



An Analysis of the Palm Industry's Development, Regulations, and Practices in Indonesia

Effendi Andoko

College of Agriculture and Natural Resources
National Chung Hsing University

Edyta Zmudczynska

Department of Human Nutrition and Consumer Sciences
Warsaw University of Life Sciences

INTRODUCTION

World palm oil production is dominated by Indonesia and Malaysia, which supply 85-90% of the world's total palm oil production. Indonesia is the largest producer and exporter of palm oil. This industry also contributes the largest foreign exchange to Indonesia, which is around the US \$ 23 billion in 2017 (GAPKI, 2017). The world demand for palm oil shows an increasing trend in line with the growing world population. This has led to an increasing consumption of products with palm oil raw materials such as food products, cosmetics and biofuels. The presence of oil palm for the agriculture and plantation industries in Indonesia accounts for the most significant sector that brings benefits to the country's economy. The contribution of the palm oil industry is also able to employ a very substantial amount of labor. In 2010, employment figures showed 3.4 million people and in 2014, increased by 60.8%.

This figure continues to increase to date, especially in terms of providing new jobs in various fields such as expeditions, processing and research. The Indonesian government puts considerable attention to the oil palm business in the form of subsidy, agriculture extension, farmer cooperative and organization, regulations and guidance, and other efforts such as the establishment of institutions for monitoring and protecting nature conservation. However, there is the issue of sustainability and forest conservation is in the spotlight locally and internationally, especially in the European Union where there is discussions going on the regulations to eliminate oil palm trade in the EU.

This paper will discuss Indonesia' palm oil industry in detail which includes its developments, policy analysis, along with their implementation, the role of government and the private sector, along with a summary of the weaknesses and strengths of this industry, as well as the controversy of this

commodity. Also, it will discuss the efforts of the Indonesian government to defend from EU ban and promote their palm oil products to the global market. The main objective of this paper is to provide actual information along with the analysis about the development of palm oil commodity industry in Indonesia and scenarios related to national policies. In the end, there are recommendations obtained from the results of analysis and discussion with experts and observers of the palm industry in Indonesia.

The development of the Indonesian palm oil industry

From 2006, Indonesia has increased the amount of production and defeated Malaysia's productivity. This makes Indonesia the world's largest palm oil producer. It shows and proves the efficiency of the oil palm business system in Indonesia.

The development of palm oil commodities in Indonesia has encouraged the growth of various palm oil derivative industries. The initial palm oil derivative industry in Indonesia is the palm cooking oil that is used as a substitute for coconut cooking oil. It is then continued with the growth of other derivative industries such as butter, candles, renewable fuels, cosmetic products and various oleochemical products.

The oil palm plantation sector and the national palm oil industry are the most strategic sectors that contribute significantly to the national economy. According to the Director General of Plantation, Ministry of Agriculture, in terms of state revenues, foreign exchange exports generated from palm oil products in 2017 reached US\$ 21.25 billion. In 2018, Indonesia's total palm oil exports (crude palm oil and its derivatives, biodiesel and oleo-chemical products) posted an increase of 8 % or from 32.18 million tons in 2017 to 34.71 million tons in 2018. The most significant percentage increase was recorded by Indonesian biodiesel which is 851 % or 164,000 tons in 2017, which significantly increased to 1.56 million tons in 2018. Palm also contributes 17% of 2014 Gross Domestic Product (GDP) of Indonesia (Ministry of Agriculture, 2015).

World oil demand is expected to continue to increase. This increase in demand is driven by domestic demand and new emerging markets such as India and China. This new market has high economic growth and biodiesel use, driving demand for palm oil to 4%. This high growth in the new market is due to the low supply of other vegetable oils and the high expenditure on food (Purnomo *et al.*, 2017).

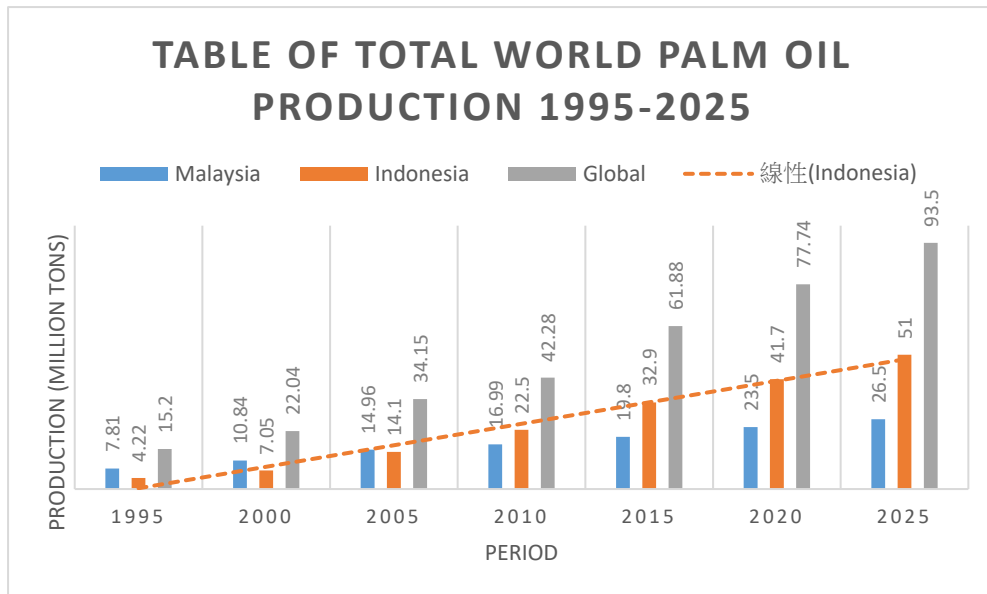


Table 1. Table of Data and Estimates of Total Palm Oil Production by Indonesia, Malaysia and the World in 1995-2025 (Mielke, 2015).

According to Table 1, Indonesia supplies at least half of the world's oil palm demand. Indonesia's palm oil production is increasing rapidly. Until 2006, Indonesia had surpassed Malaysia in terms of total output. Indeed, the area of land in Indonesia is far more extensive than in Malaysia. The productivity of the palm oil industry in Indonesia is increasing, along with research and infrastructure.

Indonesia's sustainable palm oil program

Indonesian Sustainable Palm Oil (ISPO) Program is a mandatory certification process that is legally binding for all oil palm growers, except for domestic smallholders. The government's mission through ISPO is to become the leading platform for the sustainability of the national palm oil industry. The ISPO certification objective is to equalize standard.

Government seeks to strengthen the implementation of Indonesian Sustainable Palm Oil (ISPO) by regulating it through Presidential Regulation. Previously, ISPO was only controlled by the Minister of Agriculture Regulation. There are four objectives of the ISPO regulation by Presidential Regulation: 1) ensuring sustainable palm oil management in Indonesia; 2) increasing economies of scale, socio-cultural, and environmental quality; 3) increasing the competitiveness of Indonesian palm oil, and 4) contribute to the reduction of GHG and Intended Nationally Determine Contribution (INDC) emissions.

Overview of government regulations

The Government issued Republic of Indonesia Law No. 39 the Year of 2014 concerning Plantation. It is the basic concept for oil palm plantations in Indonesia. This law was issued considering that farms, especially crude palm oil, play an essential role and have great potential in national economic development.

Consideration of policies regarding the palm oil industry in Indonesia refers to several other essential provisions. These regulations can influence the policies of the palm oil industry in various sectors. The legislation that forms the basis for the Indonesia sustainable palm oil includes:

1. The Ministry of Agriculture Regulation No. 1 the Year of 2018 Concerning Guidelines for Determining the Price of Purchasing Fresh Fruit Banks of Crude Palm Oil Products
2. The Decree of the Director General of Plantation Number: 29 / Kpts / Kb.120 / 3/2017 about Management of Palm Oil Plants, Development of Human Resources and Facilities and Infrastructure Assistance in Palm Oil Plant Function Management Framework
3. The Ministry of Agriculture Regulation No. 18 the Year of 2016 concerning The Rejuvenation of Palm Oil Area
4. The Ministry of Agriculture Regulation No 18 the Year of 2016 Republic of Indonesia Number 61 the Year of 2015 concerning The Implementation and Use of Palm Oil Plantation Funds
5. The Ministry of Agriculture Regulation No 98 the Year of 2013 concerning Licensing of Plantation Businesses
6. The Law Republic of Indonesia No. 12 the Year of 1992 concerning Plant Cultivation System
7. The Law Republic of Indonesia No. 18 the Year of 2004 concerning Plantation
8. The Law Republic of Indonesia No. 5 the Year of 1960 concerning Regulations on Basic Agrarian Basics
9. The Law Republic of Indonesia No. 23 the Year of 1997 concerning Environmental Management
10. The Law Republic of Indonesia No. 29 the Year of 2000 concerning Protection of Plant Varieties
11. The Law Republic of Indonesia No. 41 the Year of 2000 concerning Forestry
12. Government of Republic of Indonesia Regulation No. 6 the Year of 1995 concerning Plant Protection
13. Government of Republic of Indonesia Regulation No. 27 the Year of 1999 concerning Environmental Impact Analysis
14. The Ministry of Agriculture Regulation No. 14 the Year of 2009 concerning Guidelines for Utilizing Peatlands for Palm Oil Cultivation
15. The Ministry of Agriculture Regulation / Head of National Defense Agency No. 2 the Year of 1999 concerning the Location Permits
Joint Decree of the Minister of Forestry, Minister of Agriculture, and Head of BPN No. 364 / Kpts-II / 1990, No. 519 / Kpts / Hk.050 / 7/1990, and No. 23 / VIII / 90 concerning Provisions on the Release of Forest Areas and Granting of Right to Cultivate for Development
16. Regulation of the Directorate General of Plantation No. 174 of 2009 concerning the Assessment of Plantation Business and Data Processing Questionnaire for Plantation Business Assessment, Development and Operational Phase

Whereas in business activities such as export activities, Indonesian crude palm oil is regulated in Regulation of the Ministry of Trade of the Republic of Indonesia No. 54 The Year of 2015 (No. 90 The

Year of 2015) about verification or Technical on Exports Palm Oil, Crude Palm Oil, and Its Derivative Products.

Indonesia Palm Oil Association

Indonesia Palm Oil Association (IPOA) or namely GAPKI is an organization formed in the unifying basis of all oil palm industry business actors in Indonesia. This organization plays a vital role in determining the palm oil business strategy, even regulations in Indonesia. The main objective is to realize a sustainable palm oil industry that is capable of supporting national welfare. The missions are to become partners of the central government and local governments in formulating palm oil policies, synergizing the path of this commodity industry. Thus, they can compete in the global market, discipline members in conducting all oil palm business activities, and support members to participate in the development of this industry in terms of business, employment, environment, etc. The function of this organization also plays the first role in all industrial activities, including advocacy and law. IPOA has an active role in building order and the stability of the palm oil industry in Indonesia. Also, they function to regulate the industrial development strategy of this commodity (GAPKI, 2019).

Private sector participation

Oil palm plantations in Indonesia have an area of 11.4 million ha in 2015. They consist of private companies which owned 52%, smallholders and farmers which owned 41%, and state-owned companies which owned 7%. Most of the expansion is carried out by farmers and the private sector, while state-owned companies grow more slowly. According to statistics from the directorate general of plantations, the total area of Indonesian oil palm plantations in 2018 is 14.3 million hectares, which means an increase of more than 20% since 2015. And the division into estates belonging to the smallholders is 40.6%, state-owned plantations are 4.4%, and 55% are owned by private companies.

The annual increase in Indonesia's oil palm plantation area is estimated at 328,176 ha through linear regression. Private sector participation in the palm oil industry reached 93%, which means that almost the entire Indonesian palm oil industry sector is privately owned.

Recent government program initiative: palm oil biodiesel

The Indonesian government, in its efforts to support the provision, use and trade of renewable fuels issued a law of the Republic of Indonesia No. 30 the Year of 2007 (Act. No 30/2007) regarding national energy, which aims to strengthen regulations on renewable energy and prioritize the use of biofuels.

Based on these regulations, the government took the initiative through the release of the B20 program. It is a government program that requires mixing 20% of biodiesel with 80% of diesel fuel. The intended biodiesel is biofuel for the application of diesel engines/motors in the form of fatty acid methyl esters (fatty acid methyl ester / FAME) made from vegetable oil (mainly from crude palm oil) through the esterification/transesterification process. The government's goal through the B20 program is to improve the national energy security through energy diversification by prioritizing local energy potential;

save foreign exchange and reduce dependence on oil and gas imports; increase economic added value through the downstream oil palm industry; open up new jobs for national equity; and reduce greenhouse gas emissions and improve environmental quality.

The regulation governing the mandatory phasing of the B20 program is Regulation of the Minister of Energy and Mineral Resources No. 12 of 2015 (which was Act No. 32 of 2008) concerning provision, utilization and trading of biofuel as other fuels. Based on these regulations, the types of sectors that must be applied include micro-businesses, fisheries businesses, agricultural businesses, public service obligations; and industry and commercial. However, the program has been well implemented in the transportation sector. Through the direction of the President of the Republic of Indonesia, President Joko Widodo, starting September 1, 2018, the mandatory B20 programs are run massively in all sectors (Director General of New Renewable Energy and Energy Conservation, 2018).

Palm 5.0: New paradigm of palm oil industry waste solution

The increasing number of production and market projections of the Indonesian palm oil industry, palm oil mills also increases the volume of waste. Indonesia's Crude Palm Oil factory produces around 455,000 Metric Ton POME per day. So far, the companies have used it as fertilizer, but most have only ended up in garbage disposal. This waste can endanger the environment and ecosystem.

Recently, based on the press release of the Ministry of the Economic Affairs of the Republic of Indonesia, a new paradigm emerged about the Palm Oil Industry called Palm 5.0. They are using the method of processing POME (Palm Oil Mill Effluent) or Palm Oil Mill Waste. Experts believe this method can reduce methane gas pollution, which weighs 27 times the equivalent of CO₂. The central core of this technology is to apply Algae Novel-DHA technology. The methodology is mixing POME and Algae, capable of producing DHA containing Omega 3 and producing aquatic feed and animal feed. Algae Novel potentially makes Indonesia become the largest omega-3 producer in the world as a raw material for the pharmaceutical industry for making supplements and rice extract ingredients (Coordinator Ministry for Economic Affairs, 2019).

Key issue

The palm oil industry in Indonesia has been regulated and protected by the laws stated in the Law of the Republic of Indonesia No 39 the Year of 2019 (UU No 39/2019). The provisions include general regulations which have not explained in detail the integration of the production process from upstream to downstream. So even though it has been regulated in state legislation, the impact is still not maximum in terms of providing solutions to actual problems in the field such as inequality, employment protections, production standards for smallholders, etc.

The firmness of advanced regulations will be able to protect all parties involved in the palm oil industry, such as small farmers, small-medium businesses, and other employees in this industry. The existence of the law on palm oil can affirm its position as the most strategic national commodity.

On the other hand, the lack of consistency in state legislation regarding the palm oil industry has

resulted in ambiguity among farmers and private companies. In the section above, we discussed 16 points about primary regulation of the palm industry in Indonesia. The many regulations provide confusion and become "attacking tools" among business owners of the oil palm industry. This reduces stability and sustainability of fair business, which is impacted by the production amount, monopoly market or power center, which also presents risks of corruption, collusion and nepotism.

Another significant issue is explained by the Committee on Environment, Public Health, and Food Safety, the European Parliament. In its report on Rainforest Palm Oil and Deforestation, launched environmental issues that Indonesian Palm Oil Industry causing forest fires, deforestation, rivers dried up, land erosion, and declining biodiversity. The committee also received many reports stating that oil palm plantations encourage social conflict and human rights violations.

This issue was already known by the IPOA, and the violator was an active member of the organization. At least there are 30% palm oil companies in Indonesia that violate environmental safety standards. These problems have been rooted for a long time, such as laborers with nonstandard salaries, employment of underage children, ecological destruction, and much more.

The last issue is carried out by qualitative research. In Indonesia, awareness and knowledge of oil palm commodities is very minimal. We conducted qualitative research to 1,000 people who were spread across the capital and the largest cities in Indonesia. As a result, only 42% of people know that Indonesia is a palm oil producer, and the severity is that only 27% of Indonesians know that the daily products they use are palm oil derivatives. This minimal knowledge of the community also undermines the government's efforts in program initiatives to advance palm oil products domestically. In addition, our research also found that only about 20% of 473 secondary schools as correspondent introduced palm oil commodity to their students. That means, millions of students in the new generation do not yet know the existence of oil palm in the country.

Global controversy

The palm oil industry in Indonesia is changing competition with vegetable oil, which involves global political, economic, social and environmental issues. Especially the ecological problem that often connects industrial palm oil with deforestation, destruction of the environment and ecosystems, and the leading causes of the extinction of biodiversity in Indonesia. This issue is circulating in the European Union circles as their campaign to eliminate palm oil from renewable energy sources.

The performance of Indonesian palm oil exports continues to erode due to the sentiment of the European Union Renewable Energy Directive II. The European Union Parliament also formulated a decision to altogether abolish palm oil as biofuels by 2021, based on social and environmental reasons mainly for forest destruction (European Parliament, 2017).

The suspicion of environmental destruction due to oil palm expansion might be just an old issue. For example, the death of an orangutan due to loss of habitat due to logging and seizure of forest land by agriculture and plantations. This was an only illegal criminal issue carried out by a group of businesses. According to the discussion, the opinion says that the enormous pressure from the EU, came from groups

of farmers and business actors in Europe, that imported palm oil that suppressed the market share of vegetable oil produced in the European countries. In addition to environmental reasons, one of their reasons for using ethanol as biofuels is because almost all of them are manufactured in Europe, while more than half of palm oil must be imported, mainly from Indonesia and Malaysia, which together control 85 percent of the world's palm oil market (Sari, 2019).

The main sustainable palm oil producer criterion according to the EU is that the choice of adequate certification schemes such as International Sustainability & Carbon Certification (ISCC) has six principles: the absence of deforestation, good agriculture practices and training, safe working methods, social conditions based on national justice law and proper management. (Noveli, 2016). Based on the consideration of the ISCC principles, the EU respectfully states that Indonesia's palm oil products and biodiesel products do not meet the criteria and considerations because of: still create many problems of environment and ecology, deforestation, corruption, child labor, and human rights violations.

However, lately, the Republic of Indonesia government and the Malaysian government have taken steps to report the European Union to the World Trade Organization containing points of objection to the European Union's plan to ban palm oil products. The trade war between Indonesia and the EU will continue until the dispute ends. Indonesia continues to insist on stabilizing the condition of oil palm in world trade because around 20 million Indonesian farmers depend on the palm oil industry.

Forward steps of the Indonesian government to promote palm oil

The existence of the negative Indonesian palm oil campaign by the European Union, the government, through the Minister for Economic Affairs remained optimistic in its efforts to continue marketing palm oil. The government is expanding the market in China, South Asia and Middle East Asia regions such as Turkey, India, and Pakistan also to Africa region through the benefits of the Free Trade Agreement (FTA).

The strategy is to focus more on developing the palm oil export market towards a country that uses palm oil as part of the people's daily consumption. Through the support of the Palm Oil Plantation Fund Management Agency (BPDP-KS), government and non-government private and organizational parties regarding the palm oil sector industry have stepped up positive diplomatic efforts and promotions of trade cooperation in various countries except EU. These efforts in the form of providing the right information and in accordance with the facts or the results of scientific research were carried out by the ministers even by president Joko Widodo regarding the implementation of diplomacy and efforts to protect palm oil products.

In addition to efforts to develop the number of exports, the government increased the support to owners of palm oil processing plants by increasing the management of liquid waste or Palm Oil Mill Effluent (POME) with various developments in renewable applied technology. It was processed into renewable and environmentally friendly industries. An example is the use of oil palm waste as a resource for biogas technology power plants. Government support is also in the form of legal protection, legal provisions and directives for the use of renewable energy fuels such as vegetable oil specifically from

crude palm oil.

The government's next step in increasing the use of palm oil-sourced renewable fuels is the implementation of the B30 mandatory program which means mixing 30% of vegetable oil (palm oil) fuel with 70% diesel. This program is planned to be implemented soon in the middle of this year 2019.

RECOMMENDATIONS AND CONCLUSION

Indonesia's oil palm industry has contributed to the most considerable domestic income. In addition, the Indonesian palm oil industry is the largest in the world and supplies almost all of the world's palm oil. The meaning of this commodity is very valuable, especially for Indonesia's trade balance and equalizing national income through employment. The following is a recommendation on the results of analysis and discussion with Indonesian oil palm researchers to advance the sector in a sustainable manner both economically, socially and environmentally.

1. Indonesia needs to have a national palm oil industry roadmap with the aim of making Indonesia a center for palm oil production, a reference center for palm oil prices, and a center for the downstream oil palm industry. So far, even though Indonesia is the largest palm oil producer in the world, the price of palm oil still depends on other countries. Indonesia still does not have the capability to advance research on this industry. The government through education should boost the advance research on commodity finance, production, marketing, and other fields that are capable of making Indonesia a global palm oil center.
2. As in the ambiguity of state laws and regulations, which will lead to problems of advocacy that are quite complicated in the future, the government and ministers should take steps to harmonize specific rules for the palm oil industry. This sector plays a very large role in the dynamics of the Indonesian economy, so that if the industry sector is combined with the general provision for plantations, it will provide a risk gap for abuse of regulation as a tool for self-enrichment or corruption, which reduces state control of domestic industries.
3. Until now, based on qualitative research, regional governments outside of Java such as Sulawesi and Kalimantan have not received the most current information. They also have not received intensive or government subsidy as they deserved. The central government needs to improve the communication mechanism or platform within the framework of information disclosure. There needs to be a mechanism in place that puts forward the principle of transparency in terms of data, information and developmental updates related to the implementation of Presidential Instruction No. 8 the Year of 2018 so that it can be monitored and accessed by regional governments and even civil society groups and the public.
4. Although Indonesia is the largest palm oil producer in the world, the quality of palm oil and crude palm oil products is still inadequate. Production costs in Indonesia are higher than in Malaysia or Thailand due to social security factors. In Indonesia, because there is no regulation that protects

the company from illegal levies or commonly called "security money" which is collected by residents around the plantation area. The government should increase protection for illegal levies through strict deregulation and policies.

5. Despite the existence of regulations regarding plantations and the environment, in reality, some of the private companies have not implemented environmentally sustainable practices for palm plantation. This will eventually damage the environment and become the main point of destruction of the oil palm industry business. In various parts of the world, such as the EU, released a boycott of oil palm because of the issue of deforestation and destruction of ecosystems in Indonesia. Therefore, the government must take decisive steps to maintain the sustainability of environmental rather than just focus on the amount of production or sales.
6. Along with the increase in the amount of palm oil production, these industrial workers are also increasing. The amount of employment that is revealed in the media is the actual amount, but in fact, there is still no legal system of employment protected by the state. As a result, there are many actual human rights violations. For example, it is employing underaged children, providing the minimum salaries, overtime working hours, absence of health and safety facilities, and many more. The government must offer strict regulations to the private sector because this will also refer to modern poverty.

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