

PALM OIL FREE IS DRIVING THE GLOBAL DEFORESTATION

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RESUME

In the last twenty years, the campaign by anti-palm oil NGOs has become more systematic and massive using various taglines such as "No Palm Oil", "Palm Oil Free", or "Phase Out Palm Oil" to reduce global consumption of palm oil, as well as the tagline "No Deforestation" to limit palm oil production in producer countries, including Indonesia. Their argument in the campaigns is to stop global deforestation that occurs as a result of the development of palm oil production.

If the global community supports the NGO campaign for "No Palm Oil", "Palm Oil Free", or "Phase Out Palm Oil", it will trigger additional global deforestation of 167 million hectares. Meanwhile, if the global community supports the NGO campaign for "No Deforestation" on the expansion of oil palm plantations so that to meet the global demand for vegetable oil towards 2050 it is replaced by other vegetable oils, then the campaign will trigger global deforestation of 142 million hectares. The additional deforestation was used for the expansion of cropland for soybean, rapeseed, and sunflower. The results of this study indicate that the anti-palm oil NGO campaign could trigger greater global deforestation in the future and at the same time contradict the Sustainable Development Goals.

The global community should support palm oil and other vegetable oils to meet global needs, not against palm oil. This is because palm oil is proven to be the most efficient vegetable oil crop in land use, where its productivity reaches 6-10 times the productivity of other vegetable oil crops. Besides that, increasing the productivity of palm oil to 6.5 tonnes of oil/hectare is a solution to the "No Deforestation" campaign to fulfil the high demand for vegetable oil by 2050.

INTRODUCTION

At least in the last twenty years, the “no palm oil” campaign driven by NGO networks has been very intensive in various countries. Social, economic, health, and environmental issues are used to against palm oil so that their image is slumped on the global market. Not just a negative campaign against palm oil but also a campaign not to use palm oil. The coercion of the “palm oil-free” label on various products produced by the food industry, the cosmetic industry, and even the animal feed industry is a systematic way used by NGOs to stop the use of palm oil (PASPI, 2015; Kumar et al., 2015).

The campaign to end palm oil consumption is also transmitted to the European Union's policy plan that links the issue of deforestation with palm oil consumption in the EU. They have RED II policy to implement a policy plan for palm oil phase-out from renewable energy (RED-EU) by 2030 (European Parliament, 2017; European Commission, 2019).

In the main palm oil producer countries, such as Indonesia and Malaysia, NGOs networks both international and local also intensively carried out the anti-palm oil campaign. They also put pressure on the government to stop the expansion of oil palm plantations or “No Deforestation”.

The systematic and massive campaign carried out by anti-palm oil NGOs to stop the consumption and production of palm oil have arguments that aim to stop global deforestation. This raises empirical questions. What happens if the global community supports NGOs for “No Palm Oil”, “Palm Oil Free”, or “Phase Out Palm Oil” or any other campaign aimed at stopping the consumption of palm oil? What happens if the global community agrees to the NGO campaign that banning the expansion of oil palm plantations or “No Deforestation”? And is it true that global deforestation will stop if palm oil consumption is reduced or stopped?

This article will discuss these interesting empirical questions above. The results of the discussion will determine whether the objectives of the negative campaign on palm oil and the “phase out” policy of palm oil are in line to reduce deforestation, or if it is counterproductive

with their goal of reducing global deforestation.

VEGETABLE OILS SAVES LAND OR DRIVES DEFORESTATION

The top-four vegetable oil crops in the world namely palm oil, soybean oil, rapeseed oil, and sunflower seed oil are supply about 85-90 percent of the global vegetable oils. According to USDA data (2021) and Oil World (2020), the growth of their area vegetable oil crops/plantations has been quite significant in the last 20 years.

During the period 2000-2020, the area of soybean crops increased from 75.5 million hectares to 127 million hectares. In the same period, the area of rapeseed crops also increased from 24.7 million hectares to 35.5 million hectares. This was followed by an increase in the area of sunflower crops from 19.7 million hectares to 27.6 million hectares. Meanwhile, the area of oil palm plantations has also increased, but it is not too significant from 10 million hectares to only 24 million hectares.

In the expansion of the areas of the top-4 vegetable oil crops in the world, deforestation was carried out both directly and indirectly both before 2000 and after 2000. This means that by 2020, deforestation due to the expansion of global soybean crops is more than 5 times than oil palm plantations in the world. Meanwhile, deforestation due to the expansion of the global rapeseed crops area is also higher, which is almost 1.5 times than oil palm plantations. Meanwhile, deforestation caused by the expansion of global sunflower crops area is also around 1.2 times than oil palm plantations. Based on the data on the expansion of land for the top-4 vegetable oils, aren't soybeans, rapeseeds, and sunflowers doing more deforestation than oil palm?

Next, let's discuss the results of deforestation in the production of vegetable oil. What vegetable oil crops are the most efficient or most economical in land use? Based on data on global vegetable oil production in 2020 (USDA, 2021), the production of the top-4 vegetable oils in the global are soybean oil production of 58.7

million tons, rapeseed oil production of 27.3 million tons, sunflower seed oil production of 21.5 million tons, and palm oil production of 83.5 million tons.

The data shows that palm oil is the most "oily" vegetable oil compared to other vegetable oils. This is due to the highest

productivity so that it can produce the largest volume of oil even though it has the narrowest land area. Meanwhile, the oil productivity per hectare for the other three vegetable oil crops is far below palm oil productivity (Figure 1).

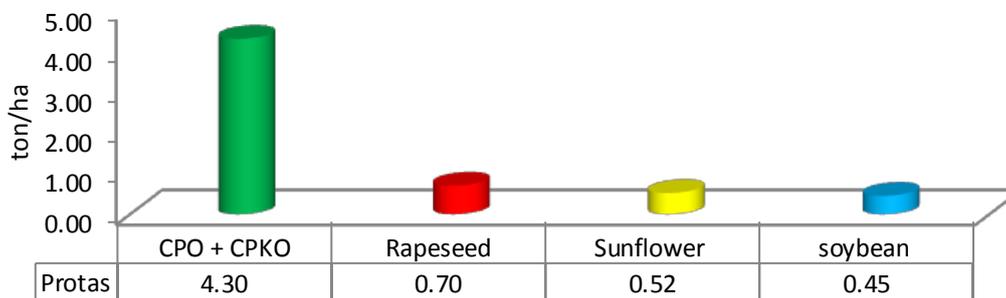


Figure 1. Comparison of Productivity of Top-4 Vegetable Oils (Source: Oil World, 2018)

The productivity of palm oil (CPO + CPKO) reaches 4.3 tons per hectare. Meanwhile, the productivity of rapeseed, sunflower seed oil, and soybean oil were only 0.7 tons per hectare, 0.52 tons per hectare, and 0.45 tons per hectare, respectively. This shows that the productivity of palm oil is almost 10 times higher than the productivity of soybean, 8 times higher than the productivity of sunflower, and 6 times higher than the productivity of rapeseed.

The facts above show that oil palm is the most land-efficient vegetable oil plant (land saved). Meanwhile, soybeans are the most wasteful-land vegetable oil plant or are drivin deforestation.

“NO PALM OIL” CAMPAIGN

So what happens if NGOs and their networks campaign for "No Palm Oil" or "Palm oil Free" and the campaign is fully supported by the global community? Or EU's implement the "phase out palm oil" of RED-EU?

In this paper, the combination of "No Palm Oil", "Palm Oil Free" and "Phase Out RED-EU" campaigns is to significantly reduce palm oil consumption. It is also assumed that the decline in palm oil consumption occurs in extreme conditions, which is the global community chooses not to consume palm oil.

Based on the data above, the volume of palm oil production in 2020 is 83.5 million tons. If "No Palm Oil", "Palm Oil Free" or "phase out palm oil" is enforced, it is necessary to look for other vegetable oil sources to replace 83.5 million tons of palm oil. It is assumed that the volume of palm oil is 83.5 million tons, replaced proportionally are 54 percent from soybean oil, 25 percent from rapeseed oil, and 21 percent from sunflower seed oil.

If as much as 54 percent of palm oil is replaced by soybean oil, the additional soybean crops that are needed to produce additional soybean oil is 112 million hectares, so that the global soybean plantation crop area will be 239 million hectares. Meanwhile, if as much as 25 percent of palm oil is replaced by rapeseed oil, then the additional area for producing rapeseed oil will be around 30 million hectares, so that the total area of the global rapeseed crops area becomes 65.5 million hectares. Meanwhile, if as much as 21 percent of palm oil is replaced by sunflower oil, the additional area required is around 25 million hectares, so that the total area of the global sunflower crops area will be 52.6 million hectares. This means that replacing palm oil will lead to an increase in the area of these vegetable oil, so that global deforestation will expand (Table 1).

Table 1. Global Deforestation Scenarios if Supporting NGO Campaigns “No Palm Oil”, “Palm Oil Free” or “Phase Out RED-EU”

Plant Expansion	Additional Global Deforestation (million hectares)
Soybean	112
Rapeseed	30
Sunflower Seed	25
Total	167

Thus, to replace palm oil only by 2020, the global community (producers of soybeans, rapeseed, sunflower) must deforest 167 million hectares. This suggests that every 10 percent reduction in palm oil consumption will increase global deforestation by 12-20 million hectares. Isn't eliminating palm oil is same as driving global deforestation?

“NO DEFORESTATION” CAMPAIGN

What if the current palm oil production can no longer be expanded like the NGOs campaign about "No Deforestation" on oil palm plantations? For this matter, different assumptions have been revealed by Corley (2009) and PASPI (2017). In this article, “No Deforestation” for oil palm is interpreted as the expansion of global oil palm plantations is no longer allowed. However, expansion of land for soybean, rapeseed and sunflower crops is still allowed.

According to FAO-OECD data (2015), global vegetable oil consumption is around 19 kg per capita. Meanwhile, EU vegetable oil consumption has reached 24 kg/capita, China is 22 kg/capita, United States is 39 kg/capita, and India is still around 15 kg/capita. If in 2050, it is assumed that global vegetable oil consumption is 26

kg/capita, with an estimated population of 10 billion in 2050, then by 2050 the global community will need an additional 70 million tons of vegetable oil. How to meet the vegetable oil needs?

If oil palm plantations are still able to expand, then to meet the additional global needs for vegetable oil of 70 million tons towards 2050, the expansion of global oil palm plantations (without expansion of soybeans, rapeseed, and sunflower) is needed only around 16 million hectares. However, if the increase in palm oil production must be carried out without expansion (without new deforestation), then intensify become a solution, namely increase the productivity of global oil palm plantations from 4.3 tons/ha to 6.5 tons of oil/hectare.

Meanwhile, if the additional vegetable oil of 70 million tons is fulfilled proportionally, namely 54 percent of soybean oil, then an additional expansion of the global soybean crop area to 2050 covers 96 million hectares. If the additional needs for vegetable oil are met from 25 percent of rapeseed oil, then an additional expansion of rapeseed crop area is needed by 25 million hectares. Meanwhile, if 21 percent of vegetable oil is met from sunflower seed oil, an additional 21 million hectares is required.

Table 2. Global Deforestation Scenarios if Global Community Supports Palm Oil “Zero Deforestation” Towards 2050.

Plant Expansion	Additional Global Deforestation (million hectares)
Soybean	96
Rapeseed	25
Sunflower Seed	21
Total	142

In other words, if the global community agrees to “No deforestation” for oil palm plantations so that the oil palm plantations in the world are not able to expand again, then the global community will have contributed to the global deforestation of 142 million hectares for the expansion of areas of soybean, rapeseed and sunflower crops. Conversely, if the additional global needs for vegetable oil towards 2050 are met from palm oil, then it will be sufficient to expand palm oil plantations for an area of 16 million hectares. Even without additional expansion, these needs can be met by increasing the productivity of existing plantations.

CONCLUSION

Oil palm is the most efficient vegetable oil crop in land use. This is because the productivity reaches 6-10 times the productivity of other vegetable oil crops, namely soybeans, rapeseed and sunflower.

If the global community supports the NGO campaign for "No Palm Oil", "Palm Oil Free" or "Phase Out Palm Oil" in the RED II-EU policy, it will trigger an additional 167 million hectares of global deforestation for the expansion of soybeans, rapeseed, and sunflower. This is because every 10 percent decrease in global palm oil consumption (in 2020) will be paid by an additional 12-20 million hectares of global deforestation.

Meanwhile, if the global community supports the NGO campaign for “No Deforestation” on oil palm expansion towards 2050, it will trigger global deforestation of 142 million hectares which is used for the expansion of land for soybean, rapeseed, and sunflower crops to fulfilled the global vegetable oils demand by 2050.

Thus, the results of the study in this article clearly explain that the anti-palm oil NGO campaign carrying out "No Palm Oil", "Palm Oil Free", "No Deforestation" includes the policy plan "Phase Out Palm Oil" in the RED II ILUC-EU is a campaign that can lead to greater global deforestation in the future

and also against the Sustainable Development Goals (SDGs).

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