOs do not support REDD, as they see it as a market-oriented mechanism for industrialized countries to continue to pollute without real effort to arrest deforestation. Greenpeace (Mongabay, 2010b) argued that introduction of tradable forest credits could adversely affect the world's carbon market and instead proposed an alternative mechanism that includes the establishment of a global fund to support forest conservation projects in tropical countries. Friends of the Earth (2008) stated that "the REDD proposals currently on the table are intended to generate profits for polluters, not to stop climate change"

On the other hand, WWF views REDD as "a critical component of the overall greenhouse gas emission reductions required to achieve the goal" of keeping the rise in global temperature to below 2°C. To support this goal, WWF suggests a strategy involving a phased approach that is driven by national level REDD programs (Brickell, 2009).

What is the relevance of REDD to the palm oil sector? An analysis of the profitability of converting forests to oil palm plantation versus conserving was undertaken by Butler *et al* (2009) and they concluded that it would be more profitable to convert forests to oil palm rather than earning carbon credits from conserving it. However, the results could be more favourable for conservation if carbon credits from avoided deforestation are accepted in REDD schemes and if payments for environmental services (PES) (which were not factored in the study) are also included.

Of the two mechanisms discussed, the CDM approach is currently operational and ought to be encouraged for the palm oil sector. While there has been significant preparatory work for REDD+, the failure to agree on implementing mechanism for it at Copenhagen has resulted in considerable uncertainty as to when this will be implemented. The role of REDD+ in the palm oil strategy needs to be further defined.

Market transformation: Strategies to address complex environmental challenges such as deforestation, biodiversity conservation and climate change should include holistic market-based approaches involving various players in the supply chain. The WRI POTICO project discussed earlier is one such market transformational approach. Another is the IFC Biodiversity and Agricultural Commodities Program (BACP).

The BACP is designed to address the threats posed by expansion in agricultural commodities through market transformation strategies of target commodities, initially palm oil and soybeans. The BACP provides grants for projects that would promote, from the perspective of biodiversity conservation, improvements of public and institutional policies, adoption of better management practices (BMPs), increased market demands for products with positive biodiversity impacts and promotion of pro-biodiversity financial products and services (www.bacp.net). The BACP provides the opportunity for partnerships among industry, public sector and civil society stakeholders to bring about significant progress in biodiversity conservation.

There are currently four approved BACP projects in the palm oil sector: three projects test and refine practices such as High Conservation Value Assessments and one directly supports the RSPO to put in place the relevant tools and information to members so that they may implement more easily the biodiversity related principles and criteria (www.bacp.net). An on-going BACP project is collaboration between the Zoological Society of London (ZSL) and several palm oil producers, of which Wilmar International is one, to develop a scientific framework for biodiversity conservation in oil palm

landscapes (RSPO, 2008). In addition, BACP is developing, with the support of Eco-agriculture Partners, a web-based tool to monitor and account for impacts of certification so that it will be possible to track what transformation effects actually take place.

Another market-driven approach that is taking shape is the WWF Market Transformation Initiative (MTI) for a wide range of global commodities, including palm oil and soy (soybean oil and meal). Change in the market place is being undertaken through an integrated framework involving multi-stakeholder engagements such as the RSPO, transformational partnerships with companies to improve the sustainability of supply chains, developing and promoting BMPs and sustainable investments in commodities (http://www.panda.org/what_we_do/footprint/agriculture/). With regard to the palm oil sector, the MTI key priorities include maintaining and improving the effectiveness of the RSPO and its standards, promoting land use planning to identify and protect HCV areas, encouraging manufacturers and retailers to adopt sustainable procurement practices and influencing investment and lending practices (Tan 2010, *pers com*).

In the sustainable investments component of this initiative, WWF has published *The Palm Oil Financing Handbook* for sustainable investments in oil palm (Taylor *et al*, 2008). Although the handbook provides practical guidance on the development and implementation of a responsible palm oil financing and investment policy, adoption of the approach has mainly been limited to international banks to date (Tan, 2010 *pers com*). The financial and investment sector can play an effective role in ensuring sustainable investments in palm oil, and mechanisms need to be identified to encourage the incorporation of best practice in their lending.

Through the above mentioned programs or separately, a number of CSOs, companies, governments, research entities and partnerships such as RSPO or the Business and Biodiversity Offsets Program (BBOP) are looking at creative ways to organize and pay for the costs of nature stewardship, conservation and certification while adding value to the economy. One of the main reasons why biodiversity is lost is because its value is not adequately reflected in the economy and because those who preserve its benefits are not paid. Carbon storage, or GHG avoidance, is for now about the only ecosystem service which may receive a payment under certain conditions.. This is a win-win with biodiversity conservation but is not presently sufficient, in scope and payment level, to cover all needed costs.

Social Aspects

Social Aspects – Challenges

A range of social issues have been associated with the development of the palm oil sector. In Southeast Asia, these have been documented in a variety of publications (Marti, 2008; Colchester *et al*, 2007; Zen *et al*, 2008; McCarthy and Cramb, 2008). Similar issues arise in other regions. Many of these issues center on the questions of land use, land ownership and tenure, and how rights are transferred. Related to these are the roles of smallholders and the risks they face in terms of low productivity, fair prices, and access to finance and markets. These issues are of course common to many other agricultural sectors , but they are especially problematic in areas which are experiencing rapid modernization and changes from basic subsistence agriculture to modern cash crop or industrial farming.

Land rights, land use and land acquisition: Obtaining access to large contiguous tracts of land for oil palm planting is a central issue in all regions. Large palm oil companies prefer to gain access to

contiguous lands as there are significant economies of scale in clearing, planting and managing such properties. This requirement is often in conflict with the needs of both individuals and local communities who may want to retain access to their existing holdings. In many cases the application and interpretation of the law is unclear.

In Indonesia, companies can apply to district (*kabupaten*) authorities for access to land. The process involves several permits and requires negotiation with local communities and individuals. Many complaints regarding abuses arise from the lack of understanding by individuals and communities of their rights and how the process works and the procedures they need to follow.

While many land conflicts can be traced back to early days when forest lands were being opened up for timber concessions and rural development projects, the palm oil sector has had a significant share of the land conflicts. An analysis of the forest and land conflicts recorded in Indonesia by the Consortium on Agrarian Reform in 2001 showed that plantation-related conflicts accounted for 32 percent or 261 cases of the total cases documented. In 2008, Sawit Watch recorded and monitored 570 conflicts in oil palm plantations, of which many date back to the Suharto era when the land rights of communities were not duly recognized (Jiwan, 2009). In Sarawak, of the 150 cases of land conflicts in the courts at the time, about 40 cases involved oil palm plantation developers (Colchester *et al*, 2007).

In Latin America, particularly in Brazil, there have been numerous incidents of "land invasions", where landless groups have invaded large agricultural estates and occupied the land. These also reflect the need for close attention to land tenure issues.

Indigenous peoples and local communities: To the indigenous peoples, land is life. Common land is an important aspect of most indigenous peoples' tenure systems in many countries in Southeast Asia. When their claim to the land that has been used for generations is threatened or diminished through development, the indigenous peoples have fought back. An example is the landmark event in 1987 when the Penan, Kayan and Kelabit communities blocked roads at 23 different sites in Sarawak for a period of eight months (Rautner *et al*, 2005). Protests have continued periodically, albeit at a lower scale than the 1987 event. A recent protest was the blockage of logging roads by Penan natives in the Upper Baram region to prevent the logging of the last remaining virgin forests in the area by a timber company in March, 2010 (www.world-wire.com/news/1004060001).

An underlying cause for land conflicts with indigenous peoples is the inconsistencies of the laws relating to the recognition of and respect for native customary rights to land. Indonesia and Malaysia and other Southeast Asian countries have inherited the colonial principle of state control over land resources. Under the Domain Declaration of the colonial Dutch 1870 Agrarian Law, land which was not under clear ownership was considered State Land; communities' rights to land based on customary laws were not recognized as ownership by Dutch law (Marti, 2008). Although the 1945 Constitution of Indonesia recognizes the existence of traditional political entities based on the heritage of indigenous peoples, some laws enacted retain the 'domain' principle which affects the rights of indigenous peoples in Indonesia. For example, the introduction of the Basic Forest Law No. 5 during the Suharto regime discriminates against indigenous peoples' use of the forest ecosystem goods and services (Jiwan, 2009). A similar situation was seen in Sarawak in Malaysia where the 1957 Sarawak Land Code recognized the

Dayaks' rights to land, but the Forest Ordinance of 1953 which classified large tracts as Permanent Forests restricted or controlled the activities of the indigenous peoples in these areas in order to curtail the practice of shifting agriculture (Raunter *et al*, 2005).

Land conflicts between indigenous peoples and local communities and plantation companies are often the result of the lack of adequate consultation and agreement amongst the parties. RSPO requires (Criterion 7.5) the application of the principle of Free Prior Informed Consent (FPIC) when land is being acquired. This approach has also been recommended by WWF as due diligence tool to minimize risks by investors. Within the RSPO context, FPIC is linked to issues such as customary rights, land acquisition, compensation and conduct of social impact assessments.

Smallholders: Raising productivity is perhaps the biggest challenge facing the smallholder sector. The problem is more serious among independent smallholders, because supported or 'scheme' smallholders under land schemes like Felda in Malaysia and the NES schemes and subsequent cooperative schemes (KKPA) in Indonesia have access to technical and financial support from the 'parent' companies. A study by MPOB showed that inefficiencies among independent smallholders were attributed mainly to use of unselected planting materials, insufficient fertilizer application and harvesting of unripe fruit bunches (Ayat Rahman *et al*, 2008).

Major constraints to smallholder production cited by Vermuleun and Goad (2006) include difficulty in securing capital to meet upfront expenses. They often do not have the necessary collateral for bank financing, and lack good technical advice and market information. Obtaining a fair price for their produce is a key concern for smallholders. According to the oil palm farmers association in West Kalimantan, *Serikat Petani Kelapa Sawit* (SPKS), there is lack of transparency in establishing the mechanism for pricing of fresh fruit bunches (FFB). Although the Ministry of Agriculture in Indonesia establishes the formula for FFB pricing, the smallholders do not have the opportunity to participate in the process. Their perception is that the system is unfair to the smallholders (Aleksander, 2009). Being in a monopsonic situation in the rural areas, they usually have weak bargaining power over pricing.

As the palm oil industry moves towards production of certified sustainable palm oil according to the standards set by the RSPO, smallholders face the risk of missing market opportunities if they do not improve production practices to meet the stringent certification requirements. This will be particularly challenging for the independent smallholders. As scheme smallholders are part of the supply base of a certified palm oil mill, they should receive the necessary support to improve. Under the RSPO certification scheme, the palm oil mill is obliged to ensure that all smallholders and out-growers which form part of its supply chain are of 'certifiable standard within 3 years' (RSPO, 2007). For independent smallholders, they might achieve certification through a group certification scheme, as being done for other commodities such as coffee, although some may not be comfortable being forced into such an arrangement. Although the RSPO is working on modified versions of its Principles and Criteria for sustainable palm oil production for application to scheme and independent smallholders, putting these into practice will be a major task.

Plantation workers: Effective implementation of the RSPO P&C, particularly Principle 6 which requires "responsible consideration of employees and of individuals and communities affected by growers and mills" as well as applicable national laws would ensure a safe and just work place for workers in

plantations. While companies that have undergone the RSPO certification are well placed to give this assurance, the challenge is to see how these requirements are implemented consistently throughout the sector. Areas of concern include occupational safety and health (OSH) policies and practices, freedom of association, child labour and various forms of discrimination. In general, there is little quantitative data on how and whether workers are covered by workers' compensation schemes and how medical treatment and lost wages are covered. There is a major need for further study in this area.

Although minimum wages and job benefits are set either by relevant Government agencies or through collective agreements between employers and the workers' unions, consistent application of standard wages and benefits across the industry may not be achieved. A case in point is Malaysia where collective wage agreements have been made between the Malaysian Agricultural Producers Association and the National Union of Plantation Workers and the All Malayan Estates Staff Union for workers and staff respectively in Peninsular Malaysia since the 1960s. However, collective agreement at the industry level is not practiced in Sabah or Sarawak which account for more than 40 percent of the national production of palm oil. In the absence of registered trade unions in these two states, wages and work benefits are largely determined by employers (Daud Amatzin, 2008).

Treatment of women workers in plantations deserves attention. Women are largely employed to undertake field operations such as planting, weeding and application of pesticides. Spraying of hazardous chemicals such as paraquat has been reported to cause health problems among women workers and the risks are exacerbated when they work during early stages of pregnancy. Women are at greater risk when dealing with chemicals with organophosphate active ingredients that are endocrine disrupters that can be absorbed through fats tissues and subsequently affect fetal growth. For this reason, pregnant and lactating women should be excluded from doing work that exposes them to such chemicals.

Until the adoption of the RPSO P&C in 2005, the development and systematic implementation of gender related policies to address issues such as discrimination, sexual harassment, violence against women and protection of reproductive rights had seldom been applied to plantations. This is an area that needs to be addressed by the industry; the experience gained by Sime Darby Berhad which worked in collaboration with the women's social NGO, *Tenaganita,* on the development of a consultative approach for the development of a gender-based policy could provide useful guidance for other companies (Syed Mahdhar and Intan Shafinaz, 2008). Fundamental social requirements such as income equity, job quality and gender equality and "Decent Living Wage" as defined by the ILO have yet to be taken into account.

The palm oil industry in Malaysia is highly dependent on guest or immigrant workers; it is estimated that about 450,000 foreigners are working on its plantations, most of them being Indonesian workers. Although the law allows them to enjoy most of the benefits available to Malaysian workers, there are reports that they are often paid less than the minimum wage (Marti, 2008). Foreign workers are allowed to join employees unions but they cannot become office bearers because of their temporary residence status (Daud Amatzin, 2008).

Child labor: The existence of child labor occurs through a complex interaction of many factors, including family social status, desire for children to learn a trade, poverty and lack of access to education. Families tend to work together in agriculture, making it likely that children

will either be expected to do work for the family (child care or domestic work), or, as they grow older, begin to engage in wage-earning tasks. The location of plantations and fields often puts children too far from accessible schooling, expect when plantation companies provide such facilities in their estates. The position of RSPO on use of child labour is specified in Criterion 6.7 of the Principles and Criteria (P&C) which states, "Child labour is not used. Children are not exposed to hazardous working conditions. Work by children is acceptable on family farms, under adult supervision and when not interfering with education programmes." (RSPO, 2005)

Security issues: In Latin America, particularly in Colombia but also elsewhere, there are a variety of issues related to the presence of insurgent groups (guerrillas), often complicated by drug-trafficking groups. In Indonesia, in cases of local unrest, some plantations have worked closely with the Indonesian military to provide local security and face down local protests.

Social Aspects – Opportunities

Legal land reforms: Overhauling the laws relating to land and natural resources would be the fundamental way forward to a give effective recognition of customary rights that are already protected by the Constitutions of Indonesia and Malaysia (Colchester *et al*, 2006 Promised Land, and Colchester et al, 2007 Land is Life). While legal reform would be a complex and protracted process, it is supported by legal precedents such as the landmark Medali case whereby the Federal Court of Malaysia has confirmed customary rights over a former petroleum company concession area in Sarawak (Borneo Post, 2007). Recently, the Miri High Court in Sarawak ruled in favour of the Kayan native community that a lease to IOI Corporation by the Sarawak government was illegal and unconstitutional (http://www.world-wire.com/news/1004010001.html, 2010).

Conflict resolution mechanisms: In addition to its Grievance Process for addressing complaints against its members, the RSPO is establishing a Dispute Settlement Facility (DSF) to specifically address land-related disputes. The primary objective is to "provide a means for achieving fair and lasting resolutions to disputes in a more time efficient and less bureaucratic and/or legalistic manner, while still upholding all RSPO requirements including compliance with relevant legislation." It is hoped that through the DSF, disputes can be handled at an early stage, preventing them from escalating into full-blown conflicts.

The draft DSF framework and protocol has undergone public consultation and is expected to be finalized soon and will be put into operation once funding for the initial 2 to 3 years has been secured. As social disputes are often complex and dynamic, the DFS would start with pilot testing of a few cases (Wolvekamp, 2009). The DSF would need to learn from the experiences of other organizations and an example could be the role that the IFC's Office of the Compliance Advisor/Ombudsman (CAO) played in resolving community issues in West Kalimantan.

Institutional support for the smallholder sector: When the RSPO was established, it was stressed that the smallholder sector must be an integral part of the initiative. As the RSPO Principles and Criteria for sustainable palm oil production were initially developed primarily for plantations, the RSPO set up a Task Force for Smallholders (TFS) in November 2005 to assess the suitability of the P&C for smallholders and recommend how best they could participate in the process. Led by the Forest Peoples Programme and Sawit Watch, the TFS has been successful in mobilizing the participation of smallholders and relevant stakeholders and has developed guidance documents for implementation of the P&C for scheme

and independent smallholders. It has also developed the protocol for a group certification scheme for independent smallholders. Specific issues addressed by the TFS included how smallholders would be able to obtain land use rights, improve of productivity and get access to finance and markets.

Building on the progress achieved so far, the TFS at its meeting in November 2009 looked at the need for widening its mandate from standard setting to promotion of implementation and bringing the smallholder sector into mainstream production of sustainable palm oil (Colchester, 2009). As the TFS now includes the participation of national bodies such as the Indonesian Palm Oil Commission (IPOC), PNG Oil Palm Research Association (PNGOPRA), Felda and the National Association of Smallholders (NASH) in Malaysia and the Thai Oil Palm Association in its Steering Group, it provides a good platform for exchange and learning between the various specific implementation and support practices that serve to meet smallholder needs further. The participation of international agencies and donor organisations could help further the cause of the TFS.

Supporting smallholders for certification: Recognizing that smallholders will face financial constraints in preparation for certification, the RSPO has decided to establish an *escrow fund* to support the smallholder sector. While the mechanism for managing is not yet developed, it is envisaged that RSPO income generated from the trade in certified oil (through registration by Utz Certified) and from certificates traded (Greenpalm) could be dedicated to the smallholder fund (Verburg, 2009). The proposed fund could provide an opportunity for international agencies and donor organizations to play a direct role in smallholder participation in the market for certified sustainable palm oil.

A market-driven initiative called the Palm Oil Support Initiative (POPSI) by Solaridad, WWF and the RSPO provides an the opportunity for various players in the supply chain to support the overall goal to "add value to the oil palm supply chain by supporting oil palm smallholder and plantation workers in the palm oil sector worldwide to obtain RSPO certification". POPSI's target is train about 35,000 smallholders and farmer groups and raise the awareness of about 100,000 plantation workers on compliance of the RSPO P&C in the major producing countries in Asia, Africa and Latin America. Pilot activities for co-funding between POPSI and supply chain participants would include smallholder training on Better Management Practices, organizational support for group certification and financing tools for smallholders (Dros, 2009).

Use of smaller mills: Independent smallholder dependence on estate palm oil mills to purchase their fresh fruit bunches (FFB) could be eliminated if they could collectively, for example through cooperatives, have their own palm oil processing facilities. Mini mills could be introduced which could process about 5 to 10 tonnes FFB per hour (compared with the normal capacity of 30 to 60 tonnes per hour in conventional mills). Mini mills using an innovative continuous sterilization system have constructed in several locations in Sumatra since 2003 (www.modipalm.com.my/images/projects). The modular concept allows the milling capacity to be scaled up as FFB production increases over time. Mini mills as well as 'micro mills' which are capable of processing 1 to 5 tonnes FFB per hour have also been recommended for small scale biofuel production in Aceh (Fricke, 2009). Concerns with such mills include difficulties with effluent treatment and milling efficiency.

Promoting integrated farming: Although the average income of oil palm smallholders is significantly higher than

that of subsistence farmers in Indonesia (Shiel, *et al* 2009), it is often feared that being a perennial crop with an economic cycle of about 25 years, boom-bust price cycles of palm oil would make smallholders more vulnerable economically.. To minimize this risk, smallholders could plant additional crops or integrate livestock rearing in oil palm plantings. Mixed farming is particularly relevant to support the smallholder during the first 3 to 4 years when palms are immature. Integration of livestock with oil palm is one of the objectives of MPOB for maximizing productivity and income of smallholders and a dedicated Crop and Livestock Integration Unit has been set up to drive this agenda. While diversifying into other crops may reduce the vulnerability of smallholders to economic uncertainties, the realities of managing more crops by the smallholders must be taken into consideration.

Governance Issues

Governance Issues – Challenges

Ineffective policies, governance structures and management systems relating to environmental and social performance are perhaps one of the major threats to sustainable development, at various levels, from governments, international institutions and industry bodies down to individual companies.

Governments: At the government level, inadequate policies, planning and legal and regulatory frameworks, particularly with regard to land development, could put HCV areas at risk. For instance, the proposed Kalimantan border oil palm mega-project covering 1.8 million hectares along the Kalimantan-Malaysia border drew a lot of criticism from civil society and others who claimed the project would destroy the forests of three National Parks in the area and also destroy the customary rights of indigenous peoples in the project area (Wakker, 2006).

In addressing the challenges to promoting production of sustainable palm oil, Bangun (2009) stated that "the first challenge is law enforcement. The law on forestry was promulgated in 1999 but the enforcement was weak, resulting in cases of illegal logging and degradation of protected forests."

RSPO Principle No 2 states that "there is compliance with all applicable local, national and ratified international laws and regulations." In situations where the national laws are less stringent than regional or international regulatory frameworks, the implication is that the international laws would take precedence. However, this is not necessarily the case in reality. For example, for national reasons, Indonesia has not yet ratified the ASEAN Agreement on Transboundary Haze Pollution which was signed in June 2002 while Malaysia has not yet ratified some ILO Conventions such as the "Freedom of Association and Protection of the Right to Organize Convention 1948 (No 87)".

International Institutions: Multilateral international organizations such as the WBG have in place systematic processes to ensure that their involvement in development projects complies with sound sustainability standards and practices. The IFC and the Multilateral Investment Guarantee Agency (MIGA) have sustainability policies and procedures to guide the their performance at the project level and their clients are required to comply with a set of Performance Standards covering diverse topics such as social and environmental assessment, land acquisition and involuntary settlement and indigenous peoples. The World Bank has a set of 11 Safeguard Policies for good environmental and social governance. IFC's Performance Standards are currently being reviewed and revised.

While these systems should provide a high level of assurance of good E&S stewardship, criticism has been directed at

IFC and the World Bank for not properly following their own procedures. IFC's Compliance Advisor/Ombudsman (CAO) recommended areas to be strengthened, including preparation of a comprehensive strategy for the palm oil sector.

Multi-stakeholder Platforms: In multi-stakeholder initiatives such as the RSPO, the conduct of its members and relationships with its stakeholders are governed by its statues and by-laws. However, poor or ineffective performance of its members could present a reputational and credibility risk to the organization. Although members have upon joining, given an undertaking to uphold the Code of Conduct which includes observance of the RSPO Principles and Criteria, NGOs have been able to produce evidence of non-compliances, which include deforestation by some members.

The Grievance Procedure does not seem to be effective to address complaints from stakeholders. That Unilever, Nestlé and other companies chose to act directly on complaints from NGOs rather going through the established RSPO grievance process could undermine the credibility of the organization. Several governance weaknesses have been identified in papers such as Laurance *et al*. (2010). Thus, it is critical that the RSPO strengthens its governance and monitoring of members performance in order remain relevant. .

Civil Society Organizations: Traditionally, CSOs played the role of watch dogs to safeguard public interests and have shaped the course of global debates on critical issues like climate change, poverty alleviation and health. Like other organizations, CSOs have their own primary stakeholders such as boards of trustees, donors and their membership at large that they are accountable to. At the turn of the 20th century, an international study was undertaken to examine the future roles and directions for the 21st century (21C) NGOs. On accountability, the study gave the view that "the 21C NGOs adopt best practice in transparency, accountability and governance" (Sustainability, 2003).

On future challenges for NGOs, the study recommended that "the first thing is to recognize that markets are central to their future. Markets are becoming legitimate channels for social change –and are also likely to be, on balance, more efficient and effective than many traditional approaches" (Sustainability, 2003). The need to drive change through markets has already been appreciated by some NGOs which have started market transformation initiatives. This points to the usefulness of voluntary certification and other schemes, which use market forces to function as a complement to governmental regulation.

Corporations: At the corporate level, the 3Ps mantra (People, Planet and Profit) pervades in company brochures and reports but in reality, many companies might not have fully put the triple bottom-line philosophy into practice. Many are driven by the certification mind-set and attainment of a certification is seen as an end in itself. Yet their license to operate can be threatened by the corporation's poor performance with respect to their social and environmental bottom lines. Recent reports of breaches by large plantation groups have resulted in termination of future palm oil purchases by their major buyers. Besides loss of sales revenue, these companies suffer severe brand and reputational damage and loss of trust of its customers and stakeholders, reinstatement of which would require much effort, time and expense.

The main challenge for companies is how they can internalize sustainability as an integral part of their corporate culture and management system. For this to happen, strong and clear commitment from top management of the corporation is critical and this has to be demonstrated by words

and action. A systematic and holistic approach is necessary for managing sustainability. While generic management systems such as the ISO 14001 environmental management systems are relevant for this, some companies have developed their own management systems that are aligned to the RSPO P&C's. Teoh and Tan (2007) developed a generic system that is based on the RSPO principles to deliver balanced scorecard results integrating key performance indicators in the legal, economic, social and environmental aspects of the business.

Governance Issues – Opportunities

Public:Private:CSO Partnerships for sustainability: In GlobeScan surveys on sustainable development trends, sustainability experts around the world concluded that the groups providing the most important leadership in sustainable development are governments, companies and NGOs. In the 2006 survey, broadly similar results were given for these groups - governments (29 percent of respondents), companies (28 percent) and NGOs (25 percent) (GlobeScan, 2006). In tracing the roles of these three players as the "problem", "solution" or "catalyst/monitor" in sustainable development since the 1980s (Table 4), Najam (2009) concluded that for the future, the groups must work as partners to address the urgent environment and social challenges and climate change.

The need for private: public partnerships together with civil society to drive sustainable development has been recognized since the UN Conference on Environment & Development (UNCED) in 1992. It is encouraging to see that recent market transformation initiatives by NGOs involve partnerships with companies and governments. Companies have also taken the initiative to forge partnerships with NGOs and other stakeholders for conservation, an example being the Agropalma SA partnership with Conservation International and Instituto Peabiru (a social NGO) to create a Private Reserve of Natural Heritage (PNRP) in 64,000 ha of forest reserve owned by the company in the Belem Centre of Endemism in Brazil (Brito and Baiao, 2009).

Table 4: Role of Government, Civil Society and Business in Sustainable Development (After Najam 2009)

	1980s	1990s	2000s	Future
Government	Solution	Catalyst	Problem	Partner
Civil Society	Monitor	Solution	Catalyst	Partner
Business	Problem	Problem	Solution	Partner

F. Questions to be Addressed in the Stakeholders' Consultations

Based on the broad and specific issues facing the palm oil sector identified in the preceding sections of this paper, some broad questions have been formulated to focus and guide the inclusive stakeholder consultations that will be conducted in physical meetings and by electronic means in the second phase of the strategy preparation. These questions have been framed in a manner to facilitate the stakeholder discussions towards producing meaningful outputs or recommendations that could guide the WBG in redefining its role and strategy in the palm oil sector.

The questions to be considered during the stakeholder consultations are presented below:

Questions for Stakeholder Consultations on Development of the World Bank Groups Strategy for the Palm Oil Sector

Q1. From your perspective, what are the 5 most important aspects that must be covered by IFC and the World Bank in their new strategy for engagement and investment in the palm oil sector? Please provide the reasons for your selection.

Q2. Should the WBG continue to invest in the palm oil sector, or should it withdraw until the major environmental and social issues are resolved? If WBG continues to invest in the sector, what would be appropriate pre-conditions for an investment in a particular country?

Q.3 How can WBG use its policy framework (sustainability policy, performance standards, safeguard policies) to influence the performance of major players in the palm oil supply chain, including financial institutions and banks, plantation companies, NGOs and RSPO or other palm oil organizations to ensure that investments, production and use of palm oil is done according to social and environmental sustainability principles?

Q4. Given that development of palm oil will continue to expand to meet an ever-increasing global demand for food, fuel and fiber, and that such expansion is likely to spread to new areas in Africa and Latin America, what role should the WBG, along with its partners and stakeholders, play to ensure that new developments are done in a sustainable manner and contribute to poverty reduction?

Q5. Beyond financing investment projects in the palm oil sector, and in addition to risk mitigation and the use of WBG policy frameworks (Q3), what accompanying activities would you consider important to help address the challenges identified in the Issues Paper, or in your own experience of the sector?

G. Concluding Remarks

This paper has provided an overview of the major challenges confronting the palm oil sector with regard to the social, environmental and economic aspects as well as governance issues. It was not intended to be comprehensive to cover all aspects of the sector in different producer regions nor was it meant to be prescriptive when identifying the potential opportunities.

However, it is considered important to recognize that a number of opportunities may exist out there that have not been thought of, or shared, so far. It is desired that the consultation process also allows for these creative ideas and solutions to emerge and be known. They could range from alternative organizational schemes or financing mechanisms for small holders to having consumers more engaged. Large institutional investors, for example (especially major pension funds), are a stakeholder group that is often forgotten by the others–or is considered in different fora—and yet can be quite influential. Particularly in Europe, those players are significant owners of large international companies at their home base (e.g., ATP and Danisco, ABP and Unilever, USS and Tesco). While they have signed up to numerous principles they are at times challenged in the actual implementation of such - palm oil is a case in point. It may be worth considering the inclusion of other investors in the conversations—whether via RSPO or through other mechanisms.

The purpose of this paper is to facilitate the discussions in the series of inclusive stakeholder consultations in selected key regions which will take place in the near future. The outcomes and recommendations from these consultations will then guide the World Bank Group to develop a comprehensive strategy for its investments and advisory services in the palm oil sector.

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