

Ten Million Rai of Oil Palm Plantation: A Catastrophe for the Thai People

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Oil palm is now increasingly noticed when the Thai government has set its policy on producing palm oil-based biodiesel as a renewable energy. An experiment of mixing 2% of the B2 biodiesel with 98% of diesel oil on trucks will be undertaken during 2006-2010. After that, the B5 biodiesel will be used with other types of car in 2011 and the percentage of the biodiesel combination will rise to B10 in 2012.

To fulfill the government's ambition, a daily production of 8.5 million litres of biodiesel must be met. That means another five million rai (800,000 hectares) of oil palm plantation areas must be expanded between 2006 and 2009, totaling eight million rai (1.2 million hectares) of the palm cultivation. By 2029, the plantation areas will reach 10 million rai (1.6 million hectares).

So since 2006, a variety of discourse on oil palm has emerged to promote its plantation as a renewable source of energy, a country savior, a reforestation scheme, a wind-protection zone, and a transformation of deserted rice fields into palm fields.

In addition, the government also provided farmers with funding, raw materials and other inputs. Such active promotion resulted in a rapid expansion of the plantation areas, especially in the watershed forest, wetlands, community public forest and rice fields since not a lot of space had been available for this crop plantation. Moreover, as oil palm needs a lot of water—each tree needs 5-350 litres of water daily depending on the areas' condition—it has to be planted in wetland areas with plenty of water and artesian well water. The rainfall must be regular and not less than 1,800 millimetres per year, or a monthly rainfall of 150 millimetres while the dry spell should not last more than 60 days.

A 1986 UNDP survey report found that Thailand's overall rainfall was lower than the amount needed by oil palm, resulting in a water shortage level that was as high as 208-675 millimetres per year. The rainfall in the South was the country's highest. Over the past decade, the rainfall in southern provinces on the western coast like Phangnga, Ranong, Krabi, Phuket and Narathiwat, was heavy and scattered thoroughly. The provinces with low rainfall inappropriate for oil palm plantation included Prachuab Khiri Khan, Yala, Pattani and Songkhla. As for the remaining province, only some of their districts had adequate rainfall for the plantation.

Moreover, oil palm needs six hours of sunlight each day and the cultivation areas must not be higher than 300 metres above sea level, otherwise the yield will be low and not cost-effective. It is thus more likely that the expansion of oil palm plantation areas in the North and Northeast will so drastically affect the environment that a great number of the oil palm planters will suffer losses. This is because the cultivation areas are not appropriate to many characteristics of oil palm. The palm plantation is also new to the farmers.

The land used for the palm plantation often becomes deteriorated because of the monoculture type of production, with extensive use of chemicals. It's difficult to produce oil palm in an integrated manner because of the bulkiness of the palm trees. Only 22 trees can be planted in

one rai (0.4 acre) of land while its fibrous roots spread far and wide. Over three-ton weight of each tree allows very few types of plant to be grown in the plantation. Making its way into the plantation ground is very difficult for animals living in the ground like an earthworm. Getting rid of the dead trees and their roots is hard and costs a lot of money since it needs to pay a backhoe to uproot or to use chemicals to destroy them.

It is a great concern that the Thai government has never revealed such environmental impacts. All research works have been conducted to seek monoculture techniques to maximize the production. Nevertheless, some research works did compare Thailand’s oil palm plantation and industry with its rival countries and focus on the impacts of the Thai-ASEAN liberalization policy.

Thailand’s oil palm industry disadvantaged by Malaysia and Indonesia

Thailand is completely disadvantaged, compared with its major competitors, such as Malaysia and Indonesia. Malaysia has established its oil palm industry since 1917 while Thailand’s industry has begun in 1969, or 50 years behind that of Malaysia.

Thailand’s plantation areas are of lower quality than those of Malaysia’s because of Thailand’s lower humidity due to less rainfall. Also, the palm trees in many plantation areas receive less rain than what they need. The soil of Malaysia is much more fertile and suitable for oil palm plantation than that of Thailand’s.

Table 1: Contributing factors to the high competitiveness of Malaysia’s oil palm plantation

	Malaysia		Thailand	
Rainfall (mm/year)	Western Eastern	2,300 2,322	Krabi Surat Thani Chumphon Prachuab Khiri Khan	1,852 1,710 2,029 1,160
Level of drought (mm/year)	Western Eastern	5 12	Krabi Surat Thani Chumphon Prachuab Khiri Khan	369 509 208 616
Days of drought	Not more than 60 days		Krabi Surat Thani Chumphon Prachuab Khiri Khan	90 120 82 195
Cost (Baht/kg)	0.79-1.04		1.43-1.52	
Average cost (Baht/kg)	0.915		1.475	
Yield (Ton/rai)	3.2		1.9-2.2	

Source: Department of Agriculture, 1998

A comparison of the productive factors found that the prices of Thailand’s oil palm varieties and chemical fertilizers were higher than those of Malaysia’s. Moreover, one-third of the plantation areas in Thailand was planted with lower quality varieties while the small-scale farmers had been cheated to buy low-quality palm varieties, resulting in the Thai production

cost (excluding land prices, wages and others) being almost one time higher than that of Malaysia's. Thailand's production cost amounted to about 1.50 baht per kilogram whereas that of Malaysia's accounted for not more than one baht (1998 data).

In terms of the business size, in 2002, Malaysia and Indonesia had 21.1 (3.376 million hectares) and 15 million rai (2.4 million hectares) of harvest areas, or 31.3 and 22.2% of the world's harvest areas, respectively. Thailand's harvest areas accounted to 1.4 million rai (224,000 hectares), or only 0.02% of the global harvest areas. There were two groups of palm plantation in Malaysia: one belonged to the state, the other to the private sector. Such grouping made it easier to produce according to technical principles. In Thailand, there were three types of plantation. The first belonged to the private sector. The second was operated by co-operative groups and land settlement co-operatives. The third was run by small-scale farmers, whose plantation areas covered about 70%.

Owing to the abovementioned advantages, Malaysia's palm plantation could harvest its yields from the third year of plantation while Thailand had to wait till the fourth year. Malaysia's average yield per rai was as high as 3.0 tons whereas Thailand's was 2.45 tons, 18.33% lower than that of Malaysia's. Regarding the oil extraction rate (OER), that of Malaysia's was as high as 18% while the OER in Thailand was only 14%.

In addition, the oil processing cost of Thailand was an average of 2.00 baht per kilogram, much higher than that of Malaysia's, which was merely between 0.80 and 1.00 baht. Thailand's distillation cost of the crude oil was also higher than that of Malaysia's. While Thailand's average cost was 2.72 baht per kilogram, Malaysia's was only 2.00 baht (1998 data).

Regarding the prices of refined palm oil, those of Malaysia's were lower. In 2002, the average price of Malaysia's refined palm oil was 16.58 baht per kilogram while that of Thailand's was 25.88 baht. In 2003, Malaysia's price of refined palm oil was 18.94 baht per kilogram while that of Thailand's was 27.98 baht.

The oil palm production of Malaysia is clearly promoted by the government. The Palm Registration and Licensing Authority (PORLA) was established to oversee and control its comprehensive production whereas the SDRIM takes care of the oil quality and licensing. Moreover, Malaysia also has the Palm Oil Registration Institute of Malaysia (PORIM) responsible for its research and development and the MPOPC to promote trade and marketing. But Thailand, on the contrary, does not have any administrative organization to explicitly and continuously oversee the oil palm venture.

Although Thailand had an export surplus of 100,000-200,000 tons of its annual production of one million ton of palm oil and six tons of fresh palm fruit, it had to import palm oil from Malaysia too. This was because some entrepreneurs had more confidence in the quality of palm oil produced in Malaysia. Not to mention Malaysia's much lower price and Thailand's inability to produce certain types of palm oil.

It was also reported that the palm oil from Malaysia had been smuggled into Thailand to evade tax payment. This gigantic smuggling movement has been done through very efficient communication tools for a long time and supported by influential people. It was estimated that the amount of the smuggled palm oil was as high as 30,000 tons per year.

In spite of Thailand's complete disadvantage against Malaysia and its suffering from palm oil smuggling, palm oil had been designated to reduce its tariff after the liberalization agreement of the ASEAN Free Trade Area (AFTA) in 2003.

Palm oil production to supply biodiesel is not Thai people's solution

Because of the Thai-ASEAN free trade agreement, Thailand had to reduce its tariffs on palm oil imports to 5% in 2003 and to 0% in 2005. Those hardest hit were farmers, particularly small-scale ones who had to bear the brunt of higher production cost and lower yields than Malaysia and Indonesia.

Another group affected by the AFTA agreement was the palm oil extracting factories. If the palm oil supplied by palm oil planters to the factories was reduced, then the factories had to shoulder higher production cost. And if the biodiesel producers also bought the raw palm oil at higher prices than those paid by the factories, then the latter would perhaps be in short of raw material. The production cost of refined palm oil might rise, making it hard for domestic palm oil to compete with its counterparts from other countries.

A study by the Agricultural Business Office found that if Thailand had to lower its tariffs in palm oil to 20%, 5% and 0%, the prices of its refined palm oil would come down to 18.31, 15.98 and 15.20 baht, respectively. This would result in the farmers' lower incomes of 1.67, 1.45 and 1.41 baht per kilogram, respectively, which would take away 4,975.70, 5,510.60 and 5,628.90 million baht, respectively, from the farmers.

Table 2: Palm oil industrialists' loss of income when the palm oil tariff reduction was 5% and 0%

Item	1997	5% Tariff Rate		0% Tariff Rate	
	20%	Outcome	Difference	Outcome	Difference
1. Refined palm oil					
1.1) FOB average price at the Malaysian ports in 1997 (Baht/Kg)	17.60				
1.2) Imported price at the refined palm oil processing factory (Baht/Kg)	22.61	19.83	-2.78	18.91	-3.70
2. Impacts on					
2.1) Palm oil refinery					
- Average wholesale price of the refined palm oil in 1997 (Baht/Kg)	24.03	19.83	-4.20	18.91	-5.12
- Income (Million Baht)	8,108.04	6,690.91	-1,417.13	6,380.49	-1,727.55
2.2) Crude palm oil processing factory					
- Wholesale price of the crude palm oil (Baht/Kg)	16.6	11.72	-4.88	11.03	-5.57
- Income (Million Baht)	7,466.61	5,271.61	-2,195.00	4,961.25	-2,505.38
2.3) Palm oil farmer					
- Selling price at the farm (Baht/Kg)	2.17	1.50	-0.67	1.39	-0.78
- Income (Million Baht)	5,818.40	4,021.94	-1,796.48	3,726.99	-2,091.41

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Source: Wongkhachon Sapcharoenwong

Despite the government’s claim that the use of palm oil in producing biodiesel would open the palm oil market resulting in increasing its prices, it would not be an answer to the oil palm farmers. Neither would it be a solution to the Thai people. If an expansion of the oil palm plantation areas was made according to the government’s plan, Thailand would irreversibly lose its food security, biological diversity, as well as the world’s invaluable lung.

As for the efficiency of biodiesel, it is much lower than diesel oil. Not to mention its adverse effects on the car, such as blocking the oil filter and an accumulation of sediment in the gas tank. It will also quickly wear down the auto parts made of natural rubber, particularly those manufactured before 1992, when the raw material then was not mixed with biodiesel resistant substance. A mixture of 2%, or 5%, or 10% set by the government cannot guarantee that the cars will not be affected, especially pickup trucks and cars.

Therefore, what the Thai government must do immediately is to survey the areas that are realistically suitable for oil palm plantation and impose strict control over its cultivation in appropriate areas. The economic and social security of the oil palm farmers should be promoted by passing the laws that protect the farmers’ rights, distribute land occupation, ensure fair market mechanisms, and support the generation of supplementary income for the oil palm farmers. When the oil palm farmers have their economic and social security, Thailand’s economic and social conditions will also be secure.

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