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journal or publication title	The science reports of the Tohoku University. 7th series, Geography
volume	59
number	1/2
page range	31-45
year	2013-03
URL	http://hdl.handle.net/10097/60584

Transition of development policies related to the palm oil industry in Indonesia

Fatwa RAMDANI* and Masateru HINO*

Abstract The palm oil industry has great socioeconomic benefits in Indonesia, including the employment of more than about 15 million people as of 2010 and the addition of export revenues to the country's economy. The development policies of the national government directed and promoted the enlargement of the palm oil industry after independence in 1957. With independence, the national government nationalized all Dutch private companies including the palm oil plantations. From that point on, palm oil plantations were mainly managed by national and state companies. As the transmigration policy was instituted, smallholders' plantations also spread to Sumatera and Kalimantan Island. Due to the sharp economic recession due to the Asian crisis in 1997, the government decided to create new policy that open for foreign investment, this policy then caused more decrease of tropical rainforest. This paper discusses the transition of the Indonesian palm oil industry from the first period to the present, in which the predominant strategy has been to increase the added value and competitive capacity of Indonesia's palm oil while ensuring environmental and socioeconomic sustainability.

Key words : Indonesian national policy, palm oil plantation, sustainable development, Indonesia

Abbreviations

BRI (*Bank Rakyat Indonesia* - Bank of Indonesian People)

CE (Customs Exit)

CPO (Crude Palm Oil)

CSPO (Certified Sustainable Palm Oil)

PIR (*Perkebunan Inti Rakyat* - Smallholder's Plantation)

PMK (*Peraturan Menteri Keuangan* - Regulation of Minister of Finance)

RTRW (*Rencana Tata Ruang Wilayah* - Spatial Plan)

RUTWP (*Rencana Umum Tata Ruang Wilayah Provinsi* - Provincial Spatial Plan)

RUTWK (*Rencana Umum Tata Ruang Wilayah Kabupaten* - Regional Spatial Plan)

TGHK (*Tata Guna Hutan Kesepakatan* - Consensus Forest Land Use Plan)

UUPPLH (*Undang-undang Perlindungan dan Pengelolaan Lingkungan Hidup* - Protection Act and Environmental Management)

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Science Reports of Tohoku University, 7th Series (Geography) Vol. 59, Nos. 1/2, 2013, 31-45

1. Introduction

The two primary drivers of deforestation in Indonesia are : (1) policy and institutional factors such as the financing of foreign debts by exploiting natural resources, the privatization of timber and tree crop estates, land tenure conflicts, and corrupt acts committed during election campaigns by local political leaders (Sunderlin and Resosudarmo, 1996 ; Burgess et al., 2011) ; and (2) agriculture and forestry prices, which generate more income via illegal logging and palm oil production than via other agricultural crops (Chomitz et al., 2007).

In addition, domestic population growth, along with the governmentally organized transmigration to the outer islands, was also identified as an important driver (Whitten, 1987). Transmigration from Java to other main islands such as Sumatera and Kalimantan brought about the deforestation of tropical rainforest through the development of cultivated lands.

Furthermore, after the 1990s, the development of palm oil plantations emerged as a major cause of deforestation, and as of 2010 the area of Indonesia's palm oil estates have reached 8.1 million hectares (BPS, 2010). On the other hand, the development of palm oil plantations in Indonesia provides some important benefits, such as the employment of more than 3.5 million households (as workers and farmers), or about 15 million people, the generation of foreign exchange earnings of US\$ 10.4 billion, the provision of raw materials for manufacturing industries (oleo-food and oleo-non-food), accounting for about 20-25% of crude palm oil (CPO) production, and supporting regional development on the outer islands of Java, especially Sumatera and Kalimantan (Hasan, 2010).

This study was performed in the context of a remarkable increase in the demand for bio-energy throughout the world. That is, bio-energy is recognized to be one of the main potential substitutes for energy from fossil fuels. Indonesia palm oil production is mostly exported to foreign countries, and the rest is marketed inside the country. In the year 2004 the total export volume reached 9.57 million tons with a total export value of U.S. \$3.94 billion, while this volume increased to 17.86 million tons in 2010 with a total value of U.S. \$15.20 billion (BPS, 2010).

Therefore in this paper we introduce a sequence of policy changes regarding the development of palm oil plantations, describe the current status of the Indonesian biofuel industry, and discuss the national strategy to increase the added value and competitive capacity of Indonesian palm oil as well as sustainable and fair development.

2. Policies related to palm oil development

2.1 Nationalisation (1957-1969)

On December 9, 1957, Prime Minister/Minister of Defence Djuanda Kartawidjaja issued a policy that all Dutch private companies were under Indonesian jurisdiction, and in 1958 the Indonesian Government established Policy No. 86 year 1958 with regard to the nationalisation

of all Dutch private companies. Since 1967, palm oil companies have been managed by the National State Company (PNP-*Perusahaan Negara Perkebunan*) and National Private Company (PBSN-*Perusahaan Besar Swasta Nasional*).

2.2 First development after independent (1970-1980)

The national government established smallholder core plantations (PIR-*Perkebunan Inti Rakyat*) that were PIR-local, PIR-special, PIR-supported, and PIR-Trans on 1977/1978. Transmigration began in the time of the Dutch, in the year 1905, and the implementation of the transmigration period can be divided into three periods, namely: (1) the Dutch colonial era, 1905-1941; (2) the Japanese occupation, 1942-1945; and (3) the period after the independence of Indonesia, 1945-2005. Nine years after the allocation of areas to be surveyed and the planning of targets, settlement occurred in the fifth year of the process (Whitten, 1987), and especially in villages with palm oil, the settlers received their plantations after one- to two-year-old palm oil trees. At first the government provided the migrants with two types of plantations: palm oil and rubber. However, due to the low demand for rubber and the more difficult management of rubber plantations (i.e., the need to come to the plantation in the early morning everyday), the migrants converted their rubber plantations into palm oil plantations.

2.3 The expansion period (1990-2010)

Based on an analysis of the evolving legislation on plantations, the World Rainforest Movement (WRM) divided the legislation into five types of policy changes: the PIR-Trans Phase (up until October 1993), the Deregulation Phase (1993-1996), the Privatisation Phase (1996-1998), the Cooperative Phase (1998-2002) and the current Decentralisation Phase (2002-2006) (WRM, 2008). Table 1 summarizes the policy changes.

PIR-Trans (up until October 1993) is the period when the government of Indonesia divided the palm plantation business into two industries, namely the *inti* (core) and plasma parts of the business. The *inti* (core) industry is a large-scale effort over a large area, and the plasma industry is a palm plantation business that involves the labour of small farmers through the transmigration program. This regulation was published in 1986, and in 1990 efforts were made to ensure better coordination among government agencies to ease the permissions process in an effort to replace forest land with palm oil plantations. Control of the forest remains centralised, and permit changes for land use can only be made by the local forestry office (*Kanwil Kehutanan*), which is given the authority to release 100 ha plots as new plantations. During this period, resident communities' customary land rights were often not recognised. Instead indigenous peoples were inserted into the Transmigration schemes either by being resettled in transmigrant villages made up of local people (*Translok*) or by being moved to mixed settlements (*Transmigrasi sisipan*) composed of local people and state-sponsored migrants from Java, Madura and Bali. Most PIR-Trans schemes allocated only 2 hectares to each transmigrant

Table 1 Five types of policies changes related to palm oil plantation (WRM, 2008).

Policy	Period	Right of permission	Areal permitted
PIR-Trans	1986-1993	Local Forestry Office	100 ha
Deregulation	1993-1996	Governor	200 ha
Privatization	1996-1998	Governor	200 ha
Cooperative	1998-2002	Governor	10,000 ha
		Minister of Forestry & Plantation	20,000 ha
Decentralization	2002-2010	Regent/Major	1,000 ha
		Department of Agriculture	more than 1,000 ha

family (although in 2012 this amount was updated to be 4 hectares for each family), half of which they were expected to plant with rice and half of which was to be developed as palm oil to supply the mills established alongside the nucleus estate.

The Deregulation Phase (1993-1996) is when the government of Indonesia issued two laws as part of the National Deregulation Policy Package in October 1993. In general, this policy aims to give greater power to the Governor to support provincial development processes, as well as to ensure the commitment of private enterprises to invest for the long term in the province. The governor may issue permits for land use changes for forest land up to 200 hectares, while changes for areas of more than 200 hectares remain the responsibility of the Directorate General of Plantations in Jakarta. Private enterprises that apply for permits to convert forest lands are not allowed to transfer the ownership permit to another company.

The Privatisation Phase (1996-1998) occurred at the end of President Soeharto's government, when several laws were designed and enacted to encourage the growth of new palm oil plantations. Permits for the conversion of forest land to plantations were divided into three types: temporary permits, permits for one year, and permits that can be changed to permanent licenses and permits for expansion of the palm oil plantation area. Before getting a permit to develop new plantations, the company also should already have logging permits in the same forest area. The new law also provides for the area in accordance with the Provincial Spatial Plan.

The Cooperative Phase (1998-2002) spawned an era of reform that allowed politicians to make new policy regarding the development of rural areas. Efforts were made to encourage local development by involving local communities to benefit directly from their own natural resources. Permits for the conversion of forest land into palm oil plantations of more than 20,000 ha can only be issued by the Ministry of Forestry and Plantation, while the provincial governor can grant permission only for the conversion of up to 1,000 ha of forest land. Meanwhile, a law was issued prohibiting the conversion of protected forests into palm oil plantations.

The Decentralisation Phase (2002-2009) brought about a change in the political situation in Indonesia, such that local governments now had greater power and control over land resources and budget management. This change had an impact on the development of the palm oil sec-

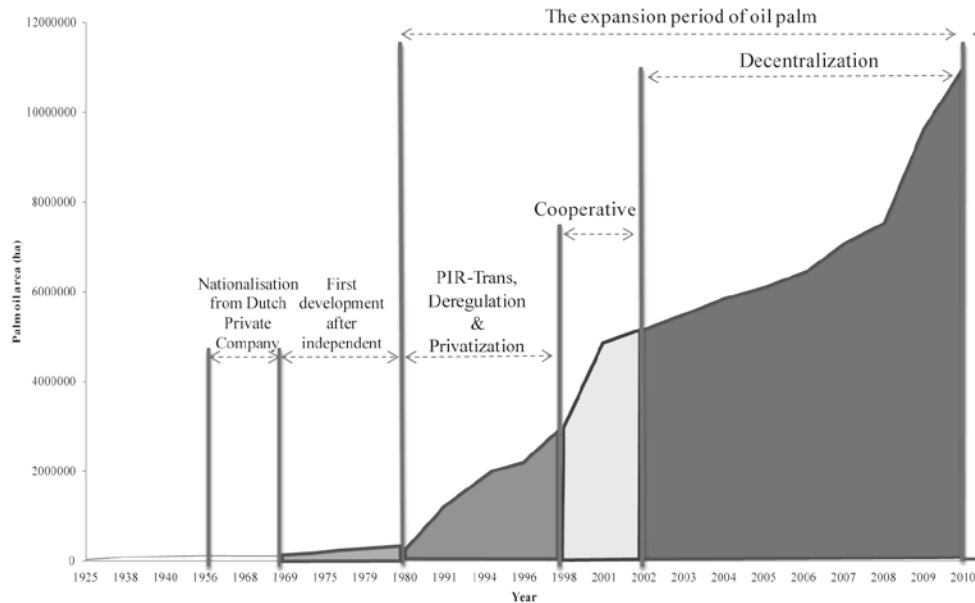


Figure 1 Indonesian palm oil area development and policies transition.

Source : Year 1925-1940, year 1975-1998 from Corley and Tinker, 2003

Year 1968-1969 from BPS, 1995

Year 2001-2006 from BPS, 2007

Year 2007-2008 from BPS, 2010

Year 2009 from Oil World, 2010

Year 2010 from Ramdani, 2011

tor as well, in that local governments encouraged the development of medium-scale plantations. The Regent could now grant permission for the conversion of 1,000 hectares of forest for use in palm oil plantations. However, the power to grant licenses for the conversion of more than 1,000 hectares was held by the Department of Agriculture. When the policy changed, the area of palm oil plantations also expanded (Figure 1).

In the early transmigration program, the settlers tended to become laborers in the plantation areas in Sumatera, so that changes in land use from forest to the most extensive plantations mostly occurred in Sumatera in the early period. In the reformation era, transmigration was considered to improve the welfare of the community, with an emphasis on the role of participation in community and local government. Kalimantan Island became a destination for settlers in addition to Sumatera, but not many studies have been done on the implementation of resettlement in the reformation era.

3. Policies related to tax and finance

The imposition of export taxes in a competitive market structure generally decline the

amount of export due to increase of exporting price (Reed, 2000). The Indonesian government increased the export tax of palm oil in order to get more revenue in 1990s. From previous studies, Mohamad et al. (2001) found that the net stock of Indonesian palm oil exports fell 44.5% in October 1994 after the implementation of the export tax in September 1994. The negative effect of the Indonesian palm oil export tax was peaking in December 1994, when the tax reduced the volume of net exports by 64.4%. The most damaging impact of the policy has been in exports and on farmers' income. Susila in 2004 found that the export tax policy has inhibited the growth rates of investment, production, export and farm income.

When Bartholomew (1997) analysed the effect of the palm oil export tax on income distribution in Indonesia using a static model, he found that the export tax on palm oil kept product prices low, thus benefitting consumers. In addition, he found that producers profit had only decreased. Government gets revenue from palm oil export taxes, but the loss of revenue for the government's role as owner of the palm oil plantations. Thus, the result was that the government's loss was larger than the gain due to export taxes for palm oil. Clearly, the export tax policies not only reduced the competitiveness of Indonesia's palm oil industry but were also painful for CPO producers, some of which were smallholders, because of the decline in CPO prices relative to world market prices. On the other hand, refiners that processed crude palm oil into various products such as cooking oil, margarine, and shortening benefitted from this policy because they were able to acquire CPO at a lower price (Mohamad et al., 2001). The export tax policy also hampered the development of the palm oil industry in Indonesia as a whole and did not encourage the diversification of cooking oil. The imposition of a tax on CPO exports led to a shift from the export market to the domestic market, thus lowering the price of cooking oil. This increased competition in the domestic palm oil industry, which would not provide more raw materials for domestic cooking oil (Soeherman et al., 2006).

The revitalisation program was implemented in 2006, this program involved regulations from the Minister of Agriculture (No. 33/Permentan/05/06) and the Minister of Finance (No. 117/PMK/12/06) as well as the appointment of five bank executives by the Minister of Finance, Bank BRI, Bank Mandiri, Bank Bukopin, Bank of North Sumatra and Bank Nagari. To run this program, the government had to subsidise the bank loan interest rate so that the farmers were 'only' subject to a maximum rate of 10% (Director General of Plantations, 2007 ; Nuryanti, 2008).

In the revitalisation of plantations, the government has assisted in helping to provide the following (Dradjat, 2007) : (1) Investment and financing, such as the provision of investment and interest subsidies for the renovation, rehabilitation and expansion of palm oil, rubber, and cocoa plantations ; (2) land management and spatial planning, such as the establishment and utilisation of productive land for the construction of palm oil plantations in the Kalimantan border area ; (3) environmental and natural resources, such as the development of forest industry and participatory natural resource management ; (4) agricultural infrastructure ; (5) human resource development and empowerment of farmers ; (6) incentives, funding for research, and

technological development ; (7) formulation of trade policy that promotes the interests of the nation ; (8) promotion and marketing, and (9) incentive taxation and levies to lighten the load for the removal of agricultural commodities.

The government's revitalization program mainly focused on utilising the banking fund to encourage the empowerment of farmers who have land but have not achieved maximum utilisation of it. National development targets include the expansion, rejuvenation and rehabilitation of an area of 2 million hectares through 2010. Funding is provided to farmers to help with costs from the purchasing of seeds to post-harvest, including the cost of the maintenance of land certificates. The interest subsidy from the government covers 3 to 4 percentage points of the interest rate, and farmers pay only 10 percent mortgage interest during the grace period. The amount of interest after the grace period is in accordance with the applicable provisions in the bank (Bank Indonesia, 2009).

The Minister of Finance issued policy No. 128/PMK.011/2011 regarding who takes out a discriminatory duty on palm oil products. In this policy, which started in September 2011, the maximum Customs Exit (CE) CPO was reduced from 25 to 22.5%, while CPO derivatives (processed CPO) are subjected to a lower CE. For oleochemical products, absolutely no fees are charged (Director General of Customs, 2011). This policy could lead to greater expansion of palm oil plantations in Indonesia.

4. Policies related to socioeconomics and environment

However, to allay fears over the loss of forest area, the Government passed a moratorium on forest conversion to plantations in 2005. The moratorium was signed by the Government of Indonesia to the IMF, however, it was not clear how long the moratorium should continue and whether this moratorium was to cover the actual conversion of forest land or forest land status changes. The Forestry Department issued new regulations for local governments in February 2005. These regulations conflict with one another, as one stated that the moratorium is still in effect, while others stated that to optimise the use of forest land for plantations the Department will evaluate proposed conversions of forest land for plantations. The Ministry also responded to a proposal to open new palm oil plantations covering 1.8 million hectares in the heart of Borneo (WRM, 2008). On May 19, 2011, the Government of Indonesia signed another moratorium with the Norwegian government with a value of US\$ 1 billion ; in this moratorium Indonesia promised to stop issuing new permits to exploit natural forest and peatland within two years (Simamora, 2011).

Based on the Draft Regulation proposed by the Government of the Republic of Indonesia in 2009 regarding the Customary Law Community and Traditional Forest Management, harvesting in the region surrounding the forest to meet the needs of everyday life as referred to in Article 7, is permitted in the following circumstances : a. Harvesting or forest resource use on traditional patterns ; b. Livelihood dependency on forest resources ; c. Social systems and cul-

tural practices attached to the forest resources ; and d. Potential of forest resources to still support the livelihood of indigenous peoples. Other policies, such as Spatial Policy No. 26/2007 Article 20 paragraph 1 letter c, mentioned that national protected areas are areas that are not permitted and/or that are restricted use spaces with the main function of protecting environmental sustainability. These areas include natural and artificial resources, areas with an important cultural heritage and history, as well as areas needed to reduce the impact of natural disasters (PU, 2007).

Article 3 of Law Number 32 Year 2009, the Protection and Environmental Management Act (UUPPLH), establishes the protection and management of the living environment as follows : a. To protect the territory of the Republic of Indonesia against pollution and damage to the environment ; b. To ensure safety, health, and human life ; c. To ensure the survival of living beings and ecosystems ; d. To preserve the environmental functions ; e. To achieve harmony and balance the environment ; f. To guarantee fairness to the present generation and future generations ; g. To ensure compliance and protection of the right to the environment as a human right ; h. To control the use of natural resources wisely ; i. To promote sustainable development ; and j. To anticipated global environmental issues (e.g. to tackle GHG emission in National Level that will contributed to Global Level) (Public Service Department, 2009).

The locations of palm oil plantations should be in accordance with the Provincial Spatial Plan (RUTWP) or the Regional Spatial Plan (RTUWK). These provisions can be seen in Article 61 of Law No. 26 of 2007 on Spatial Planning Policy. With regard to the utilisation of space, each person must : a. Comply with the spatial plan which has been established ; b. Utilise the space in accordance with the space utilisation permitted by authorised officials ; c. Comply with the requirements specified in the permitted space utilisation, and d. Provide access to the area declared by the provisions of the legislation to be public property (Public Service Department, 2007).

Furthermore, Article 67 and Article 68 of the Protection and Environmental Management Policy regulate the obligations to protect and manage the environment. The Protection and Environmental Management Policy, Article 67, stipulates that : “every person is obliged to maintain the preservation of the environment and control pollution and/or environmental damage”. Article 68 provides that : “Any person doing business and/or activity must : a. Provide information related to the protection and management of the environments that is true, accurate, open, and timely ; b. Maintain the continuity of environmental functions, and c. Comply with the provisions of environmental quality standards and/or the standard criteria of environmental damage (PU, 2009).

Article 3 of Permentan (Minister of Agriculture Policy) 19/Permentan/OT.140/3/2011, provides that : “Palm oil Company at the latest until the date of December 31, 2014 should already have conducted business in accordance with the provisions of this Regulation.” The provision suggests that the Company should be able to realize plantation business systems that are economically viable, have social worth, and environmentally friendly based on existing regulations

in Indonesia no later than December 31, 2014 (Minister of Agriculture, 2011). However, all the policies mentioned above lack enforcement, and there is a need for the carrying capacity and capabilities of the protective conservation areas in Indonesia's provinces to be evaluated.

5. Current status of palm oil plantation in Indonesia

The area covered by palm oil plantations in 2004 was 5.72 million hectares, and it increased to 7.95 million hectares in 2009. It is estimated that the area of palm oil plantations increased to 8.11 million hectares in 2010 (BPS, 2010).

Palm oil production in Indonesia in 2010-2011 is estimated at 24.5 million tons, up 3.0 million or 14% from 2009-2010. World palm oil prices have been strong over the past year and have continued to encourage the expansion of palm oil plantations in the country, and about 0.7 million hectares of new area has entered the production phase in the last 12 months alone. The area of palm oil plantations that has grown to maturity is now estimated to have reached 5.9 million hectares of the total estimated area of about 8.0 million. The Indonesian government is fully committed to producing sustainable palm oil, and intends to double its palm oil production capacity to 40.0 million tons in 10 years. This increase in capacity will require further expansion of palm oil plantations at a rate of about 0.7 million hectares per year (USDA, 2010).

Based on the management status, in 2010, 53.94% or almost 4.37 million hectares are managed by private companies, 37.95% or 3.08 million hectares are managed by smallholders, and only 8.11% or 0.65 million hectares are managed by state companies.

If the output of these smallholders can be certified, they will greatly increase Indonesia's contribution to global certified sustainable palm oil (CSPO) output. As of February, 2012, Indonesia has contributed 42.4% of the world's total CSPO output as compared to Malaysia's 47.3%. Indonesia's output was produced from a total of 465,745 hectares of sustainable palm oil plantations nationwide, in comparison to Malaysia's 534,861 hectares (Yulisman, 2012).

Crude palm oil production in 2004 was 12.33 million tons, and it increased to 21.39 million tons in 2009. It is estimated that crude palm oil production increased 2.65% to 21.95 million tons in 2010. In the last seven years total exports increased from 17.12 to 35.76%, with decreases only in 2007 (1.23%) and 2010 (3.61%). For 2004, the export value was US\$ 3.94 billion, increased to US\$ 15.20 billion in 2010 (BPS, 2010).

The five main importer countries of Indonesia's crude palm oil in 2010 were India, Malaysia, Netherlands, Italy, and Singapore (Figure 2). The export volume to India was 4.45 million tons or 47.11% of the total export volume of Indonesia's crude palm oil, with a value of US\$ 3.63 billion. The export volume to Malaysia was 1.32 million tons or 13.96% of the total export volume of Indonesia's crude palm oil, with a value of US\$ 1.06 billion. The export volume to the Netherlands was 0.95 million tons or 10.04% of the total export volume of Indonesia's crude palm oil, with a value of US\$ 800.8 million. The export volume to Italy was 0.63 million tons

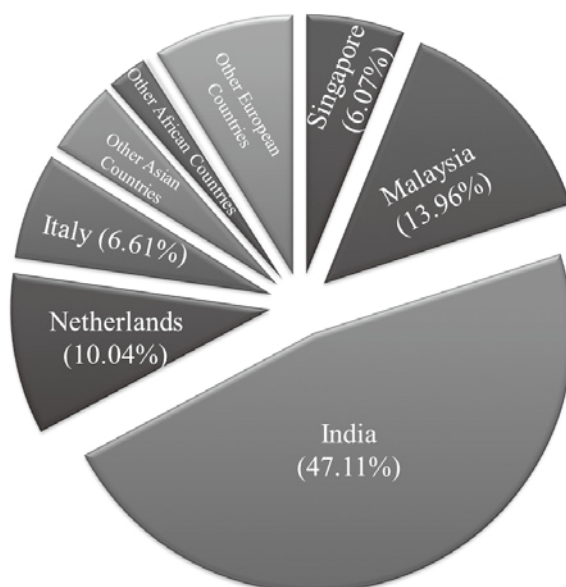


Figure 2 Export of palm oil to country of destination based on volume (million tons) in year 2010
Source : BPS, 2011

or 6.61% of the total export volume of Indonesia's crude palm oil, with a value of US\$ 474.1 million, and the export volume to Singapore was 0.57 million tons or 6.07% of the total export volume of Indonesia's crude palm oil, with a value of US\$ 460.4 million (BPS, 2011).

In India, palm oil is the most widely used vegetable oil for domestic use, industrial food processors, restaurants and hotels. This oil is used for frying foods and making cakes. It is sold in the form of "loose oil" or as "Vanaspati" in the local language. Vanaspati oil consumed by low-income families is usually not branded and uses conventional packaging. Most of the oil consumption in India is for the manufacture of baked goods. While middle and upper-income residents use oil that is branded and packaged well (Orth and Zakaria, 2010), 90% of the palm oil is used in food products such as margarine, shortening, and vegetable cooking oil, while the remaining 10% is consumed by various other industries (API, 2011).

6. Strategy for Indonesia's palm oil

Biofuel is also used as an energy resource for transportation, electricity, and other sectors in Indonesia. To increase the added value and competitive capacity of Indonesia's palm oil, the National Development Planning Bureau (BAPPENAS) announced a palm oil policy and a strategy for sustainability and fairness for Indonesia's palm oil industry in 2010. This strategy consisted of eight components : (i) Promotion, advocacy and campaign ; (ii) downstream product

and added value of palm oil product ; (iii) law enforcement and strengthening of sustainable development ; (iv) transparency of information regarding palm oil development ; (v) smallholder accessibility to information and financial support ; (vi) control of tropical rainforest and peat land conversions ; (vii) support for RSPO's Principles and Criteria ; and (viii) development of a conflict resolution mechanism (Haryana, 2010).

Sustainable palm oil production has become a key issue for the smallholder palm oil industry due to the more stringent requirements from large buyers in terms of social and environmental standards. Large buyers from European countries are also committed to source only sustainable palm oil by 2015, and to address this issue, the government has started to apply the so-called Indonesian Sustainable Palm Oil standard, which is mandatory for all palm oil plantations.

7. Implementation of strategy

The Indonesian palm oil industry now faces many problems, and each problem requires a different solution. Thus, the national biofuel strategy is divided into five classes : technology, social issues, economy, environment, and management, as shown in Figure 3. Implementation of solutions to technological problems creates a palm oil industrial cluster based on production potential, increased, sustainable and fair financial support for smallholders, integrated development of infrastructure, fiscal incentive, credit allocation for investment and development of downstream industry. Furthermore, this implementation strengthens research and development with the financial support and cooperation of private company, universities, and research institute to increase Indonesia's competitive capacity for palm oil.

The implementation of solutions for social problems includes provisions for the delivery of information in simple language that stakeholders can understand by the institutions of the central government and area of plantation and palm oil processing industry to stakeholders, particularly individuals and local communities, associated with the licensing, development and processing of palm oil plantations. It also includes the handling of negative and positive impacts of the development of palm oil. A cooperative partnership between the company's plantation and processing industry of palm oil with the surrounding communities / farmers to develop smallholders is also included. Another provision is the institutional strengthening of smallholder human resources, both the farmers and company. Furthermore, the implementation of solutions in economic problems include the modification of the palm oil plantation revitalization program through the provision of unsecured credit facilities, especially for the rejuvenation of the palm oil plantations of smallholders. Interest subsidies of loan interest rates should be lower and more affordable to smallholders. The application of the palm oil rejuvenation model has accounted for the needs for technological, capital and management rejuvenation, especially for the palm oil plantations of smallholders. The development of palm oil agribusiness support services, such as the provision of technology, the means of production (organic and non-organic

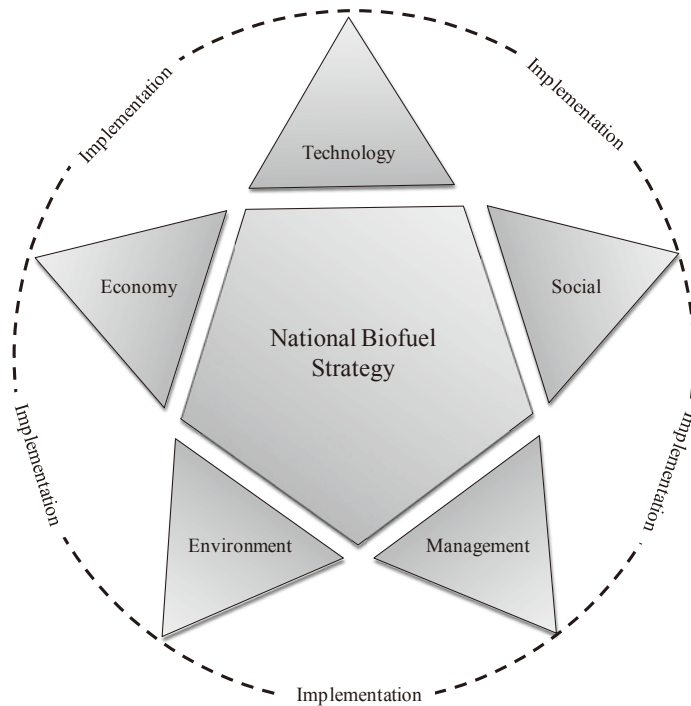


Figure 3 National biofuel strategy

fertilizers, and medicines) and infrastructure (tools and machinery), should be as extensive for smallholders as they are for agribusiness. The implementation of a partnership between smallholder institutions and agency companies should be effective and equitable in accordance with laws and regulations (i.e., the Partnership Act, the Act and the Prohibition of Monopolistic and Unhealthy Competition and Implementation Rules).

Socialization with and training in Indonesian sustainable palm oil principles and criteria, particularly among smallholders, and support for the regular monitoring and evaluation of the application of Indonesian sustainable palm oil principles and criteria should be implemented. Furthermore, for tropical rainforest and peat land that have been converted, the development of new plantation areas should be matched between the Consensus Forest Land Use Plan (TGHK) with Spatial Planning (RTRW) at all levels. The strengthening of spatial planning is done through the mechanism of incentives and disincentives as well as through the imposition of restrictions. Areas that do not resolve the mismatched, especially areas with palm oil plantations, require serious attention. The acceleration of the lease allocation permissions of tropical rainforest for other uses must be detained. Monitoring and evaluation should refer to legislation policies including a moratorium on forest. Granting permission for the expansion of

companies that perform well in palm oil plantation management, i.e. companies that implement sustainable management practices and show the main indicators of productivity, is done in accordance with productivity according to land class. Such expansion is allowed only if the productivity of the palm oil plantation has reached an optimum point. The expansion is implemented by using abandoned agricultural land.

The last implementation strategy involves improving the management of palm oil plantations by strengthening the development of palm oil plantations and enforcing applicable laws, providing sustainable governance and licensing by law enforcement in the development of the management system, and through the licensing of sustainable palm oil by applying orderly indicators and clear requirements.

8. Conclusions

This study identifies the lessons that can be learned from the changes in policies regarding the development of palm oil plantations. The nationalization and first development of this industry after independence shaped Indonesian economy based on forestry and plantation resources. The government enacted further policy to encourage local economies and controlled the population growth in Java through a transmigration program.

However, changing from centralized to decentralized policies during 2002-2010 resulted in deforestation and environmental degradation. The greater power of local leaders has led to uncontrolled leasing to 1,243 multinational companies through 2010.

Local leaders such as Governor, Regent, or Major issued multinational companies approval of large scale development of palm oil plantation without consideration concerning environmental conservation.

Recently, due to pressure from outsiders and the strict requirements of European buyer/importers, the government began to implement a system of sustainable management, leading to the production of a product known as Indonesian sustainable palm oil.

To meet the world demand, increase the competitiveness of Indonesian palm oil, as well as shape a sustainable pattern of development, the government now invokes the National Biofuel Strategy.

The implementation of the National Biofuel Strategy and Policy with strong law enforcement and regular evaluation of every policy must be a top concern of the Indonesian government at every level, from national to local. The five classifications in the National Biofuel Strategy will help the country to increase the added value and competitive capacity of Indonesian palm oil and will enable smallholders in the palm oil industry to achieve prosperity and wealth and avoid conflict with multinational companies.

References

- Agro Products India (API)** (2011) : *Oil palm*. <http://www.agriculturalproductsindia.com/edible-oils/edible-oils-palm-oil.html> (accessed 6th April 2012).
- Bank Indonesia (BI)** (2009) : *Kajian Ekonomi Regional Sumatera Utara Triwulan III-2009*. Kantor Bank Indonesia Medan.
- Bartholomew, S** (1997) : National Systems of Biotechnology Innovation : Complex Interdependence in the Global System. *International Business Studies* **28**, 241-266.
- Burgess, R., Hansen, M., Olken, B. and Potapov, P.** (2011) : *The Political Economy of Deforestation in the Tropics*. London School of Economics and the Massachusetts Institute of Technology. <http://econ-www.mit.edu/files/6632> (accessed 19th April 2012).
- Chomitz, K.M., Buys, P., De Luca, G., Thomas, T.S., and Wertz-Kanounnikoff, S** (2007) : *At Loggerheads? Agricultural Expansion, Poverty Reduction, and Environment in the Tropical Forests*. World Bank. http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2006/10/19/000112742_20061019150049/Rendered/PDF/367890Loggerheads0Report.pdf (accessed 15th April 2012).
- Corley, R.H.V and Tinker, P.B.** (2003) : *The Oil Palm*. Fourth edition. Blackwell Science. National Academy Press, British DC.
- Director General of Customs (Dirjen Beacukai)** (2011) : *PERATURAN MENTERI KEUANGAN NOMOR 128/PMK.011/2011 TENTANG PENETAPAN BARANG EKSPOR YANG DIKENAKAN BEA KELUAR DAN TARIF BEA KELUAR*. Minister of Finance. <http://peraturan.bcperak.net/sites/default/files/peraturan/2011/128pmk0112011.pdf> (accessed 21st April 2012).
- Director General of Plantations (Ditjenbun)** (2007) : *Pedoman Umum Program Revitalisasi Perkebunan (Kelapa Sawit, Karet dan Kakao)*. Departemen Pertanian, Jakarta. http://www.aceh-eye.org/data_files/bahasa_format/bhs_env/bhs_env_palm/env_palm_govt/env_palm_govt_2007_01_00.pdf (accessed 19th April 2012).
- Dradjat, B.** (2007) : Perkebunan Kelapa Sawit Indonesia Masih Berpotensi Dikembangkan. *Warta Penelitian dan Pengembangan Pertanian* **29**, 6-7. <http://pustaka.litbang.deptan.go.id/publikasi/wr292074.pdf> (accessed 19th April 2012).
- Haryana, A.** (2010) : *Kebijakan dan Strategi Dalam Meningkatkan Nilai Tambah Dan Daya Saing Kelapa Sawit Indonesia Secara Berkelanjutan Dan Berkeadilan*. BAPPENAS Policy Paper. Jakarta.
- Hasan, F.** (2010) : *Supply of oil palm and current status of Indonesian biodiesel*. Indonesian Oil Palm Association. <http://embassyofindonesia.it/wp-content/uploads/2010/12/FADHIL-HASAN-SUPPLY-OF-PALM-OIL-AND-CURRENT-STATUS-OF-INDONESIAN-BIODIESEL.pps> (accessed 19th April 2012).
- Indonesia Central Statistics Agency (BPS)** (2005) : *Statistik Dalam 50 Tahun Indonesia Merdeka*. Indonesia Central Statistics Agency, Jakarta.
- Indonesia Central Statistics Agency (BPS)** (2007) : *Statistik Kelapa Sawit Indonesia*. Indonesia Central Statistics Agency, Jakarta.
- Indonesia Central Statistics Agency (BPS)** (2010) : *Statistik Kelapa Sawit Indonesia*. Indonesia Central Statistics Agency, Jakarta.
- Indonesia Central Statistics Agency (BPS)** (2011) : *Statistik Kelapa Sawit Indonesia*. Indonesia Central Statistics Agency, Jakarta.
- Indonesian Palm Oil Board (IPOB)** (2007) : *Indonesian oil palm in numbers*. DHB Printing Dinamika Hutabaru, PT. Indonesia.
- Minister of Agriculture (Deptan)** (2011) : *PERATURAN MENTERI PERTANIAN NOMOR 19/Permentan/OT.140/3/2011 TENTANG PEDOMAN PERKEBUNAN KELAPA SAWIT BERKELANJUTAN INDONESIA (INDONESIAN SUSTAINABLE OIL PALM/ISPO)*, Minister of Agriculture. <http://ditjenbun.deptan.go.id/perbenpro/images/Pdf/kebijakan/permenispo.pdf>

- (accessed 20th April 2012).
- Mohamad, F.H., M.R.Reed and M.A.Marchant** (2001) : Effects of an Export Tax on Competitiveness : The Case of the Indonesian Oil Palm Industry. *Economic Development* 26 (2).
- Nuryanti, S.** (2008) : Nilai Strategis Industri Sawit. *Analisis Kebijakan Pertanian* 6, 378-392.
- Oil World** (2000) : *Oil world annual*. Mielke, Hamburg.
- Orth, M and Zakaria, A.** (2010) : *Indian Use of Indonesian Oil palm*. Siemenpuu Foundation. <http://www.into-ebooks.com/downloads.php?id=21&file=pdf> (accessed 6th April 2012).
- Pahan, I.** (2006) : *Panduan Lengkap Kelapa Sawit*. Penebar Swadaya. Jakarta
- Public Service Department (PU)** (2007) : *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 26 TAHUN 2007 TENTANG PENATAAN RUANG*. Public Service Department. www.pu.go.id/satminkal/itjen/hukum/uu26-07.pdf (accessed 19th April 2012).
- Public Service Department (PU)** (2009) : *UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 32 TAHUN 2009 TENTANG PERLINDUNGAN DAN PENGELOLAAN LINGKUNGAN HIDUP*. Public Service Department. <http://birohukum.pu.go.id/Peraturan/UU32-2009.pdf> (accessed 19th April 2012).
- Ramdani, F.** (2011) : *Changes in Land Use due to Development of Oil Palm Plantation in Sumatera and Kalimantan Island Under Economic Globalization*. Master Thesis. Tohoku University, JAPAN
- Reed, M.R.** (2000) : *International Trade in Agricultural Products*. Upper Saddle, Prentice Hall, New Jersey.
- Simamora, A.** (2011) : *Moratorium issued to protect primary forest, peatland*. The Jakarta Post. <http://www.thejakartapost.com/news/2011/05/20/moratorium-issued-protect-primary-forests-peatland.html> (accessed 20th April 2012).
- Soeherman, G., D. Dharsono and L. Buana** (2006) : *Road Map Industri Kelapa Sawit*. Jakarta.
- Sunderlin, W.D., Resosudarmo, I.A.P.** (1996) : *Rates and Causes of Deforestation in Indonesia* : Towards a Resolution of the Ambiguities. Occasional Paper No. 9. Centre for International Forest Research (CIFOR), Bogor, Indonesia. http://www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-09n.pdf (accessed 11st April 2012).
- Susila, W.R.** (2004) : *Impacts of CPO Export Tax on Several Aspects of Indonesian CPO Industry*. <http://palmoilis.mpob.gov.my/publications/opieju4n2-susila.pdf> (accessed 11st April 2012).
- USDA** (2010) : *World Agricultural Production*. Foreign Agricultural Service. <http://www.fas.usda.gov/wap/circular/2010/10-05/productionfull05-10.pdf>. (accessed 20th April 2012).
- Whitten, A.J.** (1987) : Indonesia's transmigration program and its role in the loss of tropical rain forests. *Conservation Biology* 1, 239-246.
- World Rainforest Movement (WRM)** (2008) : *Analysis on existing legislation related to oil palm plantation* : Case studies from Latin America, Africa, and Asia. Montevideo, Uruguay. <http://www.wrm.org.uy/plantations/material/OilPalmCases.pdf> (accessed 20th April 2012).
- Yulisman, Linda.** (2012) : *RI may soon become top sustainable CPO producer*. The Jakarta Post. <http://www.thejakartapost.com/news/2012/03/26/ri-may-soon-become-top-sustainable-cpo-producer.html> (accessed 6th April 2012).