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Indonesia's Sustainability Assesment through Regional and Environmental Analysis

Indonesia is the largest archipelago in the world. It consists of five major islands and about 30 smaller groups. The archipelago is on a crossroad between two oceans, the Pacific and the Indian, and bridges two continents, Asia and Australia. This strategic position has always influenced the cultural, social, political, and economic life of the country.

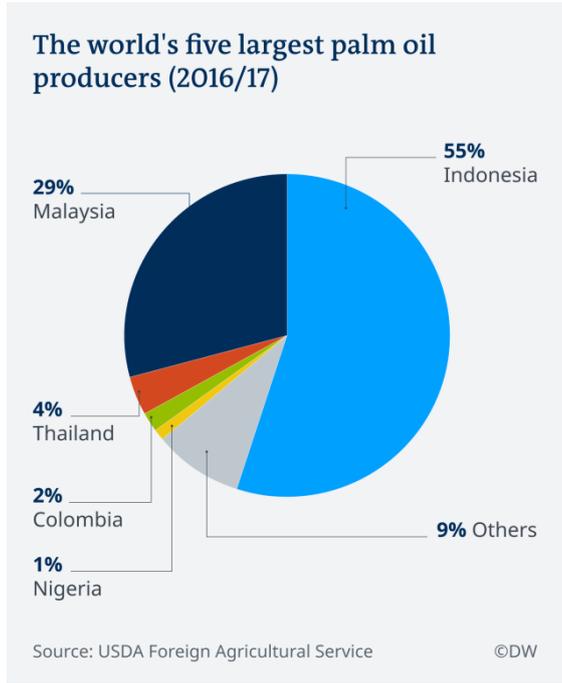
The largest economy in Southeast Asia, Indonesia – a diverse archipelago nation of more than 300 ethnic groups – has charted impressive economic growth since overcoming the Asian financial crisis of the late 1990s. The country's GDP per capita has steadily risen, from \$823 in the year 2000 to \$3,932 in 2018.

Today, Indonesia is the world's fourth most populous nation, the world's 10th largest economy in terms of purchasing power parity, and a member of the G-20. An emerging lower middle-income country, Indonesia has made enormous gains in poverty reduction, cutting the poverty rate by more than half since 1999, to 9.4% in 2019.

Indonesia has abundant natural resources with 17,504 islands and total land area of up to 1,919,000 km. Indonesia is one of the source of oil and natural gas and agriculture produce such as rice, tea and palm oil. These commodities make up a large portion of the country's exports especially crude palm oil sector.

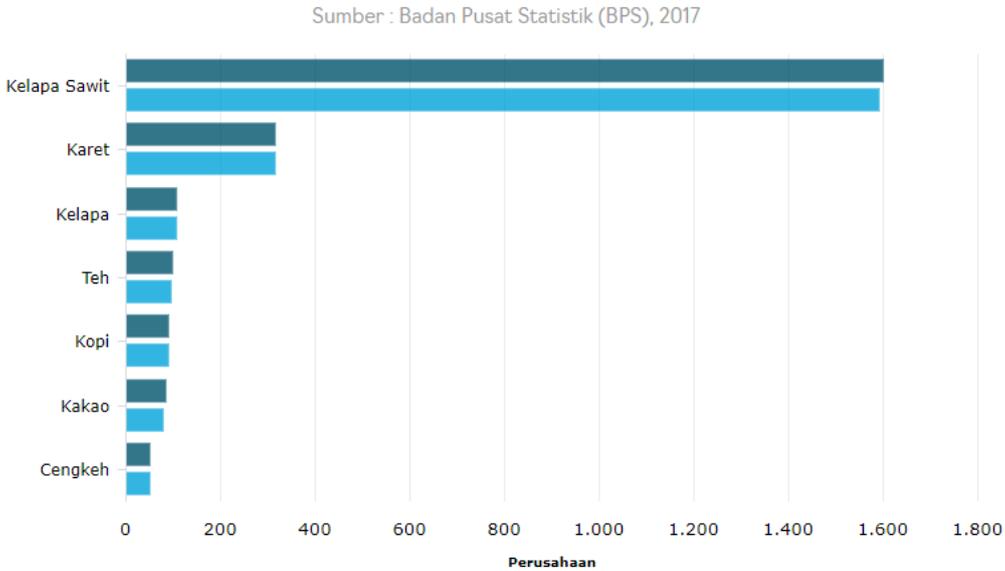
Palm oil is one of the most consumed in the world. The affordable product, easy to consume and very stable. Higher palm oil productivity causes the price on the international market to be consistently cheaper than other vegetable oils. The more competitive price of palm oil benefits the world community. This kind of commodities used for a variety of foods, cosmetics, hygiene products, and can also be used as a source of biofuel or biodiesel. Palm oil is needed to be harvested in Asia, Africa and South America because coconut trees require a source of heat, sunlight and high rainfall to increase the production.

Indonesia is the world's largest producer of palm oil - a staple agricultural commodity found in about half of all packaged products sold in supermarkets. The country produces more than 30 million tons of palm oil per year, generating 4.5% of its GDP and giving employment to 3 million people. 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 which the total land area planted to oil palm in Indonesia has reached 9.7 million hectares. With the steady good growth rates, the sector has become vital to the country's economy.



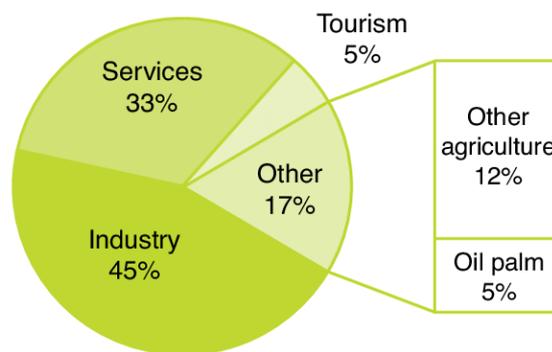
Since 2016, world palm oil production is dominated by Indonesia and other Asia countries, which supply 85-90% of the world's total palm oil production. There are many of oil palm companies in Indonesia.

Oil palm plantation in Indonesia have an area more than 10 million ha in 2015. They consist of private companies which owned 50%, smallholders and farmers which owned 40% and state owned companies which owned 10%.



According to the data from Indonesian Statistical Agency above and illustrated by the chart, there are 1.600 palm oil (“kelapasawit” means palm oil in Indonesian language) companies in Indonesia in 2016.

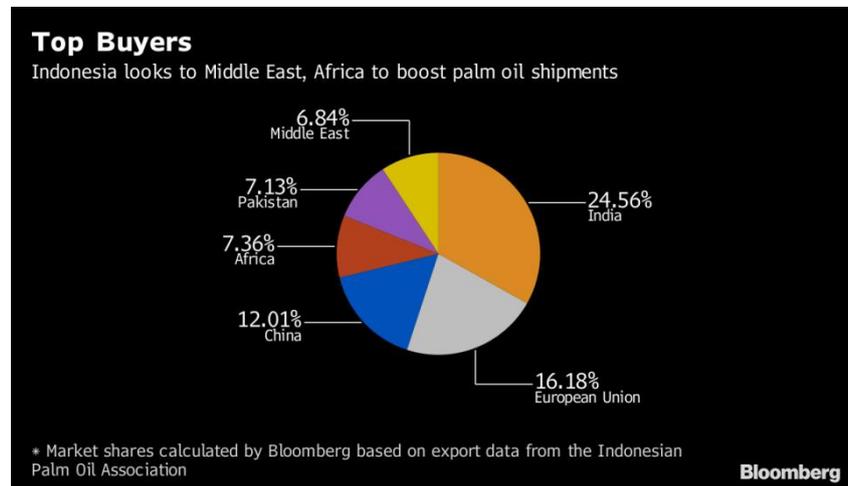
The economy of Indonesia is the largest in Southeast Asia region and is one of the emerging market economies of the world. According to the data, Indonesia is classified as a newly industrialised country with the 16th largest economy in the world by nominal GDP and the 7th largest in terms of Gross Domestic Product (GDP). GDP measures the total value of final goods and services produced within a given country's borders. It is the most popular method of measuring an economy's output and is therefore considered a measure of the size of an economy in a country. Based on the data of Indonesia Oil Palm Association, Oil palm plantations have a positive and significant impact on Indonesia's Gross Domestic Product (GDP). Oil palm production contributes about 3.5% to the country's gross domestic product (GDP). This commodity sectors has a strategic position for this country where the expansion of oil palm plantations in Indonesia can provide the employment for 2.7 million and increase to 7.8 million workers in 5 years.



The diagram above is a description of the composition of several sectors that contributed to Indonesia's GDP in 2019. The oil palm industry has a sizeable portion in increasing GDP figures.



Palm oil commodity products in Indonesia have been exported to various countries as trading partners. Nowadays, there are more than 1600 oil palm companies in all regions of Indonesia. Most of them are located in the eastern part of Sumatera and Borneo island which still has large green areas. Deforestation practices have become important issue along with the development of palm oil industry in this country.



Based on the data from Bloomberg in 2019, Palm oil exports based on destination countries in 2019, Indonesia's palm oil market shares dominated by market in Asian country such as India, China and Pakistan followed by European Union, Africa and Middle East. The use of palm oil in massive quantities by various countries due to the ease in obtaining and processing the commodity into various ready to use products and other semi-finished products in addition to the stable prices at any time compared to other commodities.

Referring to data from Oil World, the use of palm oil based commodities in the global market is increasing higher than other vegetable oil based industries. palm oil is the most productive vegetable oil producer in the world. Data from Journey to Forever states that one hectare (1 Ha) of oil palm plantation can produce about 6,000 liters of crude oil. The amount is much higher compared to soybeans and corn that only produces around 446 and 172 liters per hectare. Palm oil is also among the most efficient vegetable oils because it produces 4 tons per hectare, much higher compared to sunflower which is only 0.7 tons per hectare. Economically, the value of palm oil trading is very profitable so far.

The large economic value and broad marketshares in trading process does not guarantee the development of the palm oil industry in Indonesia grow hugely without obstacles. Environmental issues are the problems that must always be faced by oil palm company owners. Overall, Indonesia faces various polemics in penetrating the international palm oil market. This is a very serious matter for some countries. Indonesia as the world's largest exporter of palm oil is flooded with questions about environmental sustainability issues due

to its commodity. According to the latest news, In January, the European Parliament voted to ban the use of palm oil for the production of biofuels in the European Union (EU) by 2020, with the proclaimed aim to stop the deforestation of rainforests in mainly Indonesia. As we know that based on the Indonesia's oil palm market shares data, European Union is one of the biggest market for its product and they have tried to stop consuming it. Europe is Indonesia's second-largest export market for palm oil with 40 percent of its palm oil exports to Europe are converted into biofuels.

Indonesia's tropical forests, which are being steadily deforested and burned by palm oil producers are some of the world's most important concerns from European Union member countries. Indonesian tropical forests are treasure troves of biodiversity. Forests are cleared to create palm oil plantations, that stored carbon is released into the atmosphere and contributing to climate change. The oil palms that developers plant in the scorched earth also fail to serve any of the ecosystem functions as its origin. The forests are burned deliberately by palm oil companies each year, between 2001 and 2018, Indonesia lost 16% of its tree cover, or nearly 26 million hectares of forest, according to a database kept by Global Forest Watch, the loss of those forests released the equivalent of about 10.5 gigatons of carbon dioxide emissions. Although the Indonesian government has issued a palm oil certificate, the European Union still bans the import of these products in 2021. According to the European Union Audit Court, certification of the existing palm oil industry has a weakness. This certification does not give impact to the conversion of forest land in the process of palm. Therefore, the sustainability of the palm oil industry is not guaranteed yet. In the past decade the palm oil industry is considered to be the biggest driver to deforestation. The perception of environmental destruction will not change even though many oil palm companies have created the corporate social responsibility (CSR) in the field of environmental conservation as their corporate program. Sustainability issue is a crucial issue for European's market.

The concept of sustainability has evolved over the years. United Nation through FAO High Level Panel of Experts (HLPE) defined a sustainability in natural resources as a system that ensures resources for everyone in such a way as not to put at risk the economic, social and environmental field that help provide resources to future generations. Some of the principles of sustainability for natural resources:

- a. Management and conservation of natural resources
- b. Efficient use of natural resources for production
- c. Improvement of equity and rural welfare.

- d. Establishment of accountable and effective governance mechanisms, strengthening institutions and investment.

We can assess this sceme for Natural Resources and Sustainability Analysis of Oil Palm Industry as follows:

Sustainability Principles	Yes / No
Management and conservation of natural resources	No
Efficient use of natural resources for production	No
Improvement of equity and rural welfare.	Yes
Establishment of accountable and effective governance mechanisms, strengthening institutions and investment	Yes

Based on the short evaluation of the sustainability for palm oil companies above, we can conclude that this kind of commodity produced by Indonesian's oil companies can be categorized as sustainable goods to produce. Although several aspects have fulfilled the requirements such as providing employment and increasing the value of investment so that it impacts on the country's economy through GDP figures, oil palm production is considered dangerous for environment and inefficient in the use of natural resources, it is related to deforestation where palm oil industry has been a disaster for the world's forests, wildlife and climate.

Positioning :

As we know that palm oil commodity can be utilized as many products. The consumption of palm oil is often questioned for various reasons such as food security and environmental issue due to the pollutants during refining and the sustainability of its cultivation in the countries of origin. Different condition happened in other country especially in European countries.

Iceland is one country that concerns about environment conservation. Iceland to be first country to remove palm oil brand and foods to help protect forest and environment. This country was removing palm oil, which is linked to the destruction of swathes of rainforest, from 130 food products and replace it with more environmentally friendly alternatives such as sunflower oil. The policy will reduce demand for palm oil by 500 tonnes in a year. The country considers that sunflower oil is more environmentally friendly than palm oil. Iceland

will stop importing and consuming palm oil in order to protect the environment and to mitigate climate change.

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