

Palm Oil Plantation in Indonesia: A Question of Sustainability

Perkebunan Kelapa Sawit di Indonesia: Sebuah Pertanyaan tentang Keberlanjutan

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Abstract

The soaring price of cooking oil and the shortage of supply in Indonesia since December 2021 have brought the Indonesian palm oil industry back into the spotlight. Indonesia is one of the largest palm oil producers in the world. Although oil palm plantations are recognized as having a major role in alleviating poverty in Indonesia, there is a lot of controversy surrounding the Indonesian palm oil industry, both in terms of poverty alleviation itself and in terms of environmental damage it caused. Using exploratory qualitative method, this paper argues that the palm oil industry controversy stem from different eco-centric and technocentric views of producer and importer countries on how to achieve sustainable agriculture. Using Indonesia as a case, the results shows that arguing palm oil's role in alleviating poverty and efforts in reducing environmental impact in Indonesia is not enough to quell palm oil industry controversies. The existing sustainability certification system such as RSPO and ISPO are seen as a technocentric solution that is ineffective and inadequate, whereas eco-centric unclear concept of sustainability and the complexity of the palm oil industry production chain is seen as contradictory. The results shows Indonesia needs to further strengthen its perspective on sustainability with more openness of data and improvement of systems in order to overcome the polarization of the narrative that has grown distrust of the palm oil industry. Negative sentiment toward the palm oil industry will not only harm Indonesia's socio-economic status but can also harm the environment, because importing countries may have to abandon palm oil even though they yet have an alternative that is more sustainable than palm oil.

Keywords

Palm Oil; Poverty Alleviation; Sustainable

Abstrak

Melonjaknya harga minyak goreng dan kelangkaan pasokan di Indonesia sejak Desember 2021 membuat industri kelapa sawit Indonesia kembali menjadi sorotan. Indonesia merupakan salah satu produsen minyak sawit terbesar di dunia. Meski perkebunan kelapa sawit diakui memiliki peran besar dalam pengentasan kemiskinan di Indonesia, banyak kontroversi yang melingkupi industri kelapa sawit Indonesia, baik dari segi pengentasan kemiskinan itu sendiri maupun dari segi dampak terhadap lingkungan yang ditimbulkan. Dengan menggunakan metode eksplorasi kualitatif, makalah ini berpendapat bahwa kontroversi industri kelapa sawit berasal dari pandangan ekosentris dan teknosentris yang berbeda dari negara produsen dan importir tentang bagaimana mencapai pertanian berkelanjutan. Menggunakan Indonesia sebagai kasus, hasil penelitian menunjukkan bahwa memperdebatkan peran kelapa sawit dalam mengentaskan kemiskinan dan upaya mengurangi dampak lingkungan di Indonesia tidak cukup untuk meredam kontroversi industri kelapa sawit. Sistem sertifikasi keberlanjutan yang ada seperti RSPO dan ISPO dipandang sebagai solusi teknosentris yang tidak efektif dan tidak memadai, sedangkan konsep keberlanjutan yang condong pada ekosentris belum jelas dan kompleksitas rantai produksi industri kelapa sawit di Indonesia dipandang kontradiktif untuk konsep keberlanjutan. Hasil penelitian menunjukkan Indonesia perlu lebih memperkuat perspektifnya tentang keberlanjutan dengan lebih banyak keterbukaan data dan perbaikan sistem untuk mengatasi polarisasi narasi yang telah menumbuhkan ketidakpercayaan terhadap industri kelapa sawit. Sentimen negatif terhadap industri kelapa sawit tidak hanya akan merugikan status sosial ekonomi Indonesia tetapi juga dapat merugikan lingkungan, karena negara-negara pengimpor mungkin harus meninggalkan minyak sawit meskipun mereka belum memiliki alternatif yang lebih berkelanjutan daripada minyak sawit.

Kata Kunci

Kelapa Sawit; Pengentasan Kemiskinan; Berkelanjutan

1. Introduction

Since December 2021, palm oil based-cooking oil prices are soaring and its supply is in shortage in Indonesia. *Indeks Bulanan Rumah Tangga* (BU RT Index), an index observing the fluctuation of Indonesia's staple food prices developed by the Center for Indonesian Policy Studies, has recorded a 56% increase in cooking oil prices between March and December 2021, where the price had reached IDR 20,667/liter in December 2021 (Amanta & Nafisah, 2022: 1). The scarcity and rising price of commercial palm oil in Indonesia is a lesson in irony, considering that the supply of palm oil in Indonesia is always abundant. Indonesia is one of the biggest producer and exporter of palm oil. The rising price of cooking oil is also worrisome because it is predicted to hurt the poor or micro and small business the most (Al Azhari, 2022).

Even in the peak of Covid-19 pandemic in 2020, palm oil is one of products that are still growing in value rising 13.6% from 2019 amassing US\$ 22.97 billion. During the period 1990-2017, palm oil plantation in Indonesia has tripled in numbers and palm oil production capability increased by more than 300%. Since 2008, The palm oil industry in Indonesia is growing rapidly, and millions of people making their living from this sector because the industry is labor intensive. In 2020, palm oil plantations in Indonesia reaches 16.3 million hectares, with more than 16 million workers, and produces more than 35 million tons palm oil. The expanding palm oil plantation is one of the factors to the decline in poverty and inequality in the villages surrounding the plantation. It is estimated that palm oil industry in Indonesia contribute a IDR 240 trillion in export and becomes one of the largest contributor to foreign exchange earnings (Asmanto & Adji, 2018).

Palm oil has been widely considered as the single largest traded vegetable oil commodity in the world for decades, however the production process is in urgent need to be evaluated and improved to achieve sustainable palm oil management. Among its renowned characteristics, palm oil is the world's cheapest edible oil (Tan et al., 2009: 421), with low production cost (McCarthy, 2010: 822; Sayer et al., 2012: 115). A high yielding in oil palm per hectare exceeds all current oilseed commodity (Shahputra & Zen, 2018), less sunlight

energy to produce per unit, even if the plantation needs to be managed intensively. So far palm oil has been the most potential as the source of renewable energy. The world's demand of palm oil is constantly high in most of the time (Sayer et al., 2012: 114), where the largest consumers are India, China, EU, Indonesia, Malaysia, Pakistan, Thailand, and Nigeria. The hike in price of cooking oil in Indonesia, has once again put Indonesia's palm oil industry on the spotlight.

Indonesia has been the world's largest producer and exporter of palm oil since 2008 (Feintrenie et al., 2010: 379). The world's demand for edible oil rose in the 1990s and substantially affected plantation expansion in Indonesia, as it has been considered highly profitable (Sayer et al., 2012: 115). Up to 2009, the total plantation covered approximately 7 million hectares and reached 7.8 million by 2010. It had proportion of large-scale plantation to smallholders as much as 60% to 40% respectively. The area for palm oil plantation was mostly allocated in Kalimantan and Sumatra island (Obidzinski et al., 2012: 2), and the most recent was Papua. Until now, palm oil has been a substantial Indonesian agricultural commodity in terms of contribution to national revenue. This paper will strive to answer two research questions which is what is underlying narratives in the multi-layered polemic of palm oil plantations and what is the way forward with regard to sustainability of palm oil industry.

2. Method

This research will use an exploratory qualitative approach. The definition of qualitative research is a research approach that seeks to explore and explore a central problem or phenomenon with the aim of being able to understand it (Creswell et al., 1996). The exploratory qualitative research approach was chosen by the researcher because the issue of the sustainability of palm oil and its arguable benefits for poverty eradication and environmental sustainability requires case mapping that involves intensive exploration and tracing from various sources and analysis of these data to produce a narrative conclusion. We will first explore the history of palm oil plantation in Indonesia, discuss various controversies of palm oil industry in Indonesia and deliberate the meaning of 'sustainability' in the palm oil industry through eco-centric and technocentric lenses.

We will also analysis the effort to commodify sustainable certification in palm oil industry and how the certification further affects the distrusts over palm oil industry in Indonesia.

3. Results and Discussion

3.1. Palm Oil Industry Controversies

Palm oil industry in Indonesia is no stranger to controversies. The establishment of palm oil plantation has been considered as one of major cause for deforestation (Fitzherbert et al., 2008: 538). Although compared to the other types of plantation, it has stored more carbon (Sayer et al., 2012: 115), better conserve soil quality and net energy. It may drive deforestation when tropical forests being cleared, degrading forests by logging or wildfire, an offset for plantation establishment cost by timber extraction, or when a road is built for access to forests (Obidzinski et al., 2012: 4). The biodiversity is affected by conversion of forest to palm oil plantation (Obidzinski et al., 2012: 4) where only 15% of species in primary forest occurs in palm oil plantation, therefore the biodiversity is lower than previously (Sayer et al., 2012: 115). As the habitat changes some of the species decline, while there is also invasion from alien species to the palm oil plantation causing substantial change on species composition. Compared to the other conversion type such as rubber, cocoa and coffee, palm oil plantation supports less diversity of forest species. Land conversion to palm oil plantation also decreases area connectivity, thus generates area fragmentation (Sayer et al., 2012: 117) which is vulnerable to edge effects. The use of fire in the common land clearance kills seeds and sedentary animals while the clearance causes soil erosion. Meanwhile, palm oil mills also generate water and air pollution (Caroko et al., 2011: 21; Rist et al., 2010: 1021) and also alter land capacity to store water, making more areas in surplus while others suffer water shortage.

One of the significant impact is that its contribution to greenhouse gas emissions (Obidzinski et al., 2012: 4) who contribute to climate change globally. CO₂ emissions from peatland conversion to palm oil plantation in Indonesia has been accounted for 58% of global peatland emission (Ramdani & Hino, 2013: 5). In 2018, forest conversion and land use change for palm oil

plantations in Indonesia and Malaysia has been accused to emit in average 500 million tons of CO₂ each year, which is comparable to that of aviation sector carbon emission (Searle, 2018). The environmental concerns were so grave that EU, one of the biggest importers of palm oil in the world, demand its transportation sector to reduce the use of palm oil (used as biofuels) and to phase out the use of palm oil altogether by 2030. Despite efforts made by palm oil producers countries to make their palm oil sustainable, EU is adamant that it is hard to establish sustainability in the industry because the industry is deemed does not meet the criteria for EU's biofuel raw materials produced without encouraging deforestation, generate high carbon content, and are not sourced from areas of high natural value (full of biodiversity) (Pratama, 2019: 96). Palm oil industry chain is believed to be complex and there are an information symmetry, because to source and harvest palm fruits from small holder farmers bigger companies are dependent to middlemen and traders where there might be lack of awareness and lack of capacity to practice sustainability (Pye, 2019).

If there are very high information asymmetry and complex production chain, how do we define sustainable palm oil? There are only broad principles and guiding normative values as starting point, but how to properly measure palm oil industry to be environmentally sustainable remains unclear (Meijaard & Sheil, 2019). Looking back at the definition of sustainable agriculture, the 'sustainable' term is also having various definition, depends on the approach. There are two main approaches to sustainable agriculture, eco-centric or technocentric. Eco-centric approach pursues the more radical focus of changing consumption patterns, better allocation and better usage of resources in order to keep human development growth producing low of even zero impact to the environment. In contrary, technocentric approach emphasizes the sustainability attainment through a variety of proper strategies and technology, such as state-led modifications to the agriculture industry in order to create conservation-oriented farming system to meet population growth demands (Robinson, 2009).

In Indonesia, multifunctional agriculture is acknowledged and regulated in Article 4 of Law No. 18 of 2004 (amended to Law No. 39 of 2014) that mentions three functions of plantations, namely (1) economic

functions (increased prosperity and well-being people and strengthening the national and regional economic structure); (2) ecological function (improvement soil and water conservation, carbon sequestration, oxygen supply, and buffering of protected areas; and (3) socio-cultural functions as unifier of the nation. The sustainability perspective in Indonesia's multifunctional agriculture adheres to the theory of agricultural multifunctionality where there are four functions of agriculture; green functions, white functions, blue services, and yellow services. The principle is that agriculture has other important function other than production of food for human. Green function refers to maintaining biodiversity, protecting wildlife welfare and habitats, and limiting carbon emission. White function refers to food security. While blue services includes water management and improvement, flood control, or water harvesting to energy creation and lastly yellow services refers to regional cohesion and vitality in rural areas, crafting identities and agro-tourism (Tilman et al., 2002). This approach is technocentric as it posit around human as receiver of benefits from ecosystems, that somehow society can procure the nature responsibly or in sustainable manner (Renting et al., 2009). Understanding the guiding principles and normative values on sustainability is important to comprehend what is asked from Indonesia when the discussion veered into what is sustainable palm oil industry.

3.2. Palm Oil Plantation for Poverty Alleviation

The importance of palm oil industry in Indonesia is not solely about its contribution to GDP but also about its poverty alleviation and rural cohesion potentials. In Indonesia, palm oil is a major player in poverty eradication and the social glues that binds human resources in rural areas from transmigrating to urban areas (Pye, 2019). Palm oil plantation has been dominant crop with high contribution to the economy for many places. It helps the regions to alleviate poverty by providing jobs as much as 6 million lives potential, enhancing local livelihood (Manik et al., 2013: 1391) by providing secure incomes, access to healthcare and also education, therefore it has improved livelihood of many rural communities (Rist et al., 2010: 1019). With regards to Indonesia's multifunctional agriculture goals, the social cultural concepts has been empirically proven with

socio-cultural function or yellow services of palm oil plantation is also argued to be empirically proven, among others, its role in rural development (improving the quality of life) and poverty reduction (Goenadi, 2008; Joni, 2012). In household level, the expansion of palm oil plantation is argued to increase household revenues (Wicke et al., 2011). For agrarian countries and some developing countries, the growth of the agricultural sector is very crucial in reducing numbers of poverty. Indonesia is a very interesting case as there exist positive relationship between agriculture contribution to GDP with poverty reduction (Budiantoro & Saputra, 2013).

Around 1.3 million rural people in Indonesia managed to escape poverty in full through the growth of the palm oil industry since early 2000. In total, approximately 10 million people has managed to escape poverty largely due to the booming palm oil industry. Consumption of poor households and agricultural households increased more significantly in palm oil expansion areas. This indicates a higher income of workers in the palm oil sector which in general also raises the wages of workers in the agricultural sector. The decline in poverty levels in districts/cities and provinces as well as the increase in the income of workers in the agricultural sector and the bottom 20% of households show that the positive impact of the palm oil industry also spreads to poor groups outside the oil palm sector (Asmanto & Adji, 2018). The contract schemes between village communities and palm oil companies contributed positively to economic development. This holds true in particular for those contracts that were made during the government-led phase, underlining that public sector support and monitoring is important in order to maximize the welfare effects for local communities (Gatto et al., 2017: 11). Community making contracts with palm oil companies have contributed to decreasing inter-village inequality.

However, even though palm oil farmers households' income is increasing, dependence over palm oil plantations also rising. The household has lose diversity of their livelihoods and therefore more prone and vulnerable than before the expansion of palm oil plantation (Amalia et al., 2019). Some of the expansion of land cover conversion agreement are conducted with information and legal support in favor of the large

companies than local communities (Sayer et al., 2012: 117). Obidzinski et al. (2012: 4) further explains that palm oil development have benefited migrants rather than indigenous people, which are marginalized (Manik et al., 2013: 1390), caused food insecurity as a result of shifting cultivation process and disrupted social relations in terms of land ownerships because problematic land acquisition (Caroko et al., 2011: 22). Meanwhile, Manik et al. (2013: 1390) argue that the communities who work in the palm oil plantation have been put in vulnerable situation of working condition where they are discouraged from union, being paid in low wages, having job insecurity and provided almost no legal protection.

The palm oil plantation and management costs also generating high level of debt that is more burdening for small holders' farmers. Some communities in the remote area even resisted the plantation development and refused to sell their land based on negative reports by the other communities about palm oil plantation impact. Unclear terms of contracts, weak governance by local authorities, unclear in arranging land tenure and dramatic change of land value have been the main triggers of conflict regarding plantation development. While establishment of palm oil plantations had generated economic activity directly or indirectly to the nearby communities, it has been criticized that the economic trickle-down effect of palm oil plantations to alleviate poverty is not enough keeping people off from poverty. Most of the poor in rural agricultural areas that manage to exit poverty because of palm oil expansion still remain in rural and agricultural. Policy on agricultural prices, wages and productivity remain critical to not only moving people out of poverty but also keeps them out of it.

Cahyadi and Weibal (2015) used the concept of vulnerability as expected poverty (VEP) and asset-based vulnerability to create a typology of poverty vulnerability for palm oil farmer household groups or small holder in the Merangin area, Jambi province. VEP is used to describe vulnerability as the probability of a palm oil farmer household to fall below the poverty line in the near future regardless of whether the household is currently poor or not. The study finds that palm oil farmers who join contract farming under palm oil companies experienced shocks much more often than

farmers who do not. The palm oil farmers under contract farming scheme are very vulnerable to shocks such as price shock, production shock, health and demographic shock (health conditions and demographic variables), and other shocks like pandemic. As many as 40% of palm oil farmer households in Merangin are vulnerable to slipping back into poverty if there are shocks in the palm oil sectors (Cahyadi & Waibel, 2016).

Other similar finding about other side of poverty alleviation is that transmigrate villages experienced faster economic growth than its indigenous counterpart in palm oil plantation areas. This may be related to transmigrate villages being more often involved in contract schemes in doing palm oil plantations. In general, transmigrates in Jambi benefited more from government support than indigenous people, and they also started to get involved in oil palm cultivation far earlier (Gatto et al., 2015; McCarthy, 2010). Numerous cases and studies of palm oil industry long-term negative contribution to poverty alleviation has become basis of sowing distrusts about palm oil industry sustainability as a panacea for poverty.

3.3. Question of Sustainability

Weighing all the benefits and controversies surrounding palm-oil industries, it is still hard to comprehend how to live without the wonder of palm oil. After EU's announcement that they will reduce the use of palm oil-based biofuels and eventually phase out the use of palm oil by 2030, the world is yet to find comparable substitution for palm oil in the market. The Iceland supermarket case from 2019 where they promised to remove palm oil from all of their products by the end of 2018 can be served as an example of how hard it is to avoid palm oil. Iceland fails to meet its deadline of removing palm oil based products and opted to remove their brand from their products instead than acknowledging their failure of abandoning palm oil (Mackay, 2019).

If we lean only on the debated destructive qualities of palm oil plantation which is not fulfilling the green function of sustainable agriculture and decided to phase out palm oil, it is still technically challenging to replace palm oil in such large scale. Parsons et al. (2020) discuss the desire and viability of replacing palm oils as the

unique fatty acid profile of palm oil make it very difficult to replace with other products. Other most celebrated characteristic of palm oil is that it is very cheap. Unlike other alternatives such as rapeseed, soybeans or sunflower, palm oil can reliably produce much more vegetable oil in a short time. For every hectare of palm oil, four tons of vegetable oil can be harvested each year, compared to 0.38 tons of soybeans, 0.48 tons of sunflower, and a mere 0.67 tons of rapeseed.

Looking at the situation there might be only two options left: further research the substitution of palm oil such as ongoing research about single cell oil from yeast or microalgae, or the implementation of a more effective scheme to ensure sustainable ethical palm oil production. However, as this paper introduction has partly discussed, there are yet clear understanding and agreements on what is 'sustainable' palm oil or what is ethically sourced palm oil is. [Sayer et al. \(2012: 118\)](#) argues that sustainable palm oil management can be achieved by intensifying rather than expansion, land tenure security with strong forest conservation and better support on smallholders for a fair negotiation. [Rist et al. \(2010: 1019\)](#) advise clarification of land rights for smallholders, a reform by agreement standardization between companies and smallholders, the extensive service of provision and enhancement of management capacity and the model of business development by smallholders type rather than large scale companies should be more encouraged. One of effective strategy to manage palm oil development is by capturing possible potential market aspects and incorporate it in environmental policies.

Just like there are markets for carbon emission in the market, there are markets for sustainability for the industry. Palm oil and its sustainability certification is being sold to companies to offset or pardon their use of uncertified and therefore potentially unsustainable palm oil. The effectiveness of such certification relies on peer and market pressure and also on management incentive ([McCarthy & Zen, 2010: 168](#)). There are two main certifications for Indonesia palm oil management namely Roundtable on Sustainable Palm Oil (RSPO) certification and Indonesian Sustainable Palm Oil (ISPO) certification. RSPO certification is an approval ecolabelling by third party specifically for palm oil to

ensure that the product is responsibly produced and traceable without causing harm to environmental and society. RSPO board members are manufacturers, growers, processors, retailers, environmental NGOs, social NGOs, banks and investors. RSPO main objective is to promote responsible practice of producing and using sustainable palm oil and open dialogue between stakeholders ([Tan et al., 2009: 425](#)). There are three main components in RSPO certification namely standard, accreditation and process requirements. The palm oil company can certify its production by requesting production audit conducted by Certification Bodies. The benefits of having RSPO certification are to ensure that the process of palm oil production have met the standard of sustainable environment practice and importantly there are markets of which buyers committed on willing to pay the premium price.

The effectiveness of RSPO certification to achieve socio-economic goals has been questioned. The RSPO promises not only more sustainable management of oil palm plantations that reduces deforestation but also improves the welfare of surrounding communities. However there is a challenge of RSPO certification, as it has been explained by [Silva-Castañeda \(2012: 368\)](#) where the technical legal aspects it required are not adapted to the social challenges. This situation has been inherently found in company and local communities' relationship where conflict arise driven by land tenure and boundaries definition disputes. Most of local communities inherit their land based on physical markers as cultural proof to define their boundaries while large companies have been backed up with legal documents as formal proof. This situation has put both side in uneven position based on evidence recognized by the national legal system ([Manik et al., 2013: 1392](#)). RSPO address this by refining the Complaints and Appeals Procedures (CAP) in 2017 to better accommodate the local community when they report unfair palm oil management from RSPO certified companies. After the implementation of the CAP, the number of complaints closed each year increased by 78% from 2017 to 2018, and closure numbers further increased by 44% from 2018 to 2019. In 2019, a significant improvement was observed whereby 69% of complaints received were closed ([RSPO, 2020: 21](#)). In comparison to non-RSPO certificated palm oil plantation, RSPO certified plantation is argued to be

more productive, high-yield plantation with less of forest fires incidents, and reduce forest conversion (Cattau et al., 2016). Overall, it is more sustainable than the non-RSPO certified plantations.

The impact of RSPO certification on village level welfare across Indonesia is analyzed using multidimensional government poverty data. Based on poverty data in 36,311 villages between 2000 and 2018 from before oil palm plantations were first established to several years after the plantations received RSPO certification, it was found that RSPO certification only reduced poverty in villages with primarily market-based livelihoods. RSPO certification in villages whose livelihoods are rural agricultural does not have the impact as village relying on market-based livelihoods (Santika et al., 2021: 3). This is consistent with other findings that palm oil sector across Kalimantan brought significant economic benefits to village communities, but this limited to villages where the majority of communities had prior knowledge of plantation management and past exposure to market economy (Santika et al., 2019: 19).

Striving to ensure current and future palm oil production sustainable (Caroko et al., 2011), Indonesian government had launched certification program the Indonesian Sustainable Palm Oil (ISPO) standard. On the contrary with RSPO as voluntary basis, ISPO is implemented as mandatory for all plantation companies in Indonesia, introduced in 2011 and expected to be fully implemented in 2014. ISPO is responding to inability of RSPO cementing trust and reassuring international market towards Indonesian commitment to sustainability issues. ISPO is expected to accelerate sustainable palm oil, enhance palm oil competitiveness for global market and support greenhouse gas emissions reduction program. Through ISPO Indonesia's government has created several policies to control palm oil management operation in order to reduce the severe environmental, social and economic impact of palm oil industry (Caroko et al., 2011: 11). However, pursuing sustainability of the palm oil industry in Indonesia is not as simple as adding more layers of certification. Even though Indonesia has establish regulatory framework for ISPO, there are still conflicting regulations in implementation of ISPO (Hidayat et al., 2018). There are also doubts about the effectivity of ISPO that are

accused of having more relaxed standard than RSPO certification (Pye, 2019). Just like poverty alleviation properties of palm oil industry, RSPO and ISPO effectivity is contested. Amalia (2019) and Morgans et al. (2018) research results indicate that in Kutai Kartanegara, East Kalimantan, RSPO and ISPO (1) have not been able to reduce deforestation due to the expansion of palm oil plantations; and (2) Even though the RSPO and ISPO are implemented, there are still social conflicts, ecological and economic vulnerabilities in local communities.

Discussing about the overall sustainability of palm oil industry in Indonesia has always challenging because of its traceability. From the consumer or exporter views, certification such as RSPO and ISPO means leaving third-party mechanism to guarantee the sustainability of the consumed palm oil. As it has been discussed before, palm oil value chain is long and complex, with national and local regulatory challenges, lack of middlemen and farmer awareness and many multitude factors. RSPO has been making progress by adopting stringent criteria for sustainable palm oil and thus eliminating the worst of labor practices in palm oil plantations, but there still is very much left to do especially in repairing trusts and narratives surrounding palm oil. Repairing trusts and narratives underlined here is not only a matter of better public communication but also openness and transparency. Inherently, palm oil is neither good or bad. It is just another tropical plant, one of 83 major palm species that supports the biodiversity of the rainforests (Meijaard & Sheil, 2019). The way EU and other importer countries sees it, palm oil plantation is an incredibly destructive and malicious form of agriculture, therefore no better or more suited agriculture management that can make it more sustainable. There is a deep distrust on palm oil industry, where public in exporters countries perceive it as 'environmentally unfriendly'. Pye (2019) go as far to conclude that palm oil industry have no viable development model, more over sustainable, even though RSPO and ISPO has been implemented. Certification such as RSPO and ISPO only represents technical fix without addressing the true problem of power imbalance between class, gender, and accumulation in the palm oil industry. Moreover, while the RSPO certified plantations is practiced more sustainably than the uncertified ones, but the change

made by RSPO certified plantations in deforestation rate, wildlife conservation is considered to be insignificant (Morgans et al., 2018).

What can be conferred from this discussion is that position of Indonesia's government as producer and importer of palm oil are leaning more into technocentric point of view. Indonesia believes that with the right technology, better management and better supervision palm oil industry will be more sustainable in the coming years. Meanwhile, EU and other exporter countries who set boundaries and limitations on what is sustainable palm oil rests their principles more into the eco-centric sides. The principles underlining the eco-centric over environmental crisis are the nature wilderness preservation, human population control, and living a humble lifestyle to minimize human carbon footprints on earth. What RSPO and ISPO has done, in terms of eco-centric view, is to instrumentalize ecosystem, bringing them into human's financial and economic system and further quantifying, commoditing, pricing, and trading the environment for human profit. The driver of market-based approach to palm oil industries are therefore to reduce emission while making profit, with the environment come second, if not last.

However, considering the eco-centric urgings for palm oil industry, it is intriguing to see that so little attention is given to the environmental impact in putting a ban on palm oil. Other plant alternatives of palm oil such as rapeseed or jatropha will require more land use in order to produce the same amount of vegetable oil in comparison to palm oil. Even if land use conversion and cultivation processes are made sustainable, there are still ongoing discussion and question of how much carbon emission from rapeseed or jatropha or other vegetable oil industry on a large scale compares to palm oil industry (Uusitalo et al., 2014: 104). Ironically, in short or medium term, abandoning palm oil may lead and encourage even more destructive deforestation than what palm oil industry has done (Parsons et al., 2020). Research of replacements are still ongoing in small scale with unpredictable results and until then only option is to keep deliberating on ways of making palm oil industry more sustainable but also more reasonable. Beyond sustainability certification, public campaigns, regulations, and socio-economic interests of palm oil

industry need more openness and transparency to dissolve distrusts than has plagued its name and shadowed its wonder qualities.

4. Conclusion

Palm oil is a wonder crop and Indonesia has been famous as the world's largest producer and exporter of palm oil since 2008. Palm oil industry in Indonesia has been broiled with numerous controversies regarding deforestation thus generating high carbon content, endangering wildlife and threatening biodiversity. Palm oil plantation has also regarded as environmentally unfriendly because it generates water and oil pollution and make areas suffer water shortage. Other than palm oil industry's contribution to Indonesia's GDP, Indonesia keeps insisting that palm oil industry is a major player of poverty alleviation, highlighting that approximately 10 million people in Indonesia has managed to escape poverty and inter village inequality decreases largely due to the booming palm oil industry. Indeed, claims of poverty alleviation properties of palm oil are debatable as well. The contradictory and controversiality surrounding palm oil industry has made major palm oil importer countries like EU has recently announced palm oil as unsustainable and thus will be phased out from transportation sector by 2030.

Debating sustainability of palm oil industry has reveal the conflicting perspective of eco-centric versus technocentric where the term 'sustainable' has various definition, depends on the approach taken. The requirements of sustainability in eco-centric approach in actuality does not conflict with Indonesia's view about palm oil industries as poverty alleviation toolbox and driver of economic growth. Indonesia has embraced multifunctional agriculture which demand that agriculture need to fulfill yellow function, white function, blue services and green services. Indonesia also join the RSPO voluntary certification and establish its own mandatory ISPO certification for palm oil companies, even though these 'sustainability' certifications are regarded as problematic and ineffective in several researches.

Despite all the merits of eco-centric perspective to achieve sustainability, in the case of palm oil industry in Indonesia, there are several problems needs further

deliberations. The supposed ‘sustainable palm oil’ products that is in demand, have unclear criteria and ways of sustainability verification, taking into consideration the production chain complexity of palm oil industry. There are only broad principles and guiding normative values as a starting point to sustainability, which is rarely demanded from other crops or plantations. Moreover, replacing or abandoning palm oil can be very unsustainable in short or medium term as there are yet proper replacements of palm oil that can be guaranteed to be more sustainable than palm oil itself.

Lastly, though there seems to be a framing clash, not all crisis and disputes arises from different approach alone, sometimes it can come from distrusts. It is crucial to empower Indonesia’s perspective on sustainability with hard data to address the polarized narratives that have fostered global distrust and suspicion over palm oil industry. It is also crucial to keep working to improve sustainability certification by building more robust system of traceability in Indonesia’s palm oil industry, as well as improving transparency. Negativity over palm oil industry not only will hurt Indonesia’s socio-economically but might also become a danger to the environment itself, where the importer countries may have to abandon palm oil even without solid way forward, merely on the basis of distrusts.

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