

# The World's Leader in the Palm Oil Industry : Indonesia

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## **Abstract**

*Indonesia, being the world leader in the production of crude palm oil, has been successful in serving the domestic and world market with palm products and palm derivatives. The industry contributes US\$17.6 billion through exports in 2012. At present, the demand for crude palm oil has soared high due to the increasing awareness of the varied uses of palm oil. The challenge to countries cultivating oil palm is how to cope with the local and global demand. The focus now is to increase plantation areas to produce a higher volume of crude oil to serve the needs of the world market. Today, the total land area planted to oil palm in Indonesia has reached 9.7 million hectares. This study used data mining and Delphi technique. Data were sourced from public domain websites and several databases. This study determined the gap between production and utilization and to provide information to existing industry players ,policy makers, future investors, and would-be entrants to the industry on the latest trends noting the fast development of the industry not only in Indonesia but also in other Southeast Asian countries. Although Indonesia has been successful in providing the local and international market with palm oil products and palm derivatives, it has to benchmark with other palm producing countries to avoid industry stagnation and to intensify diversification particularly in the development of new edible products to take advantage of the health benefits derived from the use of palm oil.*

*Keywords:palm oil, crude palm oil, environmental scanning*

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## **1.0 Introduction**

The economic contribution of the palm oil industry in Indonesia cannot be underestimated as the industry contributes US\$17.6 billion in terms of exports in 2012 according to United Nations Comtrade. Although other industries have their share of inputs, the palm oil industry has placed Indonesia as the leader in the global arena. The constant increase in the demand for crude palm oil and palm kernel oil has greatly influenced the price

levels of the different oils in the world market.

Oil palm(*Elaeis guineensis*) is an ancient tropical plant from the West African tropical rainforest region. Oil palm seedlings were brought to Bogor, Java as an ornamental plant by Dutch tobacco planters in 1948 and is still being cultivated there as well as in other tropical countries located 10% above and below the equator. It was the industrial revolution in the nineteenth century in Europe that sparked the international trading when

the demand went high due to the use for it as a lubricant for steam engines and other machineries for soap making. It was not until the 20th century that oil palm was planted commercially in Southeast Asia. Oil palm produces two different types of oils, namely palm oil and palm kernel oil. Palm oil is used in food products such as cooking oil, shortenings, and margarine while palm kernel oil is mostly used as raw material for nonfood products that include soaps, detergents, toiletries, cosmetics and candles. More recently, palm oil has been used as feedstock for biofuel. Palm oil chemical composition offers greater advantages compared to other sources of vegetable oils as it has a longer shelf life and it does not easily become rancid. It is naturally semi-solid and does not need to undergo hydrogenation (MPOC 2010). Other oils have to undergo hydrogenation to be made

suitable for solid applications. The hydrogenation process is a chemical process that turns liquid oil into semi-solid form for the manufacturing of food products. It causes the formation of trans fatty acids, which increase Low Density Lipoprotein ("bad") cholesterol and lowers High-Density Lipoprotein ("good") cholesterol and are detrimental to health (MPOC 2010).

At present, the demand has soared high due to the increasing awareness of the varied uses of palm oil. The challenge to countries cultivating oil palm is how to cope with the local and global demand. The focus now is to increase plantation areas to produce a higher volume of crude oil to serve the needs of the world market. Today, the total land area planted to oil palm in Indonesia has reached 9.7 million hectares.

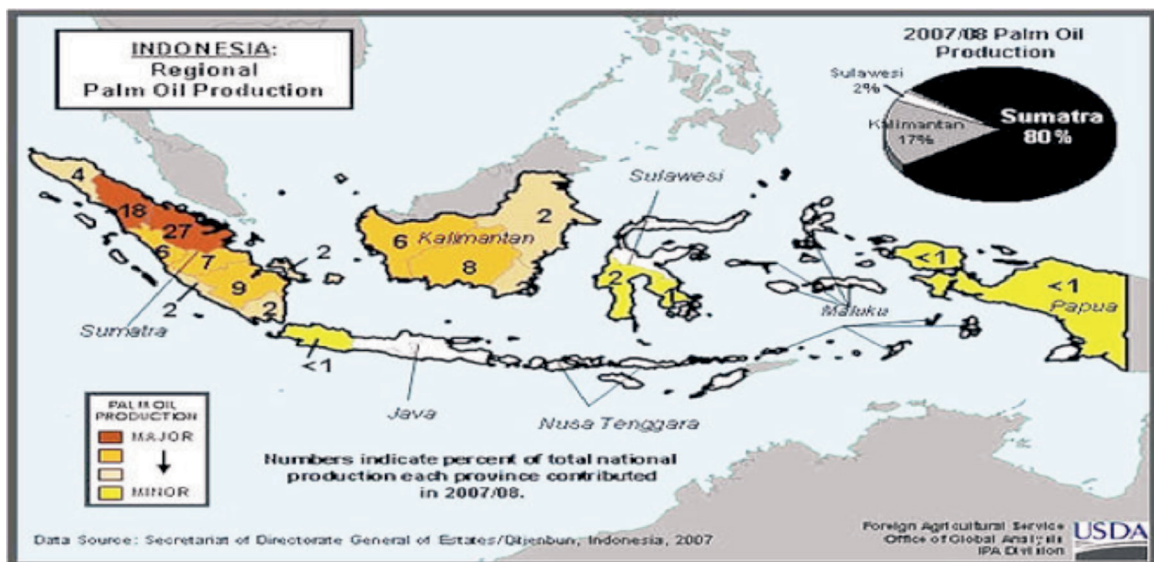


Figure 1 Regional Palm Oil Production in Indonesia

Figure 1 shows the regions in Indonesia where palm oil plantations are located. The province of Sumatra posted the highest percentage of contribution with 80% of total production, followed

by Kalimantan with 17%, and Sulawesi with 2%. Agriculture Minister Suswono, said after the opening of the 5th Indonesian Palm Oil Conference in Nusa Dua, Bali, said that of the total 9.7 million

hectares, 7.9 million hectares are already planted to palm oil, while the remaining 1.8 million hectares still stand empty. (JakartaPost2009) "Based on the land characteristics and the climate, Indonesia has a total of 18 million hectares of land, including the existing 9.7 million hectares, that potentially could be used for oil palm plantations without disturbing the forest preservation efforts," Suswono said.

Morrison, Renfro, and Boucher (1984) simplified the environmental scanning theory of Aguilar (1967) from four scanning types to either passive or active scanning. They explained that passive scanning is what most people do when they read journals and newspapers. They further noted that people tend to read the same kinds of materials like local newspaper or an industry newspaper such as Industry Monitor. However, the organizational consequences of passive scanning are that we do not systematically use the information as strategic information for planning and we miss many ideas that signal changes in the environment.

On the other hand, active scanning focuses on information resources that span the task and industry environments as well as the macro environment. In active scanning, it is important to include information resources that represent different views of each sector.

In scanning the palm oil industry, the researcher found articles about the benefits of the industry's presence. The industry has encouraged the government of different countries to formulate policies to support the different stakeholders. Thus, this environmental scanning study determined the gap between production and utilization to provide information to existing industry players, policy

makers, future investors and would-be entrants to the industry on the latest trends noting the fast development of the industry not only in Indonesia but also in other Southeast Asian countries.

## 2.0 Research Design and Methodology

This study used data mining and Delphi technique. Data were sourced from public domain websites and several databases like Index Mundi and UN Comtrade. The Delphi technique was originally conceived as a way to obtain opinion of experts without necessarily meeting them together face to face (Stuter 1995). In this study, an interview with two experts in the palm oil industry was conducted. One was a researcher specializing on the environmental impact of the palm oil industry in Indonesia. Results of his study were used in this study. Another researcher was an authority on biodiesel who gave the researcher permission to be interviewed during the 8th Global Oils and Fats Forum held in Orlando, Florida on October 3-4, 2013.

## 3.0 Results and Discussion

The Indonesian Government intends to intensify efforts to improve productivity particularly for small holders since they comprise 39% of the total ownership of plantations while 50% is privately owned and 11% state owned (Ministry of Agriculture, Indonesia.) As shown in Figure 66, Indonesia produces the highest volume of palm oil among twenty other palm oil producing countries. The country produced 31 million metric tons of oil in the past year. However, in comparison, Malaysia, has only 4 million hectares of palm oil estates, yet it produces 19.2 million tons of palm oil.

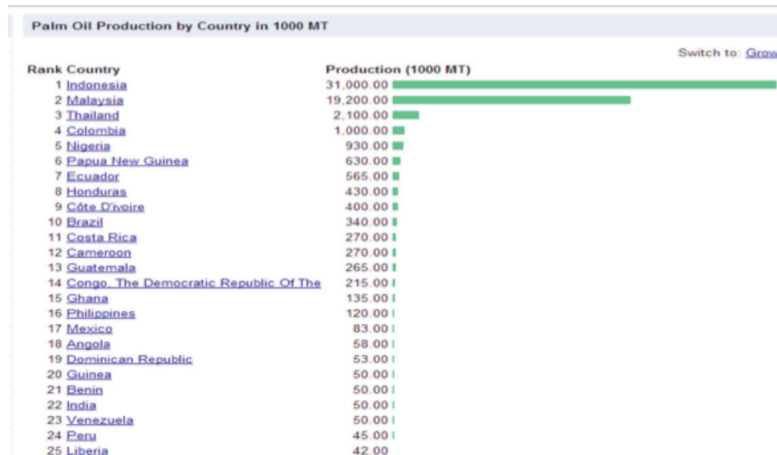


Figure 2. Palm Oil Production by Country in 1000 MT

Source: Index Mundi

As shown in Figure 2, Indonesia posted the largest market share in the global palm oil production followed by Malaysia. The next two figures show an interesting comparison between the two countries. Indonesia has 44% market share while Malaysia has 39% market. All other palm oil producing countries get 17% of the market share.

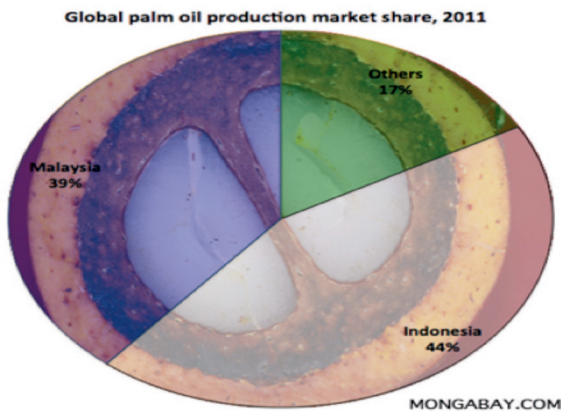


Figure 3. Global Palm Oil Production Market Share, 2011

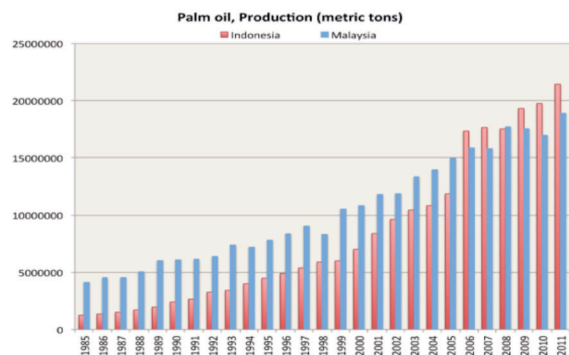


Figure 4. 1985 – 2011 Palm Oil Production of Malaysia and Indonesia

Source: (Schuster Institute for Investigative Journalism at Brandeis University 2013)

Figure 4 shows that Indonesia outran other countries in palm oil production. While Malaysia dominated the palm oil production from 1985 to 2005, it is Indonesia that has taken the lead from 2006 to present. Figure 69 below illustrates Indonesia's lead as a trading partner of India, China, and the world.



Figure 5 Malaysia and Indonesia as Trading Partners of India and China Surprisingly, in terms of growth, the Philippines led all other countries in the production

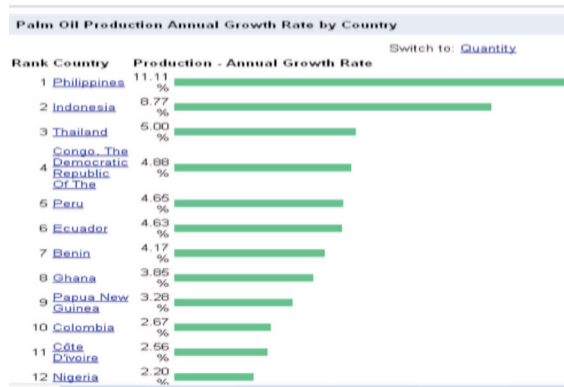


Figure 6 Palm oil Production Annual Growth Rate

Annual growth rate as shown in the data from Index Mundi as of 2013. This indicates that while Malaysia and Indonesia and Thailand led all other countries in terms of production volume and volume of exportation, the Philippines is able to catch up.

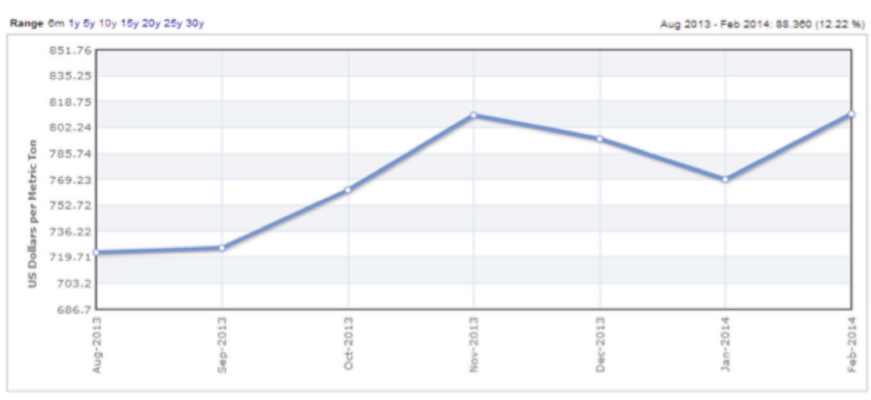


Figure 7 Palm Oil Exports from Indonesia and Malaysia Source:(Schuster Institute for Investigative Journalism at Brandeis University2013)

Indonesian palm products contributed 1.5 % - 2% of the country' gross domestic product in the early 2000 (Biro Pusat Statistik 2001) while national crude palm oil (CPO) output comprised over 30% of total palm oil production in the world. It is worthy to note though that as of 2012 the contribution of palm products to national GDP

reached 14.4 % or equivalent to \$174.03 billion . The production volume has gone far beyond the domestic consumption, thus Indonesia is able to export in great bulk to other countries. As of 2012 , volume of exports reached 19.6 million metric tons while domestic consumption was way below that level.

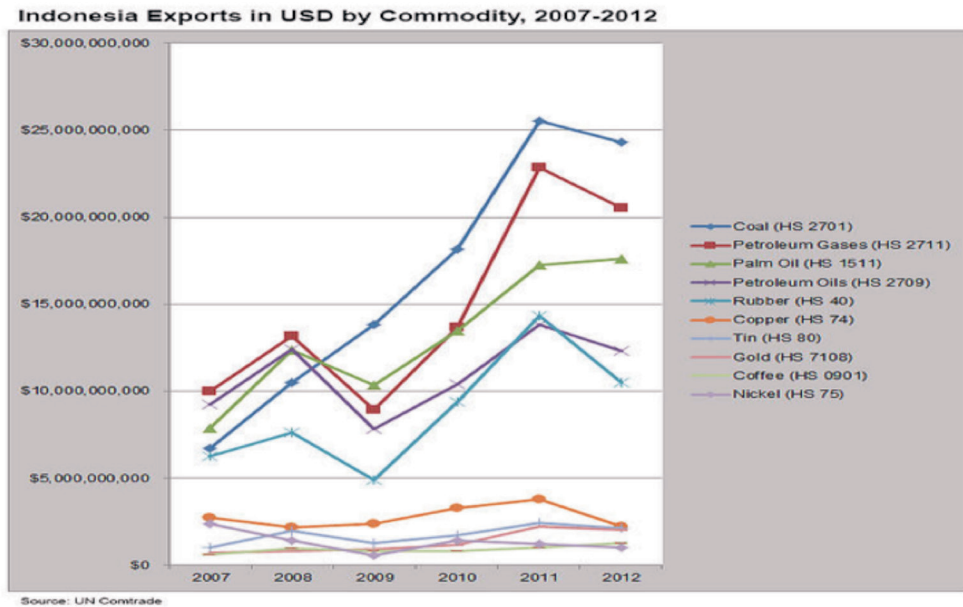


Fig.8 Indonesian Exports in USD by Commodity, 2007 – 2012

Export records of Indonesia show that the palm oil industry is the third highest contributor to the entire export scenario next to coal and petroleum gases. However, even with a USD17.6B worth of export in 2012 , the government of Indonesia realized the needs to look into the incentives given to smallholders to encourage more farmers to expand their plantations. A move that was seen to help respond to the increasing demand, which was expected to reach 40 million tonnes in terms of production by 2020 according to their national targets.

The government of Indonesia on March 29, 2011, introduced its own solution to the issue – setting up ISPO (Indonesian Sustainable Palm Oil) to enhance the global competitiveness of Indonesian palm oil whilst also bringing it under stricter environmental legislation. ISPO will be made mandatory for all Indonesian palm oil growers in 31 December 2014 at the latest. In September 2011, the Indonesian Palm Oil Growers Institution, GAPKI, resigned from the RSPO and formally committed itself to the ISPO process. Industry players are expected to abide by the principles stated in the ISPO process.



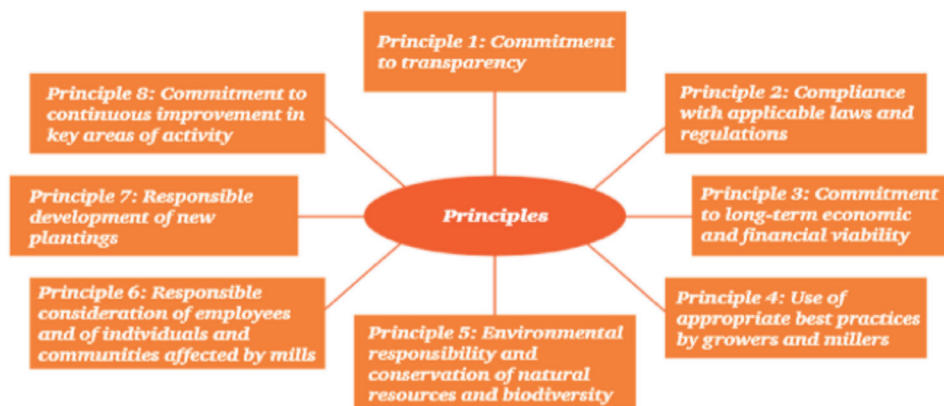


Figure 73. Indonesian Sustainable Palm Oil

Since increasing concerns about sustainability are faced as challenges to the palm oil industry. The Environment Ministry has issued another warning against palm oil companies that have failed to abide by the environmental standards set under the compliance instrument of the Environmental Performance Rating Program (Proper). Environment Minister Gusti Muhammad Hatta said that companies deemed to have failed in environmental management efforts after two consecutive assessments would be taken to court (PwC Indonesia 2012).

"The majority of palm oil plantations have already adopted palm oil sustainability schemes," Fadhil asserted. "In some cases there is a violation but to generalize that all palm oil companies are bad and destroying [the environment] is baseless and wrong."

The Indonesian government has been very supportive to the industry players and associations in bringing the industry to greater heights. But other external environmental factors continue to affect the operations of the industry. Social and environmental factors like labor migration are considered as barriers since the operations of

plantations are highly labor intensive. Despite the new "no deforestation policy", some companies have been observed to have violated such policy. A coalition of NGOs in Indonesia's West Kalimantan province said in a press conference that two independent suppliers of palm oil have continued to cut down natural forests, clear and dig canals in peatlands in the province, even after the policy was announced. The activities mentioned are clear violations of their commitment to forest conservation policy. These observations are just indicators that in spite of the presence of volunteers like the Kalimantan Forest Monitoring Volunteers, some industry players still decide to violate the policies. But to generalize that the whole country is destroying the environment and is affecting biodiversity is baseless, which the government responded through the formulation of new monitoring policies and sanctions.

### Challenges

The solutions to the challenges faced by Indonesia in terms of production and utilization of waste products are highly dependent upon the

Indonesian government and its industry players. They need to face squarely the false and damaging advocacy of the so-called “environmentalists”, which hampers the growth of the palm oil industry.

The environmentalists’ allegation on virgin forest destruction and oil palm processing pollutants in Indonesia may be addressed by using zero waste technology to utilize OP processing waste to produce organic fertilizers, biofuel, and electricity to solve the electric energy problem of the locality.

### **Opportunities**

The world population was projected to grow from 7 billion in 2011 to 9 billion in 2013, an increase of 29 percent. Food production must meet this rate of increase (Basiron, 2012).

There is a high and an increasing demand for palm oil due to the discovery of many uses: as a source of food, and source of renewable energy. Potentials of *palm biomass* and palm wood furniture remain largely untapped.

There is a high and an increasing demand due to increasing dependence on palm oil as vegetable oil replacing other vegetable oils; the high and increasing demand may create worldwide shortage of palm oil.

In 2020 the world will be short of 25.7 million tons of palm oil if the area of oil palm is not expanded from the level of 2012.

### **4.0 Conclusion**

The economic benefit of the palm oil industry in Indonesia has been so great that it has alleviated the poverty level among the vast majority. It has generated significant social developments as well with palm oil being the third major commodity

exported to other countries, contributing more than 14% to the country’s GDP. The global market for palm oil products has experienced rapid growth, giving Indonesia the opportunity to become visible in the global arena. With global demand for palm oil expected to grow further in the future, palm oil offers the most promising economic prospects for Indonesia.

The Indonesian palm oil industry supports land swaps to protect the forest while expanding production. However, the industry needs to benchmark Malaysia and Thailand on the farming technology used to utilize fully biomass from plantation and mill waste products, which is in response to the environmentalists’ allegation that Indonesia contributes to climate change. Biomass is the collective name for all the organic matters derived from plants and other living organisms that have not been fossilized into carbon materials like oil or coal. Examples include agricultural products and residues like palm kernel shells or straw, forest residues, and municipal solid waste (Zwart 2013).

Waste products, such as empty fruit bunches, trunks, and leaves, which should be used as organic fertilizers as well as construction materials, animal feeds, activated carbons. The use of biomass in the production of biofuels and bioenergy in the form of heat and electricity has gained attention lately and prompted the development of a new market. The use of bioenergy is intended to reduce the emission of greenhouse gases. The goal of developing green technology then is for the protection of people while generating profit and preserving the planet earth. Indonesia like Malaysia is indeed blessed with the abundance of these biomass resources. In Malaysia, 70 million tonnes is collected per year with 4.9 million hectares of area planted and such is available throughout the year



due to high sunlight intensity. This volume can be doubled in Indonesia with 9million hectares of oil palm plantation and still expanding.

Indonesia might have been successful in providing the local and international market with palm oil products and its palm derivatives, but it needs to benchmark other palm producing countries to avoid industry stagnation and to instead intensify diversification particularly in the development of new edible products to take advantage of the health benefits of palm oil.

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