

1. Oil palm development in Thailand: economic, social and environmental considerations²

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Introduction

Palm oil has become the world's leading vegetable oil in terms of consumption and production with 45.3 million tons (t) produced worldwide in 2009. The biggest producer, with a 47.6% share in production in 2009, was Indonesia, followed by Malaysia (38.8%) and Thailand (2.9%).¹ Global production of palm oil and thus the plantation of oil palm have been increasing tremendously in the last decade with average annual growth rates of 9.7% between 1998 and 2008.² Palm oil is versatile in its uses in the food and chemical industry and increasingly as a feedstock for biofuels, which is another reason for the rising popularity of palm oil. Other factors include the increasing demand for vegetable oils in general and the comparably low prices of palm oil.

In numerous campaigns led by environmental and social non-government organisations (NGOs), the rapid expansion of oil palm plantations has been blamed for the destruction of rainforests, the hotspots of biodiversity, and the retreat of or risk of extermination faced by endangered species. In particular, the orangutan has acquired a symbolic status as a victim of oil palm expansion, and various anti palm oil campaigns directly protest against the species' threatened extinction. Other main points of criticism made against palm oil are the violation of human rights of indigenous peoples affected either directly or indirectly by oil palm plantations, inhumane working conditions in oil palm plantations and, increasingly, the negative contribution of oil palm to climate change due to the destruction of primary forests and peatland for plantation development, both areas being known to hold especially high carbon stocks. All this has led to a bad image of palm oil, especially in

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Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

Europe and the United States of America. As a result, leading palm oil processing companies and retailers are increasingly committing themselves to only buying palm oil produced in ways that comply with sustainability standards. Others have gone even further and banned palm oil from their products completely.³

In Thailand too, the pace of palm oil production has accelerated in recent years. However, the structure of the Thai palm oil industry reveals a different picture to that of the main palm oil producing countries, leading to the conclusion that the impacts of palm oil production, whether positive or negative, cannot be generalised and must instead be examined and assessed as locally specific outcomes.

National trends of oil palm development in Thailand

Currently, fourteen bio-diesel plants, twelve oil palm refineries and more than sixty oil palm crushing mills are in operation in Thailand. In 2010 production of crude palm oil CPO reached 1,287,509 t of which 65,942 t was exported. Exports made up 5.1% of total production in 2010. This is a usual share for the palm oil exported from Thailand as the average annual export of palm oil has remained at around 6% over the last twenty years and only peaked at around 20% of total production in a few specific years. Figure 1 shows the annual production of (CPO) in Thailand for the last twenty years as well as the amount used for the production of biodiesel. In 2010, 380,000 t of CPO, making up around 29% of the overall output, were used as feedstock for biodiesel.

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

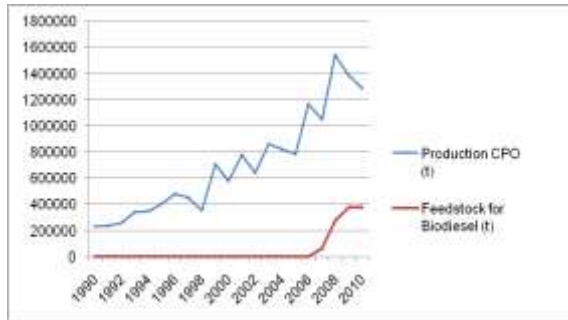


Figure 1: CPO Production in Thailand and Consumption for Biodiesel. (source: OAE 2010)

Plantation trends

The area planted with oil palm in Thailand has been increasing constantly, with an average annual growth rate of 11% from 1981 to 2000 and 9% from 2001 to 2010. This is very much in line with the average annual growth rate of 9.7% between 1998 and 2008.

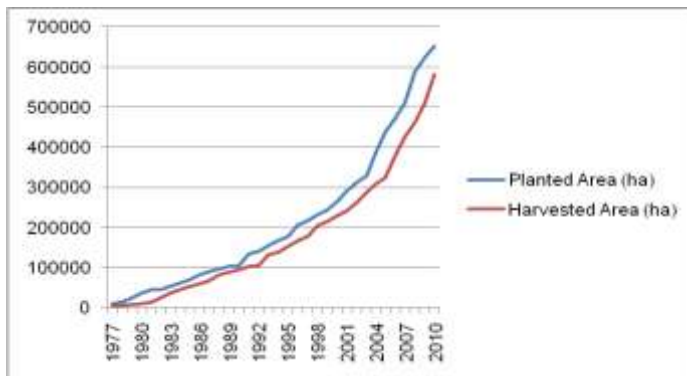


Figure 2: Development of planted and harvested area in Thailand (source: OAE 2010)

Approximately 90% of the total area planted with oil palm in Thailand is concentrated in the Southern Provinces of Thailand. The

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

Eastern and North Eastern Provinces are prominent areas of expansion, currently mainly in Chon Buri and Trat on the East Coast. The three main fresh fruit bunch (FFB) producing provinces of Krabi, Surat Thani and Chumphorn accounted for 72.1% of the total planted area in 2008. Table 1 gives an overview of the most important provinces for oil palm plantation as well as the average annual yields per hectare.⁴

	Planted Area (ha)	Harvested Area (ha)	yield per ha (t)
Trad	10735	6540	20.3
Cholburi	13096	11844	19.5
Prachuabkirikhan	26912	12741	18.6
Chumphorn	117179	102820	21.1
Ranong	11724	7687	18.3
Suratthani	146441	120440	20.2
Phangnga	16345	13078	17.8
Krabi	154529	129075	21.3
Trang	17444	14493	17.9
Nakhornsrithamarat	23866	14455	18.4
Satun	16726	14093	16.0
Others	25277	12438	
Total	580275	459704	

Table 1: Planted area, harvested area and FFB yield per ha in Thailand. (source: OAE 2008: 27)

In Thailand, more than 120,000 farmers are involved in oil palm cultivation, mostly on small to medium sized farms. Small farmers owning less than fifty hectares manage approximately 70% of the total area planted with oil palm and they have a similar share in total FFB production. Smallholder schemes such as the Nucleus Estate Schemes (NES) in Indonesia or FELDA in Malaysia do not exist in Thailand. In most cases farmers act completely independently from the oil palm crushing mills and are not linked to mills by contracts or any other formal arrangements. In a few cases, farmer cooperatives have even managed to establish their own cooperative mill with government support. Figure 3 gives a rough estimate of how the share in production, area and households involved is distributed amongst different scales of plantations. It is to be noted

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

that “number of households involved” refers to farming families and does not include farm workers working on company plantations.

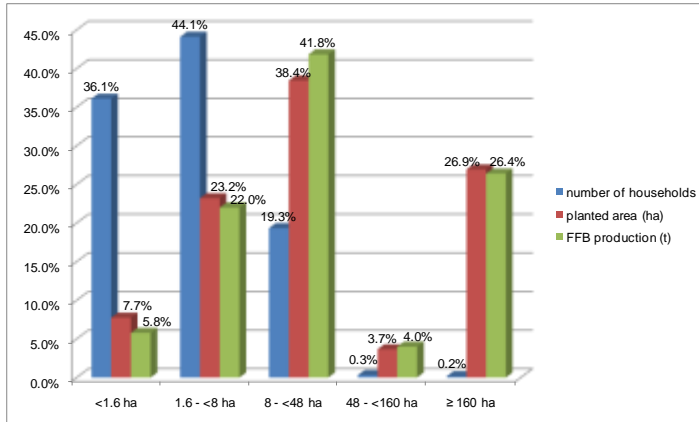


Figure 3: Estimated share of FFB production, number of households and planted area by land size in oil palm farming (unconfirmed data)

The average size of land holdings of companies planting oil palm compared to the size of land of independent farmers was 796 ha for companies and 3.89 ha for farmers (including cooperatives and personally owned estates) in 2007.⁵ These statistics reveal that very large estates are rather rare in Thailand. The biggest oil palm plantation owned by a single company in Thailand consists of 7120 ha of total consolidated area.⁶ In comparison to major global players in the oil palm industry who own numerous oil palm plantations in Malaysia and Indonesia of more than 500,000 ha in total area, this figure appears minimal.⁷ It is difficult for companies to expand their plantation area in Thailand because only few big land plots as required for efficient large-scale plantations are available for purchase and the land prices have skyrocketed over the past ten years.⁸

Land legislation and land tenure

Land ownership and land titles are highly complex issues in Thailand. From the 1970s onwards, the Thai government undertook

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

numerous legislative and programmatic efforts as part of the 20-year Land Titling Program (LTP) in order to resolve issues of high levels of tenancy, landlessness and tenure insecurity. The government imposed ceilings on private landholdings and implemented land-allocation programs. The LTP also streamlined the country's land administration system, which is renowned for its efficiency and transparency.⁹

However, efforts to limit the area of private holdings and redistribute ceiling-surplus land to landless households lacked the necessary political will or funding. In the 1975–2003 period, only about 74,000 ha of private land were redistributed.¹⁰ In addition, the programme did not address the rights of occupants of the country's forestland, a large area of which has been inhabited and cultivated by local communities for several generations.¹¹

Nevertheless, the government was successful in identifying public land for distribution and regularising parcels of public lands that had been encroached on. During the same period, the Thai government allocated 3.7 million ha of public land to 1.5 million beneficiaries, who received either freehold title or use-rights recognised by formal law.¹² As such, the LTP is recognised as having positively contributed to tenure security.¹³ It has also stimulated the growth of land markets.

Thailand's law defines land as either private or public. Private land is owned by individuals, groups, or legal entities. About 40% of land was held in private ownership in 1994.¹⁴ Public land includes: land used by the state; land open to the public; land identified for allocation under land reform plans (also known as public settlement land); and forestland. All land not held in private ownership is considered to be vested in the state.¹⁵ Other types of tenure include occupancy and use, and leasehold.

Five major pieces of legislation form the basis of Thailand's land regulation and governance framework.

1) *Thailand's Constitution* provides that the state shall adopt land policies, including policies relating to land use, land distribution,

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

town and country planning, and the sustainable protection of land and other natural resources. The Constitution specifically states that land distribution shall be fair and provide farmers with rights to land for farming.¹⁶

2) *The (amended) Land Code of 1954* is Thailand's primary land legislation. The Land Code identifies various tenure types, including ownership and use rights. A Land Allocation Committee is in charge of identifying land for allocation and reallocation and implementing land reallocation plans for state and private land.¹⁷

3) *The Agricultural Land Reform Act of 1975* aims to address the high rate of tenancy in certain regions of the country, the large number of landless households, and the encroachment of public lands for cultivation. The Act reaffirmed the state's support for the allocation of state and private land to landless and near-landless households. The Act also provided tenants with opportunities to lease or purchase the land they cultivated and allowed for squatters and others who had encroached on state land to regularise their rights.¹⁸

4) *The Land Development Act of 1983* established a national Land Development Committee to improve the use and productivity of the country's agricultural land. The Act authorises the committee to: engage in land-use planning; develop programs to support farmers; conduct surveys; and create plans for the improvement of soil.¹⁹

5) *The Land Readjustment Act of 2004* governs processes for land re-plotting and development in order to improve land utilisation. The Act established a national Land Readjustment Committee charged with developing policy and identifying areas for readjustment. The Act also set the rules for creation of Land Associations made up of landowners in readjustment areas and Provincial Committees to govern the process.²⁰

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

Land-title	Unrestricted buying / selling	Land free to be put to use	Registered ownership	Ownership can be applied for	Can be inherited	Can be borrowed against	Can be mortgaged	Officially registered land markers	Can apply for vehicle ownership	Land-users can initiate ownership process
Wholly owned	X	X	X	X	X	X	X	X		
NoSo 3 ko	X	X	X	X	X			X	X	
NoSo 3		X	X	X						
SoPoKo		X	X		X			X		
NoSo 2		X	X		X				X	X
SoKo 1		X		X				X	X	X
NoSo 5		X	X	X	X			X		

Table 2: Land title deeds in Thailand (source: GTZ 2008:9)

Table 2 shows the various types of land titles with accordingly different types of land rights in existence. Table 3 shows the distribution of land titles (in number of plots and percentage of total number of plots assessed) in a sample survey of 1,012 plots (“Chanod” in Table 3 corresponds to “wholly owned” in table 2). The difference in spelling and type of land titles assessed in the two tables is an indication of the complexity of the Thai land tenure system.

Land title	(n=1,012 plots)	
- Chanod	143	14.1
- Nor Sor 3 Kor	29	2.9
- Nor Sor 3	313	30.9
- Sor Por Kor	245	24.2
- Por Bor Tor 5	151	14.9
- Kor Sor Nor 5/Kor Sor Nor 3	36	3.6
- Others	14	1.4
- No title	81	8.0

Table 3: Land titles status of plots in survey (source: Thongrak et al 2011: 13)

As 8% of the plots in the study by Thongrak et al 2011 had no land title at all, further investigation would be necessary to reveal any existing land-related conflicts and local opposition.

In general, the formal legal framework is recognised as governing land rights throughout Thailand.²¹ Customary law continues to govern in some areas and on some matters – especially those

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

concerning family estates and disputes – in rural districts, particularly among indigenous tribes living mainly in the northern highlands and mountains. Often, tribes have occupied the same land for generations, and, within tribes and neighbouring tribes, customary law determines rights of access and use of the land. The land is, however, subject to the formal legal framework which governs land rights. A large portion of land occupied by indigenous communities is classified as state forestland, and while the current law does not grant the tribes automatic rights under the formal law, some politicians have called for a regularisation of collective rights, and the pending Community Forest Bill provides a contractual framework for participatory forest management and related rights of forestland access and use.²²

Thailand's land administration system is considered a model for other South East Asian countries. The system has a required performance standard for transactions to be completed within a single day, and several are completed within two hours. On average, land registration procedures require less than a day and cost around 1% of the property's value.²³ Registered land rights are generally recognised as secure. However, the rights of households occupying land classified as forestland are considered far less secure, regardless of whether or not they possess certificates granting them rights to occupy and use the land. In either case, land rights are often temporary and occupants potentially subject to eviction.²⁴

Farm management and marketing

Due to the fact that the output of CPO in Thailand is far below the annual capacity of 2.5 million tons and because ownership of big plantations is rare, Thai oil mills strongly depend on purchasing FFB from independent oil palm growers, most of whom are smallholder farmers. This leaves the farmers and especially the intermediaries in a good bargaining position to achieve the highest possible price since they are free to decide where and to whom they sell their produce. Hence, the formation of prices occurs on the spot and prices vary from day to day or can even change within the same day. This is coupled with the fact that the FFB supply only accounts for about half of the FFB crushing capacity, leading to crushing

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

mills at times paying even more than the market clearing price.²⁵ Paid prices often do not relate to FFB quality since mills cannot afford to reject or to penalise the delivery of bad quality FFB, as they rely on a regular supply.

In most cases, the delivery of FFB from the farm to the oil crushing mills is organised by intermediaries owning loading facilities, or ramps. These intermediaries collect and combine the harvests of numerous smallholders to form bigger truck loads. This in turn reduces transportation costs and allows them to enjoy preferential prices for higher volume delivery. Considerably higher prices are paid for loose fruits as their oil content is notably higher than that of full bunches. Unfortunately, this encourages intermediaries and ramp operators to detach the fruit from the bunch. Other common forms of malpractice include watering down the FFB or adding sand or soil to increase the weight of FFB. These practices lead to the further deterioration of FFB quality.

FFB prices vary over the year and strongly relate to the volatile world market prices for CPO. Figure 4 shows the monthly FFB prices in Thai Baht (THB) per kilogram over the past three years.

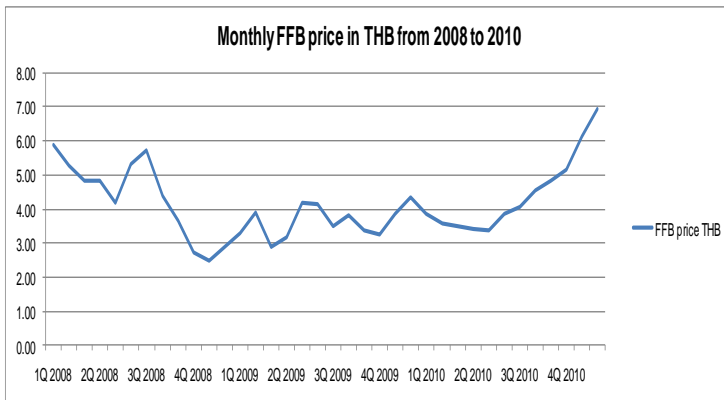


Figure 4: Monthly FFB prices 2008 - 2010 (source: unpublished data, OAE 2010)

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

On small farms, the FFB are normally harvested approximately every twenty days. Harvesting is often done by external harvesting teams who are paid according to the weight of the fruit harvested and who deliver the FFB to the ramps by pick-up trucks. Their wages vary depending on the harvest but are usually higher than the minimum wages for industrial labor in Thailand. The high harvesting season takes place from March to June. Agrisource 2005 states that only 10% of the Thai oil palm farmers are fully managing their farms by themselves.²⁶ In a field survey by Thongrak et al. 2011, 80.5% of all farmers interviewed hired additional labor. Harvesting teams are generally organised by middlemen or ramps and their services include additional farm management activities such as pruning or weeding. Contracts for labourers on smallholders' farms are quasi non-existent. In many cases, laborers are migrants from poorer parts of Thailand (often from the North Eastern Provinces) or from neighbouring countries including Myanmar and Cambodia. A field survey shows that most smallholder farmers are aware of potential farm injuries (96%, n=503) and use preventive measures (96.5%, n=483). However, information on labor rights is rare among smallholders. Minimum wages are known by only around half of the interviewed farmers.²⁷

FFB yields and OER in Thailand

While FFB yields per hectare and per year have increased significantly despite fluctuations over the last twenty years (see Figure 5), the overall oil extraction rates (OER) in Thailand decreased by more than 2% from 1990-1994 to 2005-2009.

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

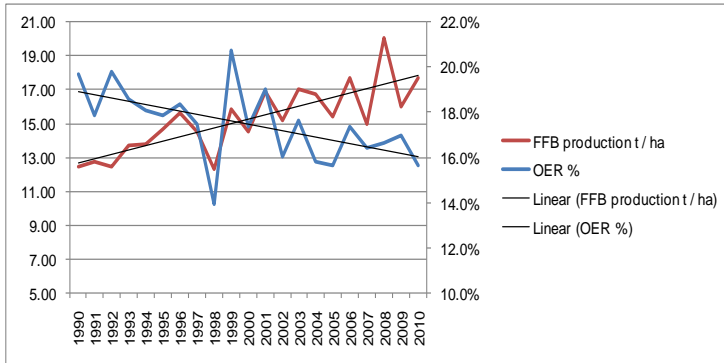


Figure 5: FFB yields and OER from 1990 to 2010, (source: unpublished data, OAE 2010)

The Thai average annual FFB yield of 16.8 t/ha during 2005-2009 is well below what can be achieved in commercial estates in the main palm oil producing countries. Moreover, since 16.8 t/ha is the Thai industry average, this implies that average yields of smallholders are even lower.

Donough states that on single blocks in Malaysia and Indonesia, annual FFB yields of above 40 t/ha were achieved, while the overall average annual FFB yield of a major international producer was 27 t/ha in 2006.²⁸ Smallholders are generally reported to achieve much lower yields. A major operation in West New Britain, Papua New Guinea (PNG) reports its average annual FFB yield in plantations to be 26-28 t/ha compared to only 18 t/ha average yield of the supplying smallholder oil palm growers. Oil Palm Industry Cooperation (OPIC) reported that the average FFB yield of the growers in the Hoskins project (West New Britain, PNG) was 17.3 t/ha. However, some of the smallholders in the Hoskins project achieved close to 30 t/ha.²⁹ There are many variables which account for such different rates of production, including soils, climate, rainfall, growing stock, age of crops, fertiliser inputs, pest loads, management intensity and proximity to markets.

In Thailand, farmers who manage their farms well can achieve annual FFB yields between 20 to 30t/ha. Fairhurst estimates that

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

yields in Krabi province could be increased by 2.5 t/ha through better farm management practices. These include: optimising the use of mineral fertilisers to maximise yield at the lowest possible cost; integrating the use of mineral fertilisers and crop residues; front stacking around contour lines; proper canopy and ground cover management. Calculated over the whole area of production in Thailand in 2009, this increase would have led to an additional FFB production of 1.276 million tons and CPO production of 217,016 tons. This figure corresponds to a loss of revenue of 4,972 million THB or 151 million USD for the Thai palm oil sector (OER of 17%, Malaysian CPO price 2009: 22910 THB/t; exchange rate 33 THB/USD). Moreover, under the improved performance (i.e. yields increased by 2.5 t/ha) the 1,387,604 tons of CPO produced in Thailand in 2009 could have been achieved by sparing 69,004 ha of land (13.5% of total harvested area in 2009).

OER in Thailand has been declining during the past twenty years. The average OER in the period from 1990 to 1994 was 18.8%, while from 2005 to 2009 the average OER was only 16.6%, representing a reduction of more than 2%.³⁰ If the average OER of 18.8% had been achieved in 2009, an additional 146,923 tons of CPO, equalling 10.6% of total CPO output in 2009, would have been produced. Multiplied by the average Malaysian CPO price for 2009 (22,910 THB/t), this equals the amount of 3,366 million THB (approximately 102 million USD at an exchange rate of 33 THB/USD).³¹ This additional revenue could have been generated by the Thai oil palm sector had it only achieved the same OER as fifteen years ago. Assuming that this additional revenue was entirely transferred to the FFB price, the price would increase by 0.41 THB/kg, or 11.3% of the average FFB price in 2009.

Potential OER under good management practices are even higher than the 18.8% achieved during 1990 to 1994 in Thailand. Plantations in Indonesia and Malaysia achieve OER of up to 25% under optimum conditions.³² The example of a major operator in PNG' operations in West New Britain shows that an OER of 23% can be achieved, even relying on smallholder's FFB delivery for only one third of the total amount of FFB processed (data from 2010 field trip organised by the author).

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

The OER in oil mill operations depends on various factors and short term improvements are not easily achieved. Restricting factors in Thailand are drought stress and a potentially high stand of palms (i.e. number of palms grown in a certain area) from relatively low quality planting material. Palms from low quality planting material (seeds) will have a lower oil content than palms grown from high yielding, certified seeds. The higher the share of palms from bad seeds in Thailand is, the lower the potential OER.

However, some Thai companies report average OER of 26% in their own plantations and a potential of up to 29% (data from 2010 field trip organised by the author). Improved smallholder practices to address Thailand's low palm OER would not only result in economic benefits for the industry and the farmers; a significant land area under oil palm cultivation could also be spared. There is a huge potential for higher efficiency in the sector by improving the farming practices on smallholder farms.

Economic situation of smallholders

Results from a sample survey indicate that most smallholder oil palm farmers have debts and take loans from the Bank of Agriculture and Cooperatives (BAAC) to finance their farm management as well as other activities or assets.³³ However, since the debt is with the BAAC it does not limit or condition the farmers regarding their farming practices or marketing decisions. Higher returns in comparison to other crops are seen as the main reason to pursue oil palm farming. Moreover, oil palm offers stable and regular incomes distributed over the year and the required farm labor is relatively low. In most cases, Thai farmers are free to choose which crop they want to grow. An exception is land settlement schemes where farmers are given limited land titles under the precondition of planting oil palm for a certain period of time.

The continuous expansion of the area under oil palm and the change in land use by independent farmers from other agricultural crops to oil palm underlines the economic attractiveness of the oil palm. The Office of Agricultural Economics (OAE) reported that the net incomes from oil palm per ton of FFB produced were 1,067 THB in

2010 (917 THB and 2,107 THB for 2009 and 2008 respectively).³⁴ Variations in net profit mainly occur in relation to the FFB price and the prices of fertilisers. With average yields of 3.225t/rai/year³⁵ and an average farm size of 19.32 rai per oil palm farming household owning less than 300 rai (48 ha) (compare Figure 3), the calculated net income for an average median Thai smallholder for 2008 is 131,281 THB or USD 4007 per year (exchange rate 32.76 THB/USD)³⁶. This calculation based on statistic data has to be considered with caution when assessing the economic situation of smallholders. In a field survey by Thongrak et al., only 22.5% of the interviewed farmers depended on oil palm farming as the sole source of income, such that most oil palm farmers are expected to have additional sources of income.³⁷ The same study revealed that only 24.4% of farmers in the study had a household income of less than 200,000 THB and the arithmetic mean of household income was 470,650 THB or USD 14,377 per year of which 60.2% was from oil palm farming.³⁸

Policy and plans

The Thai Oil Palm and Palm Oil Industries Development Plan for 2008-2011 was developed by the Ministry of Agriculture and Cooperatives in cooperation with the Ministry of Energy. The plan envisions the sustainable development of the palm oil industry and an increase in the production of value-added products. It targets a yearly development of new plantings of 80,000 ha and a yearly replanting of 16,000 ha until 2011. The average OER is aimed to increase to 18.5% and the average FFB yield to 21 t/ha by 2011. The Thai Renewable Energy Policy is an important tool to support the market price of raw materials in the industry by using possible surplus of FFB for biodiesel production, through the promotion of biodiesel from palm oil. The Thai market is protected from foreign competition as importing palm oil requires special approval and is restricted to the Thai Public Warehouse Organisation (PWO), a government controlled organisation. In times of low prices, the government tends to support the market price by interventions through the PWO as happened at the end of 2008 when the PWO bought significant amounts of CPO to raise the FFB price to 3.5 THB/kg.³⁹

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

The Thai Ministry of Energy introduced its Biodiesel Development Plan with a mandatory 2% admixture (B2) of biodiesel (B100) from 2008 onwards when the policy came into place. The B100 production is based on palm products like CPO, palm stearin as well as refined bleached deodorised palm oil (RBD). 5% admixture (B5) of biodiesel has been introduced on a voluntary basis since 2008 and tax breaks as well as the exemption from payments to the oil fund for B100 indirectly subsidise B5. In 2010, mandatory B3 (3% admixture) has been introduced. The planned introduction of mandatory B5 in 2011 however has been put aside due to the severe shortage of palm oil in Thailand during the fourth quarter of 2010 and early 2011. To avoid shortage in times of low supply, the Thai government now follows a flexible approach towards biodiesel admixture, setting the admixture quota based on the supply situation in the market. This approach seems reasonable as the import of feedstock for biodiesel is not foreseeable, and the projection of Thai domestic supply cannot accommodate the additional demand created under the Biodiesel Development Plan.⁴⁰

In accordance with Thai land use planning, expansion of oil palm cultivation is intended to take place mainly on waste land, degraded land, acid soils as well as land formerly used for rubber and paddy cultivation. The government has set up a soft loan scheme to support its policy and promotes the conversion from rubber to oil palm in the Southern Provinces.⁴¹ Currently the government plans further regulation of the palm oil industry through the development of a regulatory framework. The impact of this government initiative cannot as of yet be foreseen but it is expected to include sustainability among the issues addressed.

Sustainability issues in the Thai palm oil sector

The iconic pictures connected to palm oil of vast monoculture plantations, large scale logging, burning peatlands and dying orangutans, are not to be found in Thailand. Thailand has been banning the logging of forests since 1989 and the remaining forests are declared as national parks or wildlife sanctuaries. The Wildlife Conservation Society describes “Thailand’s protected areas network (...) [as] one of the strongest systems in South East Asia”.⁴² The

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

expansion of oil palm plantations is explicitly targeted at “waste” land such as abandoned paddy fields, degraded land, abandoned fruit orchards, land with acid soils and land previously used for rubber cultivation.⁴³ This is supported by a sample survey investigating land use prior to oil palm farming as outlined in Table 4. Research has shown that actual expansion of oil palm plantations in the Southern provinces mainly takes place on paddy fields and rubber land, and in Chonburi Province, on land formerly used for cassava and pineapple cultivation.⁴⁴ A major recent expansion occurred on land previously used for mining in Trat Province.

Almost 30% of land in Thailand is classified as forest and has been the subject of contested rights for decades⁴⁵ as conservation groups, forest inhabitants and mining companies compete for control of forestland and resources. In anticipation of the passage of the Community Forest Act and programs granting forest-dwellers certain forms of formal long-term rights, the Forest Department has increased its efforts to bring land under protected status. The government recognises the positive role that participatory forestry rights could play in the sustainable management and preservation of forest resources.⁴⁶

However, further legislation is stalled and the impact of community forest programs stunted by the lack of a legal framework⁴⁷. Moreover, intrusions into forests and protected areas for agricultural production have also been reported, especially in these same Southern Provinces of Thailand. In 2008, the total intrusion in Southern and Eastern Provinces of Thailand as reported by the Royal Forestry Department (RFD) amounted to 2,786 ha.⁴⁸ That being said, the intrusions cannot be directly attributed to uncontrolled oil palm expansion, since thorough and disaggregated documentation in this respect is missing. Establishing and protecting buffer zones between lands used for agriculture and protected areas could help to ensure their effective protection.

Negative environmental impacts claimed to result from land clearing for oil palm plantation were reported in Nakhorn Sri Thammarat province in 2010, where peat swamp fires were ignited in the Phru Kuan Kreng Wetland. Information on the actual size of the affected

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

area varies in local media.⁴⁹ A more recent press report blames the encroachment of oil palm and rubber plantations into protected areas as one of the reasons for the severity of an off-season storm which occurred in the South of Thailand in March 2011, killing at least forty people.⁵⁰

These are only snapshots of the negative side of the development of oil palm plantations but cases like this show that close monitoring of oil palm expansion is necessary to avoid detrimental environmental impacts and the violation of Thai regulations.

Land use prior to oil palm	No. (n=1,012 plots)	%
Rubber Plantation	269	26.6
Unused land	401	39.6
Other agricultural land	172	17.0
Oil palm plantation	15	1.5
Paddy field	134	13.2
Not available	21	2.1

Table 4: Land use prior to oil palm (source: Thongrak et al 2011: 13)

Environmental impacts of farm management practices have been investigated during a field visit to Aoluek District, Krabi Province. Results show that although farming practices vary strongly amongst different farmers, there is the potential to reduce negative environmental impacts. The main issues identified are the maintenance of riparian buffer zones, erosion prevention measures, slope soil measures and efficient use of fertilisers.⁵¹ Further surveys and general observations show that basic erosion protection and soil fertility measures are followed by most smallholder farmers. Chemical use is limited, and a large proportion of smallholders do not use any chemicals besides fertilisers. In case of chemical application, basic protective equipment such as masks, gloves and boots is used on most farms.⁵² With regards to social impacts, a sector study by the Thailand Environment Institute (TEI) identified no reason for concern regarding Thai oil palm plantations.⁵³ Despite the fact that there appear to be no significant differences expected between the situation for oil palm farming and for other agricultural

crops in Thailand, further investigation of this issue would be recommended.

The environmental impacts of oil palm crushing mills result mainly from solid waste and wastewater. In the Thai industry however, solid waste is often sold to other industries or used as fuel in the crushing mill processes or for generating energy to feed into the electricity grid. This common practice results in the energy self-sufficiency of most mills. In many cases, the waste water from the crushing process is used as well, namely, by setting-up biogas facilities which capture the methane gas from waste water and generate electricity. This practice is a major contribution towards reducing greenhouse gas (GHG) emissions in the production process of palm oil (almost all emissions in the general process of oil palm crushing mills result from wastewater) and qualifies for registration as a Clean Development Mechanism (CDM) project. The number of approved CDM projects in Thailand is still limited due to the high level of burdensome bureaucratic procedures involved. Nevertheless, the biogas technology is installed or in the process of being installed in many oil palm crushing mill operations, because economic benefits result not only from CDM project registration and selling carbon credits, but also from Thai policy measures which allow the sale of the generated electricity at preferential prices. As of 2008, twenty-one CDM projects in the palm oil sector were registered with the Thai Greenhouse Gas Management Organisation (TGO).⁵⁴

Standards in oil palm farming

A Good Agricultural Practice standard (Thai GAP) for Thai oil palm plantations was developed in 2010 and implementation started on a voluntary basis. This GAP standard is not to be confused with the Global GAP standard although it addresses similar issues. The Thai GAP for palm oil is a national initiative of the Ministry of Agriculture and Cooperatives. Compliance of farmers is controlled by the Department of Agriculture. Issues addressed include the safe use of pesticides, water and fertiliser application. During the development process of the standard, the Principles and Criteria of

the Roundtable on Sustainable Palm Oil (RSPO) were used as a reference (see below).

Another government initiative consists of a standard for the quality of FFB, also introduced by the Ministry of Agriculture and Cooperatives. This standard addresses the issue of oil loss in the Thai industry which occurs due to the harvesting of unripe fruit and bad handling practices. Issues addressed in the FFB standard include the malpractice of adding water and sand to increase the weight of FFB, and issues relating to the ripeness and freshness of FFB.

The RSPO in Thailand

The RSPO is a multi-stakeholder initiative dedicated to promoting the sustainable production of palm oil worldwide. The RSPO has more than 500 ordinary and affiliate members from different stakeholder groups such as those involved in palm oil production, processing and financing, as well as various NGOs. During a multi-stakeholder negotiation process, the members of RSPO developed eight principles and thirty-nine criteria which define the sustainable production of palm oil. Almost ten years have passed since its establishment and the RSPO has become the global reference for sustainable palm oil production. However, the RSPO has also been criticised from various sides and accused of green-washing the oil palm industry.

At present, nineteen Thai oil palm producing or processing companies are members of the RSPO.⁵⁵ In Thailand, a working group of stakeholders from different interest groups came together in 2009 to develop a national interpretation of the RSPO Principles and Criteria which was approved by the RSPO Executive Board (EB) on July 9 2010. Despite the previous approval by the EB, final approval is still outstanding as there were some issues that were deemed to necessitate further investigation according to the RSPO secretariat and its consultants. As outlined in this report, independent smallholder oil palm growers constitute the vast majority of growers in Thailand. To accommodate them in the RSPO, a process to develop guidance and indicators for independent smallholders in Thailand was initiated in September 2010.

Challenges of smallholder certification

When looking at the agricultural sector as a whole, the proliferation of private standards is clearly visible. In the words of Giovannucci and Purcell, “*private standards are becoming the basic de facto entry requirement for trade with many of the large scale operators and leading value chains*”.⁵⁶ The negative effects on smallholders and disadvantaged farmers have been studied for various crops.⁵⁷ Prospects for the palm oil sector show a clear commitment of major value chain actors towards certified sustainable palm oil. One example can be seen in the recent RSPO newsletter which states that “Holland commits to 100% sustainable palm oil in 2015”.⁵⁸ Such new market requirements for certification of sustainable palm oil could effectively lead to “eliminating smallholders and the poor from the value chain”⁵⁹ as outlined in the broader sense for private grades and standards by Giovannucci and Purcell.

A major challenge for the Thai oil palm sector in achieving RSPO certification is the inclusion of its large number of smallholders. In contrast to big plantation companies, smallholders are *not* readily able to independently meet the management requirements of the RSPO Principles and Criteria. In addition, smallholders cannot shoulder the various costs resulting from membership, compliance and verification. Moreover, easily visible incentives for these smallholders to achieve certification are lacking. Under the current framework of the RSPO, smallholders have to form groups to stay independent from a processing company while at the same time being able to obtain RSPO certification. Groups of independent smallholder oil palm farmers have to abide by the RSPO Standard for Group Certification as well as the RSPO Principles and Criteria to get their FFB certified. However, as of March 2011, there is no marketing system in place which allows selling certified FFB to the market for certified palm oil.⁶⁰

To receive a price incentive for certified FFB in the future, two options are possible: selling the certified FFB to a certified oil mill which relies on FFB production of smallholders or selling certificates for sustainable FFB through the Green Palm certificate trading system.⁶¹ However, a potential price premium for certified

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

palm oil or FFB is often discussed but difficult to foresee. When looking at the current price for RSPO palm oil certificates, it is doubtful that there will be a promising price incentive of certification for smallholders. For example, a sustainable palm oil certificate price of USD 3.79/t CPO and USD 5.00/t palm kernel oil (PKO)⁶² can be transferred into a price of FFB certificates by simply using an average OER of 20% and kernel oil extraction rate of 2.5% (share of PKO extracted per unit of FFB). Under this presumption, the certificate price would transfer to a premium for sustainably produced FFB of 0.022 THB/kg FFB (from CPO certificate) and 0.003 THB/kg FFB (from PKO certificate)⁶³ totalling 0.025 THB/kg FFB. It is doubtful whether this could cover the anticipated cost of certification even when supposing that the RSPO system will cover the cost of verification by certification bodies and provide support for capacity building. On the other hand, it is conceivable that CPO and PKO certificates from smallholder groups could achieve a higher price than that of big producers' certificates which are currently traded at Greenpalm.

Some possible anticipated costs for achieving group certification to RSPO requirements include the following:

- procurement of information
- forming groups
- managing groups
- necessary changes in farm management practice (possibly net benefit)
- necessary tools / facilities (e.g. safety equipment, pesticide storage)
- necessary documents regarding to RSPO and group certification requirements
- necessary trainings (on various topics)
- High Conservation Value (HCV) assessment
- HCV management
- lost production and area (related to HCV or GAP requirements)
- keeping up the group management systems (necessary meetings, documentation system etc.)
- internal assessments
- external audits (internal and external cost)

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

- opportunity cost

Due to a lack of experience in smallholder RSPO certification, it is difficult to estimate the certification cost and this will not be attempted in this report. Nevertheless, taking into account the current minimal price premium and slow action of the RSPO, it seems clear that innovative incentives for certification will have to be found if smallholders are not to be excluded.

This means that RSPO certification would possibly not offer incentives in the form of access to higher value markets but become an entry requirement into major value chains. To avoid smallholders being excluded, institutional structures to support smallholder oil palm farmers in meeting sustainability and certification requirements are crucial. At present, the establishment of support mechanisms for smallholders are discussed and planned within the RSPO. A clear timeline, however, does not exist. So far it remains unclear when support mechanisms for smallholders will be available and whether they can effectively create opportunities from engaging in sustainable production and certification.

Private standards like the RSPO effectively hand over the responsibility for sustainability (including environmental protection and human rights issues) to the private sector where it is passed upstream along the value chain. This discharges governments, lead firms and the international community from their liability regarding sustainable development and puts the burden on the producers themselves as they are the ones who have to comply with the standard. In many cases, this can be an effective means to eliminate malpractice by exploitive companies in the primary steps of production. However when smallholders have to take over this responsibility and the related duties, as is the case in the Thai palm oil sector, it is questionable whether this development is in the spirit of a sustainability initiative.

Opportunities of smallholder certification

As outlined above, besides decreasing palm oil producers' vulnerability by avoiding their exclusion from international markets

and the value chain of major processing companies, certification seems to offer few market benefits. Still, it has been shown that improving the agricultural and management practices bears a great potential for higher productivity and efficiency. This in turn would mean higher returns for smallholders. In addition to these economic aspects, environmental and social benefits can be expected. Examples from other standards show that the long term profitability of farmers can be increased as a result of better farm management practices which come with the implementation of standards.⁶⁴ Good practices and continuous improvement are integral elements of the RSPO Principles and Criteria. Yet clear references to yield intensification and increasing returns are hard to come across. It is also difficult to convince farmers to get involved in certification when the potential benefits could very well be achieved by sustainable practice alone and without actually getting the production certified.

Other direct benefits for smallholders that could be attained are improved safety and health conditions at the workplace, long-term improvement in soil quality, water management as well as the general physical environment through environmental protection. Implementing the RSPO Principles and Criteria could also help reduce possible tensions and ensuing conflicts in oil palm growing regions between oil palm growers and other community members.

Recommendations

Palm oil production and the area under oil palm cultivation in Thailand have been steadily increasing over the last twenty years and further increase can be expected in the future due to rising demand and the promotion of the use of palm oil for biodiesel. The case of Thailand shows that palm oil has the potential to foster economic development which benefits a broad range of people involved in the sector. The small scale character of the Thai palm oil and oil palm industry allows a broader distribution of rents than might be the case in countries where a few big companies dominate the industry and individual land ownership is limited. Other important aspects include the overcapacity in oil palm crushing mills and the absence of a government controlled pricing

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

mechanism. This leads to the situation where the market for FFB is a seller's market rather than a buyer's market. On the other hand, the structure of the palm oil sector in Thailand poses various challenges with regards to efficiency as well as access to certification for smallholders.

Although there is no doubt that the Thai oil palm industry has had certain negative environmental impacts, such as the encroachment of plantations into national parks to some extent and in some places, this cannot be compared with the large scale logging associated with the palm oil industry in other countries. Additionally, these problems are covered by national law and are not specific to oil palm cultivation only. One approach to address this issue would be to raise the awareness of Thai farmers and society on the importance of environmental protection and of the risks related to environmental degradation. Another helpful step could be to improve the Thai land registry system and the quality and accuracy of land maps in Thailand in combination with increasing the capacity of the institutions responsible for environmental protection. This would allow the sustainability of agricultural development to be better monitored in Thailand. Concrete figures on greenhouse gas emissions from the palm oil industry in Thailand are in the process of being calculated, but positive outcomes in this regards can be expected as the conversion to oil palm mostly takes place on agricultural land. Besides, methane gas capture is becoming common practice in the Thai oil palm crushing mills.

Little information has been assessed for this report on the issues of land tenure and people's rights to land. Further investigation on this topic is recommended, however this should not be limited to the palm oil sector as there are no signs of crop specific problems in this regard and most indigenous groups are situated outside the main oil palm growing areas.

To ensure the sustainable livelihoods of smallholder farmers from oil palm growing and at the same time reduce the pressure to expand oil palm plantations, the low efficiency of the Thai palm oil sector needs to be addressed. This requires steps to be taken at the policy level as well as raising the awareness and enhancing the capacities

Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

of smallholders. Creating standards for farm and harvesting practices can also act as a tool to raise efficiency at the farm level. However, to make this tool effective, clear economic benefits for farmers who abide by such standards must be created. In addition, farmers need support in complying with upcoming market requirements for sustainability such as the RSPO and, potentially, other sustainability standards with regards to bioenergy production. Otherwise, as soon as those standards materialise to effectively becoming entry requirements for the main FFB market in Thailand, smallholder farmers will be at a disadvantage.

The RSPO promotes the potential of its standards to improve the management practices of smallholders and at the same time to increase productivity and to decrease the need for further area expansion. This approach could improve the livelihoods of millions of farmers around the world, according to the RSPO.⁶⁵ However, up to now it is still unclear who will take on the task of supporting farmers in getting certified. The stipulated financing mechanisms for smallholder certification are also hard to identify. Hence, it is recommended that the rights of smallholders in Thailand be treated as a priority and that existing and upcoming standard-setting mechanisms be prompted to create support mechanisms for these smallholders.

Endnotes

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- ⁸ Preechajarn 2010a: 3
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Oil Palm Expansion in South East Asia: trends and implications for local communities and indigenous peoples

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⁴⁴ TEI 2009: 3-20
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⁴⁸ TEI 2009: 3-31 f.
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⁵⁸ RSPO 2010b
⁵⁹ Giovannucci and Purcell 2008: 21
⁶⁰ BioCert Indonesia and Proforest 2010: 7 ff.
⁶¹ More information available at greenpalm.org
⁶² greenpalm.org, last accessed on November 11 2010
⁶³ exchange rate: 29.59 THB/USD; x-rates.com/calculator.html, last accessed November 11 2010
⁶⁴ Giovannucci and Purcell 2008: 19
⁶⁵ RSPO 2010a