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Comparative Analysis of Leadership and Economic Impact of the Palm Oil Industry in Indonesia

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Abstract

Palm oil is one of the biggest industries that contributed to Indonesia's economy. In this context, this article aims to investigate a comparison of the government policies in Indonesia's palm oil under the Jokowi leadership and the previous presidents and how this industry contributed to national economic growth. We reveal that every president has different programs to develop the palm oil industry. Soeharto Perusahaan Inti Rakyat (PIR) or Nucleus Estate and Smallholders (NES) program has greatly affected the extent of Indonesia's large plantations today. Meanwhile, during Megawati's presidency, there were not many changes in terms of policies or regulations. On the other side, under Susilo Bambang Yudhoyono's presidency, Indonesia's palm oil industry experienced new innovations in terms of palm oil policy. The biodiesel program that was introduced in 2006 made Indonesia's palm oil industry move to the next stage. This policy aims to reduce Indonesia's dependence on fossil fuels. Furthermore, this program became the forerunner of the biodiesel program which is currently being accelerated by President Jokowi. We argue that Jokowi's programs such as the Biodiesel Mandatory Program (B30, etc.) through Pertamina, *Peremajaan Sawit Rakyat,* Moratorium on land clearing permits, and cooperation through Council of Palm Oil Producing Countries (CPOPC) been the right step to stimulating the national economy.

Keywords: Palm Oil, Biodiesel Mandatory Program, B30, Economic Growth

1. Introduction

Palm oil is a major agricultural commodity in Indonesia and one of the country's largest export earners. It is used in a wide range of products, including food, cosmetics, and biofuels. The palm oil industry has contributed to reducing poverty and unemployment in Indonesia

since 1970. The government estimated at least 2,66 million household heads and 4,42 million workers that base their livelihood on palm oil (Directorate General of Estates 2019).

In 2021, Indonesia had a total area of 15,081,021 hectares of palm oil plantations. The private companies owned 8.417.232 hectares of the total palm oil plantations ownership, 579.664 hectares are Government plantations, and the rest is smallholder's plantations (Directorate General of Estates, 2022). This made Indonesia occupy the first position as the biggest palm oil supplier in the world and supply at least half of the total global palm oil production with other ASEAN countries such as Malaysia and Thailand in the second and third place. In 2021, palm oil became one of the commodities that contributed the biggest export volume in Indonesia. Figure 1 presents the comparison of export volumes among the biggest commodities in Indonesia from 2019 to 2020.

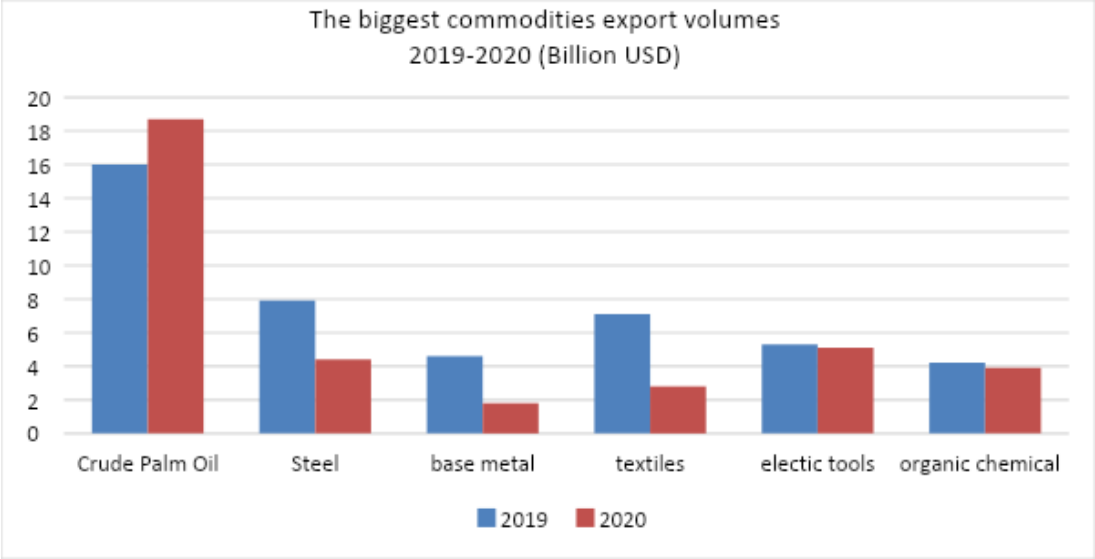

Figure 1. Commodities export volumes 2019-2020

Source: The Ministry of Industry (2021)

2. Methodology

This article will use a qualitative approach to make a comparison analysis of Indonesia's palm oil program under the leadership of Soeharto, Megawati, Soesilo Bambang Yudhoyono, and Jokowi. The authors employed secondary data collection by gathering comprehensive information and data from various sources like e-books, articles, journals, government annual reports, news, websites, and other digital sources. By collecting and analyzing data from various sources, this method aims to provide a broader perspective on the development and evolution of the palm oil program in Indonesia over the years, with each president's different policies/programs and outcomes. Through a qualitative method, we gain a deeper understanding of the strengths and weaknesses of each presidency from Soeharto until Joko Widodo.

3. Results and Discussion

3.1 Indonesia Palm Oil under Soeharto Presidency

Under Soeharto's presidency, Indonesia started to open the door for regulatory permits for economic liberalization and spurred the growth of palm oil plantation companies. In 1970, as an attempt to support the development of the palm oil industry, Soeharto issued government regulation No. 4 in 1970 concerning the establishment of the State Plantation Company (PNP) which is now called PT Perkebunan Nusantara (PTPN). This policy stated that the process of the palm oil industry through PNP is fully funded by state assets to encourage palm oil productive businesses (Zagoto, 2017).

Table 1. PIR/NES Program Distribution

No	Province	Planting Year	Area (Ha)		
			Nucleus (government/private)	Plasma (Farmer)	Total
1	NAD	84/85-89/90	7374	2500	9874
		86/87-91/92	4000	7573	11537
		81/82-85/86		125	125
		80-81-84/85	4500	4500	9000
		80-81-82/83		700	700
2	SUMUT	80/81-85/86		1540	1540
		80/81-85/86		1862	1862
		82/83-85/86		2660	2660
		81/82-85/86		1422	1422
3	SUMBAR	81/82-85/86	1200	4800	6000
4	JAMBI	83/84-87/88	2000	6000	8000
		84/85-85/85	1000	5000	6000
		86/87-90/91	2000	5974	7974
		85/86-89/90	2350	8000	10350
5	RIAU	83/84-86/87	2000	6000	8000
		83/84-86/87	2500	5000	7500
		82/83-87/88	4000	10000	14000
				-	-
		82/83-84/85		4703	4703
		81/82-90/91	5630	8023	13653
6	SUMSEL	83/84-89/90	4000	12040	16040
		85/86-89/90		-	-
7	BENGKULU	83/84-93/94	2000	4515	6515
8	BANTEN	81/82-90/91	4000	7337	11337
		81/82-90/91		-	-
9	KALBAR	82/83-89/90	3500	8000	11500
		82/83-91/92	2500	5046	7546
10	KALTIM	83/84-90/91	5000	17000	22000
11	SULSEL	84/85-90/91	4000	5068	9068
		86/87-89/90	2000	2000	4000
12	PAPUA	83/84-91/92	2400	3600	6000
		84/85-86/87	3400	3400	3400

Source: Gabungan Pengusaha Kelapa Sawit Indonesia/GAPKI (2018)

In 1977, the government's attention to the palm oil industry took a more appropriate policy through the government program that carried out on cooperation programs between corporations and farmers through Perusahaan Inti Rakyat (PIR) or Nucleus Estate and Smallholders (NES). PIR/NES was issued through Presidential Decree No. 1/1986 by implementing the mutual benefit between large government/private plantations as guides for

smallholder plantations (Wulansari & Sigit, 2016). This program was financed by the World Bank and was carried out through several stages:

i. Special PIR and Local PIR (1980-1985), conducted in 12 provinces. This program recorded an increase of palm oil plantations with a total of 216.314Ha (PASPI, 2022).

ii. PIR Transmigration (1986-1995), This program requires people to migrate from one region to another region to develop palm oil commodities and to accelerate the improvement of farmers' welfare in every region evenly (Supriyatna, 2016).

iii. PIR of Primary Cooperative Credit for its members (1996), promoting the development of cooperatives in rural areas (PASPI, 2022)

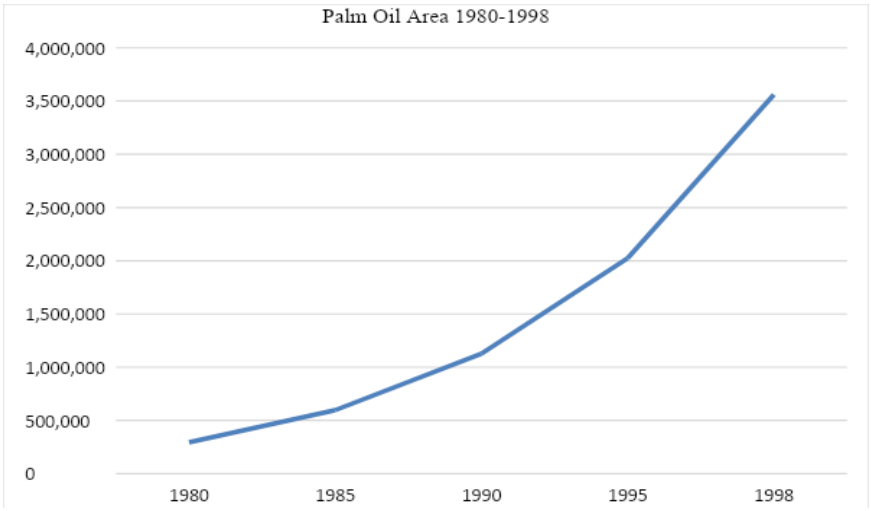

Figure 2. Palm Oil Area 1980-1998

Source: Directorate General of Estates (2012)

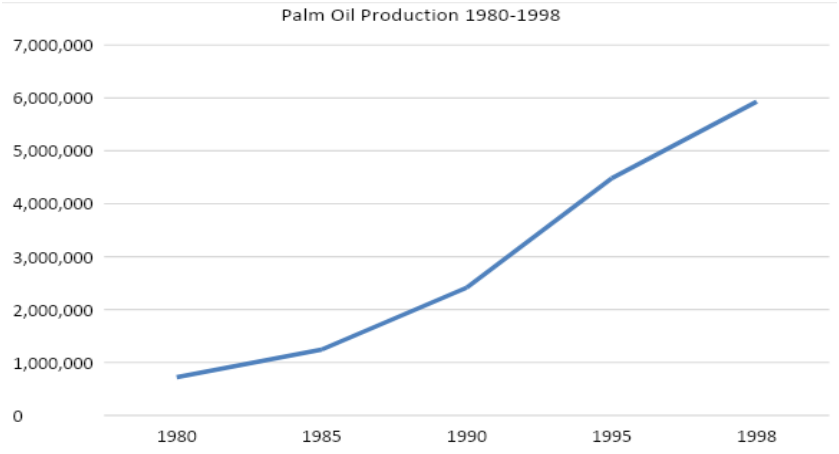

Figure 3. Palm Oil Production 1980-1998

Source: Directorate General of Estates (2012)

Besides granting the palm oil clearing permit, in 1983, Soeharto inaugurated the palm oil factory "PT Perkebunan IV Tor Gamba", in North Sumatra. Currently, Indonesia has been capable to produce cooking oil from palm oil. In one of his speeches, Soeharto (1983) stated "The existence of this factory means an increase in palm oil. The need for palm oil must continue to grow. Because in recent years we have been able to process palm oil to be used as cooking oil" (Nur et al., 2017)

On the other side of rapid palm oil plantation development, massive granting permit programs led to various land issues and conflicts. One of the issues that commonly happened as the impact of this program is no recognition of communal lands. However, under Soeharto's presidency, the palm oil industry was exacerbated when Indonesia had to face the 1997 monetary crisis. At that time, the monetary crisis made many national palms oil plantation companies threatened with bankruptcy. As a response, in 1997, Indonesia requested assistance from IMF (International Monetary Fund). One of the conditions in the LOI (Letter of Intent) by IMF, Indonesia had to simplify the requirements for the foreign investment (Vinita, 2012). Therefore, to recover Indonesia's palm oil Industry because of the crisis, Indonesia started to liberalize foreign investment in the palm oil sector. In 1998, 45 palm oil investors from Malaysia decided to acquire and do partnership business in Indonesia to clear around 1.3 million hectares of land through joint ventures and mergers (Wulansari & Sigit, 2016).

3.2 Indonesia Palm Oil under Megawati Presidency

Under Megawati's presidency, the Ministry of Agriculture amended the regulation regarding issuing palm oil plantation business permits. This amendment was made through "Decree of the Minister of Agriculture No. 357/Kpts/HK.350/3 of 2002 concerning Guidelines for Plantation Business Licensing" (Kementerian Pertanian, 2019). This regulation rules the changes of the plantation permit from Central and Provincial Governments to District/City Governments (Wulansari & Sigit, 2016).

In the second year of Megawati's presidency, she inaugurated several palm oil factories in South Sumatra, the biggest palm oil plantation provinces, such as PT Telaga Hikmah and PT Selapan Jaya. Megawati also launched palm oil variety seeds named DXP Sriwijaya variety. As an attempt to support the palm oil industry, Megawati encouraged sub-district development programs and agricultural machinery for some areas in South Sumatra (Kementerian Perindustrian, 2004).

Even though during Megawati's presidency there were not many changes in terms of the new palm oil programs, the volume and value of Indonesian palm oil exports increased. At the start of the Megawati government, the export volume of Indonesian palm oil reached 4.10 million tons or US$1.09 billion. This number increased significantly to 8.66 million tonnes or US$ 3.44 billion at the last year of Megawati's presidency (Badan Pusat Statistik, 2004)

On her visit to South Sumatra in 2004, Megawati admitted that the weakness of Indonesian palm oil at that time was its quality. Indonesia still produced low-quality palm oil products. The quality is not comparable to the high quantity production and the large plantations.

Therefore, she emphasized palm oil companies and smallholders to improve the quality of palm oil products so that Indonesia could compete with Malaysia's palm oil products in the international market (Kementerian Perindustrian, 2004). Megawati also mentioned that Indonesia has bigger palm oil plantations than Malaysia, but on the other side, Malaysia's palm oil production is bigger than Indonesia's.

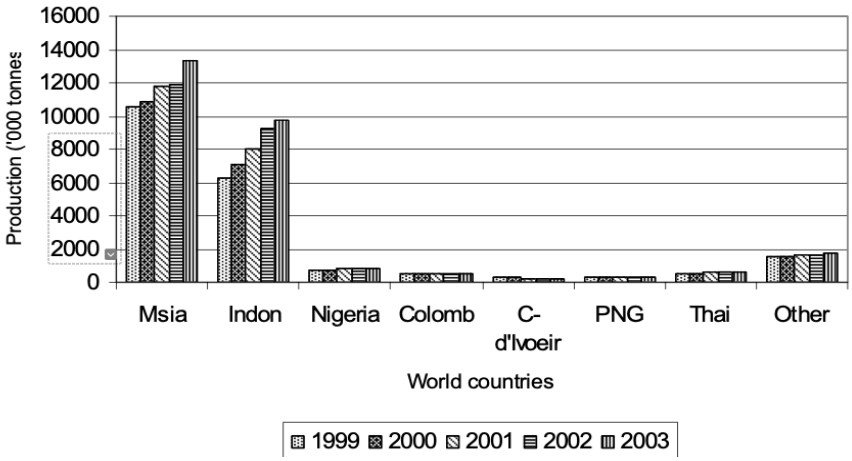

Figure 4. World major producers of palm oil

Source: Khamis (2005)

3.3 Indonesia Palm Oil under Susilo Bambang Yudhoyono (SBY) Presidency

The administration of Susilo Bambang Yudhoyono or who is familiar to be known with SBY became a new beginning for the Indonesian palm oil industry. Under President SBY's administration, the palm oil industry saw a significant increase in production and exports. This growth was driven by policies aimed at promoting agricultural development in particular the palm oil sector and increasing Indonesia's competitiveness in the global market.

During his tenure, palm oil production and exports experienced significant growth in Indonesia. Indonesia began to build the biodiesel industry through various policies and regulations. This program aimed at reducing unemployment and poverty in Indonesia, increasing economic activity in the palm oil sector, especially biodiesel, and reducing Indonesia's dependence on fossil fuels (Widrian et al., 2022). Policies and regulations on the development of Indonesian palm oil including biodiesel during the SBY administration can be seen in the table below:

Table 2. Indonesia biodiesel policy 2006-2013

No	Year	Policy/Regulation
1	2006	Presidential Instruction No.1
2	2006	Presidential Regulation No.5
3	2007	Law No.30 of 2007
4	2008	Minister of Energy and Mineral Resource regulation No.32
5	2011	Indonesian Sustainable Palm Oil (ISPO)
6	2013	Minister of Energy and Mineral Resource regulation No.25 of 2013
7	2008-2013	Biodiesel Mandatory Program (B2,5-B7,5)

Source: Silalahi et tal. (2020)

This policy began when President SBY issued "Presidential Regulation No. 5 of 2006 concerning National Energy Policy and Presidential Instruction No. 1 of 2006 governing the supply and use of biofuels". These regulations aimed to establish a comprehensive energy policy in Indonesia, focusing on energy security, sustainability, and efficiency. Through these two regulations involving 13 ministries and regional governments, Indonesia opened the door for the palm oil industry to develop and produce biodiesel domestically. In the same year, the issuance of "Decree of the Director General of Oil and Gas Number 3675K/24/DJM2006 regarding the specifications of diesel for distribution in the domestic market" was the start of this mandatory biodiesel program being officially implemented (Widrian et al., 2022).

According to the blueprint, there are three key objectives of the development of biodiesel programs:

3.3.1 Reducing Poverty and Unemployment

In 2019, there are at least 2,66 million household heads and 4,42 million workers that base their livelihood on palm oil (Directorate General of Estates, 2019). Developing the biodiesel program can open more job vacancies. Not only that, increasing the palm oil industry in the domestic level could lead to an impact on the welfare of palm oil smallholders.

3.3.2 Enhancing Economic Activity.

The development of the biodiesel program is expected to encourage economic activity in the international market and high demand in the domestic market.

3.3.3 Reducing the Dependence on Fossil Fuels

This program aimed to reduce dependence on fossil fuels and encourage the development and utilization of renewable energy sources This also to ensure the availability and accessibility of energy resources to support national development and economic growth.

In 2007, the government issued “Regulation No.30 (2007) regarding the supply and utilization of renewable energy”. This regulation states that there will be incentives from the central government and local governments for the use of renewable energy (BPDP, 2018). Furthermore, in 2008, the Ministry of Energy and Mineral Resources issued Regulation of the Minister of Energy and Mineral Resources No. 32 (2008) regarding the minimum obligation

to utilize biofuels used in various sectors in Indonesia, such as the transportation sector, industrial and commercial sectors, as well as power generation sector (BPK RI, 2008). At the end of SBY's administration in 2013, the government also made a few amendments to Government Regulation No. 32 of 2008 (Silalahi et al., 2020)

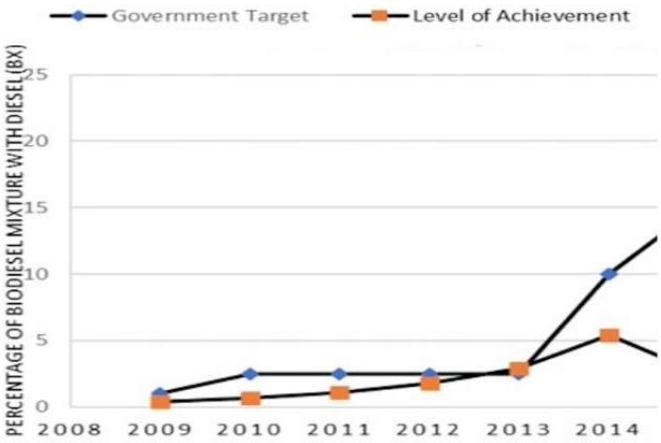

Figure 5. Government Target for Percentage of Biodiesel and Level of Achievement

Source: Silalahi et al. (2020)

The mandatory biodiesel program started at 2.5% biodiesel or B2.5 in 2008. Then this program was continued at 7.5% or B7.5 in 2010. Despite all the development of biodiesel as an infant industry in Indonesia, the government faced several challenges in the implementation because of the lack of technology. As an impact, this mandatory biodiesel program stopped at the B7.5 stage in 2013 (Silalahi et al., 2020). However, Figure 2.5 presents that in its implementation, in the period from 2009-2012, the government did not reach the target of this program of mixing biodiesel and pure diesel.

During his presidency, environmental issue has been spotlighted in the palm oil industry. Furthermore, SBY took some appropriate steps to address these environmental concerns. In 2010, he introduced a moratorium policy on new licenses for primary forest and peatland conversion for two years that was set forth in Presidential Instruction No. 10 of 2011. This moratorium policy was later extended through Presidential Instruction No, 6 of 2013. Subsequently, the government continued to extend the postponement in granting new permits for primary forest and peatland conversion in natural forests for the next two years until 2015. His government also initiated efforts to improve the sustainability of the palm oil industry through the introduction of certification schemes and regulations to mitigate the environmental impact of palm oil production (WALHI, 2017). Nevertheless, this moratorium policy was considered not efficient to achieve the sustainability purpose. Even though SBY has established the regulation, the violations continued to occur. One of the reasons is that this policy did not have firm laws to give pressure on other parties to comply with the regulations.

In 2011, as a significant attempt to solve the sustainability and environmental issue associated with Indonesia's palm oil, the government introduced policies and regulations to promote sustainable palm oil production. This step was made by the establishment of the Indonesian Sustainable Palm Oil (ISPO) certification system. This certification is arranged to encourage the Indonesian palm oil plantation business to comply with sustainability standards. It also aimed to enhance the trust for Indonesian palm oil in the global market. ISPO is mandatory for palm oil plantations that are run by big companies. On the other side, it is a voluntary system for smallholders and for plantations that produce bioenergy (EFECA, 2020). However, ISPO received criticism and debate from many parties regarding its implementation. ISPO was considered a non-transparent certification that has weak enforcement and insufficient monitoring.

3.4 Indonesia Palm Oil under Jokowi Presidency

Figure 6. Total of palm oil plantations in Indonesia from 2016-2022

Source: Directorate General of Estate (2022)

During 2 periods of Jokowi's presidency, the palm oil plantations did not experience a significant increase. This occurred because Jokowi prolonged the suspension on the expansion of palm oil plantations as outlined in Presidential Instruction No. 8/2015. Additionally, in 2018, Jokowi implemented a proactive policy by instituting a fresh moratorium through a different Presidential Instruction (Aji, 2019). Jokowi established the moratorium policy to prevent environmental problems associated with palm oil plantations in Indonesia and align with international commitments in addressing climate change issues. Figure 6 presents the total of palm oil plantations from 2016-2022.

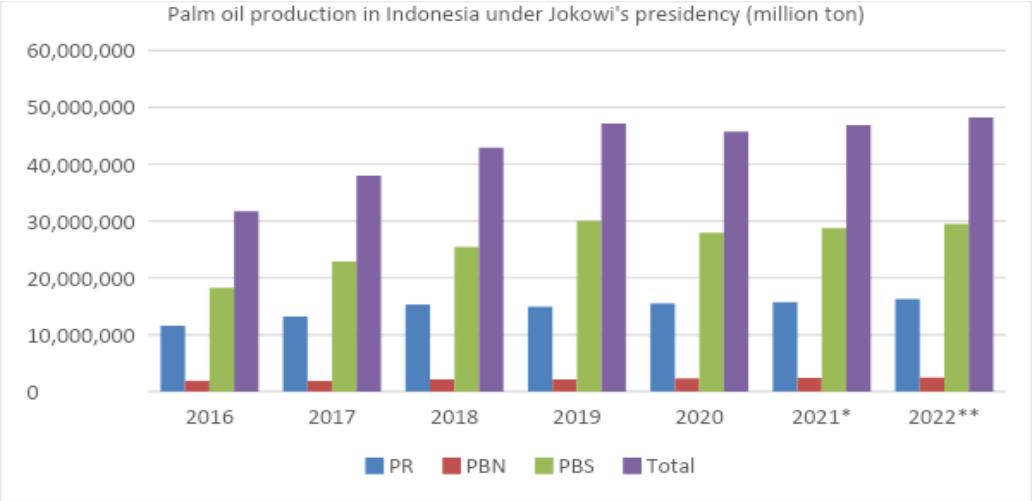

Figure 7. Total palm oil production in Indonesia from 2016-2022

Source: Directorate General of Estate (2022)

However, even though the government implemented the moratorium policy, palm oil production still experienced an increase. As shown in Figure 7 above, there was a consistent rise in palm oil production over the years, except in 2020. In that particular year, the total production witnessed a decline, dropping from 47,120,247 tons to 45,741,845 tons due to the impact of the COVID-19 pandemic. The pandemic inflicted significant challenges on the palm oil industry, affecting various stakeholders, including smallholders and private companies. However, Indonesia's palm oil industry managed to overcome these difficulties, rebounding, and increasing its production volume to 46,854,457 tons in 2021. This positive trend continued, with the total production reaching 48,235,405 tons in 2022 (Directorate General of Estates, 2022).

Furthermore, the biodiesel program that was introduced in 2006 by President Soesilo Bambang Yudhoyono made Indonesia's palm oil industry move to the next stage. Furthermore, this program became the forerunner of the biodiesel program which is currently being accelerated by President Jokowi. The biodiesel mandatory program that was stopped at the B7.5 stage in 2013, officially continued in 2014 as an attempt to achieve national independent energy and to stimulate Indonesia's economic growth. This initiative is put into action through biofuel initiatives like B30, B100 (green fuel), and D100 (green diesel). Additionally, the progress in green fuel and green diesel is anticipated to serve as motivation for both the government and PT Pertamina, with the aim of enabling Indonesia to manufacture green gasoline (G100) and eco-friendly Jet Avtur (J100) derived from palm oil (The Ministry of Energy and Mineral Resources, 2020). B30 has been launched since December 2019 with a price at Rp. 6,800/liter in all provinces, a rate that has remained consistent from September 3, 2022. The affordable price of B30 is made possible through government incentives and subsidies, aimed at bolstering the growth of renewable energy in Indonesia. D100 has been conducting trial production with 1000 barrels/day in the

Dumai-Riau Province Refinery. Meanwhile, currently, the establishment of B35 has been a main topic in *Rapat Kabiner Paripurna* by President Jokowi. The trial production of B35 also has been conducted from July 2022 until December 2022.

During Jokowi's presidency, Indonesia's palm oil suffered a lot because of the negative campaign by the European Union that stated palm oil is not sustainable and contributes to massive greenhouse gas emissions. This issue affected the demand for Indonesia's palm oil in the international market because the EU is one of the biggest palm oil markets which also affects the national economy because millions of people rely their lives on this industry. However, to address these environmental concerns, Jokowi established several programs. For instance, *Peremajaan Sawit Rakyat* (PSR) intention is to boost the efficiency and sustainability of smallholder palm oil plantations by providing incentives for the smallholders to replant without illegal land clearing. Not only that, but Jokowi also strengthened the ISPO certification system since 2016. Which was stated through "Presidential Regulation No. 44 of 2020 concerning the Indonesian Sustainable Palm Oil Plantation System". This regulation includes sanctions such as administrative sanctions, written warnings, suspension of ISPO, and temporary suspension of the palm oil plantation business (BPK RI, 2020).

Indonesia also actively engages in international cooperation through the Council of Palm Oil Producing Countries (CPOPC) with Malaysia by promoting cooperation, coordination, and harmonization in the palm oil industry. CPOPC is dedicated to furthering sustainable practices in palm oil production, addressing environmental issues, aiding small-scale producers, and enhancing the accessibility of palm oil products in the domestic and international market (CPOPC, 2022).

3.5 Indonesia Palm Oil Contribution to Indonesia's Economic Growth

Since 1970, palm oil has become one of Indonesia's main commodities that has greatly contributed to its economy. Indonesia's palm oil sector is considered to have great potential for Indonesia's economic growth. This is because Indonesia is one of the largest palm oil exporters. In 2019, Indonesia occupied the first position as the biggest palm oil supplier in the world. Indonesia has been supplied palm oil for at least half or about 58% of the total global palm oil production followed by the other ASEAN countries such as Malaysia with 20% and Thailand with 4% (United States Department of Agriculture, 2019).

3.5.1 Palm Oil Export Volume

The palm oil industry is growing very rapidly in every aspect such as plantation, production, and export volume and value. Table 2.3 presents Indonesia's palm oil export volume and export value during Soeharto's presidency which experienced fluctuation. The data started from 1980 with a total 502.902-ton export volume worth US$ 254.739. However, there was a drastic decrease in the following year with a total decrease to 196.361, or worth US$ 106.938. The export volume decline occurred again in 1984 with 127.938 tons that worth US$ 53.278. Export volume and value from 1985-1997 still experienced fluctuation but the decline did not reach a big number. In 1998, as an impact because of the Asia crisis, a drastic decrease happened from 2.967.589 that worth US$ 1.446.100 to 1.479.278 or worth US$ 745.277.

Table 3. Palm oil volume and value exports 1980-1998

Year	Volume (Ton)	Value (US$)
1980	502.902	254.739
1981	196.361	106.938
1982	259.476	96.247
1983	345.777	111.462
1984	127.938	53.278
1985	518.760	189.407
1986	566.885	112.918
1987	551.118	143.615
1988	852.843	333.868
1989	781.844	244.639
1990	1.015.580	203.507
1991	1.167.689	335.481
1992	1.030.272	356.494
1993	1.632.012	582.629
1994	1.631.203	717.811
1995	1.265.024	747.414
1996	1.671.957	825.415
1997	2.967.589	1.446.100
1998	1.479.278	745.277

Source: Directorate General of Estates (2022)

Figure 8 presents the export volume and value of Indonesia's palm oil during Megawati's presidency from 2001-2004. It recorded that during this period, Indonesia's export volume and value increased successively. In 2001, export volume reached 4.903.218 worth US$ 1.087.906. The export volume of Indonesian palm oil increased from 4.10 million tons or US$1.09 billion. This export volume increased by 29.17% to 6.33 million tonnes or US$ 2.09 billion in 2002. However, in 2003, Indonesia only experienced an increase of 0.83% to 6.39 million tons or US$ 2.45 billion. Even so, in the following year, the increase that occurred was quite large to 8.66 million tonnes or US$ 3.44 billion (Badan Pusat Statistik, 2004). Below is data on the volume of exports of Indonesian palm oil during the Megawati presidency:

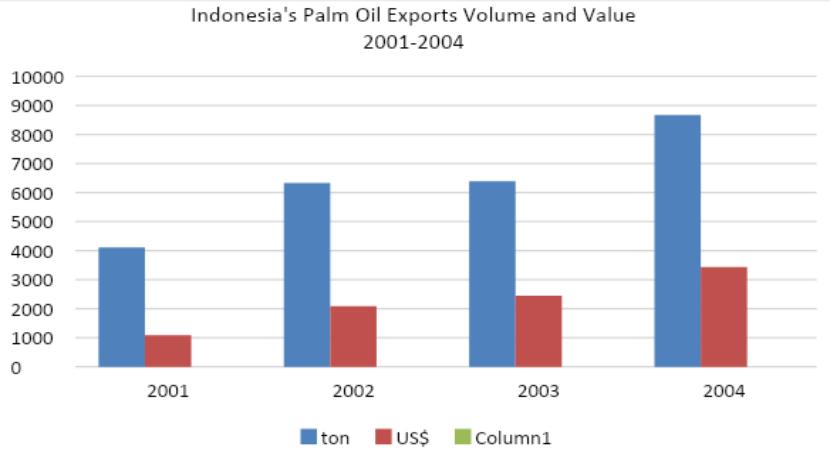

Figure 8. Indonesia's Palm Oil Exports Volume and Value 2001 2004

Source: Badan Pusat Statistik (2004)

Table 4 below presents Indonesia's palm oil export volume and export value during SBY's presidency from 2004 until 2014. It started with 8.661.647 tons worth US$ 3.441.776 in 2004. In general, palm oil export volume almost increased significantly during that period. But, in 2010, export volume experienced a slight decrease from 16.829.205 to 16.291.856. even though the volume decreased, the export values recorded an increase from 10.367.621 to US$ 13.468.966. Meanwhile, a slight decrease in export value occurred in 2008 from US$12.375.571 to US$ 10.367.621 and in 2013, from US$17.602.168 in 2012 to US$ 15.838. 850.

Table 4. Palm oil volume and value exports 2004-2014

Year	Volume (ton)	Value ($US)
2004	8.661.647	3.441.776
2005	10.375.792	3.756.557
2006	10.471.915	3.522.810
2007	11.875.418	7.868.640
2008	14.290.687	12.375.571
2009	16.829.205	10.367.621
2010	16.291.856	13.468.966
2011	16.436.202	17.261.247
2012	18.850.836	17.602.180
2013	20.577.976	15.838.850
2014	22.892.564	17.464.905

Source: Directorate General of Estates (2022)

Table 5 presents Indonesia's palm oil export volume and export value from 2014 until 2021

under Jokowi's presidency. During Jokowi's period, palm oil export volume and value also experienced fluctuation. One of the factors that influenced this fluctuation is the long-term unusual weather that made Indonesia had to experience forest fires issue in a massive scale in 2015. This issue had an impact on the decreasing palm oil production and export volume in 2016 (GAPKI, 2017).

Indonesia reached a big increase in export volume in the first year of Jokowi's government from 22.892.387 tons to 26.467.564 tons. Subsequently, a big decline in export volume occurred in the next year to 22.761.814 tons as an impact of the massive forest fires issue in 2015. However, Indonesia's palm oil successfully solved the issues in 2017 and survived and increased the export volume to 27.898.875 tons worth $US 18.513.463. The decline happened in 2020 as the impact of COVID-19 made the palm oil industry suffer greatly in every aspect.

Table 5. Palm oil volume and value exports 2014-2021

Year	Volume (ton)	Value ($US)
2014	22.892.387	17.464.905
2015	26.467.564	15.385.275
2016	22.761.814	14.366.754
2017	27.353.714	18.513.463
2018	27.898.875	16.530.213
2019	28.279.350	14.716.275
2020	25.935.554	17.364.144
2021	25.028.450	26.766.373

Source: Directorate General of Estates (2022)

3.5.2 Palm Oil Consumption in the Domestic Market

In the implementation process, palm oil consumption in the domestic market includes the use of 3 types of palm oil downstream such as oleofood downstream, oleochemical downstream, and bioenergy downstream which is currently a special concern for the government (Azahari, 2018) as follow:

i. Oleofood: cooking oils, expanded and extruded snacks, margarine, nuts, doughnuts, oriental noodles, shortening, sugar confectionery, vanaspati, ice cream, bakery fats, filled milk, biscuit fats, coffee whiteners, peanut butter, dry cake and pastry mixed, palm-based yogurt, palm-based spray oil, palm olein salad dressing, frying oils, and fats, soup mixes, potato chips, emulsifiers, etc (GAPKI, 2017);

ii. Oleochemicals: Nutraceutical, Vitamin E, Body scrub, Provitamin A (carotene), Body deodorant, Microencapsulated, Colour cosmetic, Detergent, Shampoo, Body wash, Conditioner, Hand wash, Moisturizing cream, Lipstick, Skin whitening cream, Anti-wrinkle cream, Sunscreen, Facial cleansing cream, etc (GAPKI, 2017); and

iii. Bioenergy: Biomass (biogas, bioethanol, bio coal), biodiesel algae, etc. In Indonesia, green fuel such as green diesel, green gasoline, and green avtur are being developed and have been used locally. (GAPKI, 2022).

Figure 9 presents Indonesia's palm oil consumption from 2015 to 2021 in the domestic market. Basically, domestic consumption always increases during this period. One of the factors that contributed to this increase is the biodiesel mandatory program. Jokowi (2019) in one of his speeches at the B30 launching event, stated that this program aimed to create high demand for Crude Palm Oil in the domestic market. Jokowi emphasized this program could lead Indonesia to use its own palm oil and produce its own biodiesel domestically so that palm oil will not depend on the European Union market.

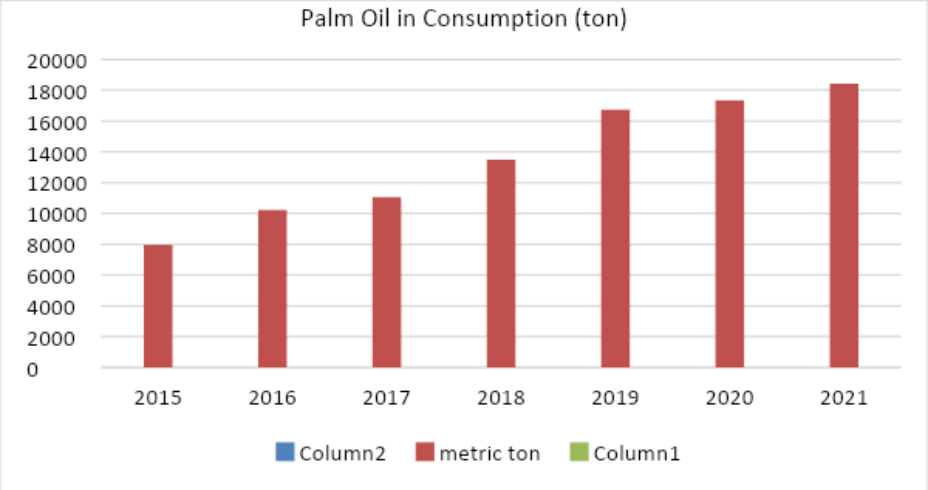

Figure 9. Indonesia's Palm Oil Consumption from 2015 to 2021

Source: Anjani et al. (2022)

4. Conclusion

Under Soeharto's presidency, one of the policies that greatly affected the extent of Indonesia's large plantations today is the cooperation program between corporations and farmers through *Perusahaan Inti Rakyat* (PIR) or Nucleus Estate and Smallholders (NES). PIR/NES was issued through Presidential Decree No. 1/1986 by implementing the mutual benefit between large government/private plantations as guides for smallholder plantations.

Even though during Megawati's presidency there were not many changes in terms of policies or regulations, the volume and value of Indonesian palm oil exports increased. The weakness of Indonesian palm oil at that time was its quality. Indonesia still produces low-quality palm oil products. The quality is not comparable to the high quantity production and the large plantations. Megawati also mentioned that Indonesia has bigger palm oil plantations than Malaysia, but on the other side, Malaysia's palm oil production is bigger than Indonesia's.

Furthermore, Indonesia started a new beginning for the palm oil industry under the government of Susilo Bambang Yudhoyono who is known as SBY through a biodiesel

mandatory program through "Presidential Regulation No. 5 of 2006 concerning National Energy Policy and Presidential Instruction No. 1 of 2006 governing the supply and use of biofuels". Not only that, SBY introduced a moratorium policy on new permits for primary forest and peatland conversion and established the Indonesian Sustainable Palm Oil (ISPO) certification system in 2011. This certification is arranged to encourage the Indonesian palm oil plantation business to comply with sustainability standards.

The authors argued that Indonesia's palm oil industry during Jokowi's leadership has been significantly improve. Indonesia has been successful for producing its own biodiesel with B30 and road to B35. This indicates a huge potential to achieve independent national energy in the future. Not only that, but Jokowi also showed his ambitious action to tackle environmental concerns through *Peremajaan Sawit Rakyat* (PSR), strengthening of ISPO, moratorium of land clearing permit, and cooperation through CPOPC.

The palm oil industry is growing very rapidly in every aspect such as plantation, production, domestic consumption, and export volume and value. In general, palm oil export volume and value always experience fluctuation because of so many aspects such as the Asia crisis, unstable international market, forest fires issue, COVID-19, etc. However, Indonesia's palm oil industry still survives and made Indonesia become the biggest palm oil supplier in the world.

In conclusion, every president has different programs to develop the palm oil industry. Soeharto PIR/NES program has greatly affected the extent of Indonesia's large plantations today. Meanwhile, during Megawati's presidency, there were not many changes in terms of policies or regulations. On the other side, under Susilo Bambang Yudhoyono's presidency, Indonesia's palm oil industry experienced new innovations in terms of palm oil policy. The biodiesel program that was introduced in 2006 made Indonesia's palm oil industry move to the next stage and become the forerunner of the biodiesel program which is currently being accelerated by President Jokowi. Even though, Indonesia palm oil has experienced so many developments during 2 periods of Jokowi's leadership, but further action must be taken in appropriate way due to it is still far away from the target.

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Mohd Ikbal Mohd Huda and Dhenada was responsible for study design. data collection, drafted the manuscript and revised it.

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