



The Giving Trees

The (Un)Sustainability of Palm Oil in Indonesia



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What do diapers, toothpaste and Oreos all have in common? They, along with almost 50 percent of packaged items in (US) supermarkets, all contain palm oil. In contrast to one hundred years ago, even fifty years ago, our modern diets are saturated with vegetable-based fats like palm, soybean and canola oils. Yet, we hardly give a second thought as to where and how these products are produced. To fully understand the implications of our consumer choices, ecologically, economically and socially, this paper will provide a case study of the Indonesian palm oil industry. It will demonstrate that over the past few decades, the growing industry has wrecked environmental, biological and social havoc that strongly contradicts Christian values of love, justice and intergenerational responsibility. It is first necessary to understand the history of oil palm in Indonesia to fully grasp the extent to which the industry threatens the environment due to deforestation and the burning of peatlands while also considering the measures the government and international NGOs have taken to increase the sustainability of the cultivation and production of palm oil. Following this illustration will be a discussion of Christian values as they pertain to this particular industry's national and global impact. Finally, Christian, political and ecological recommendations will bring forth sustainable and economically feasible solutions.

Originally indigenous to western Africa, *Elaeis guineensis*, or the oil palm tree, became a hot commodity during the British industrial revolution as its oil was used across industries, from industrial lubricant to candles. Capitalizing on the versatility of the substance, the crop was brought to Southeast Asia for industrial plantation cultivation in the 1960s.¹ The attraction to palm oil has only increased during the past few decades, particularly because of the efficiency of the crop, which yields more than ten times the oil per hectare (roughly 2.5 acres) than the next best choice of soybeans. Although oil palm trees only make up five percent of the world's

vegetable-oil farmland, it produces over 38 percent of output.² This high yield means that palm oil is a very cost effective crop, incentivizing its expansion, especially in Southeastern Asian countries, very desirable. As the palm thrives in humid, tropical climates, Malaysia and Indonesia have reaped the benefits of this crop, together producing 84 percent of global palm oil, with Indonesian taking the lead.³

The industry experienced a nine-fold increase in production between 1980 and 2010 which can be attributed to a number of factors. As the World Trade Organization required reduced subsidies for soybean oil, demand from China and India for palm oil increased while consumers also moved away from high trans-fat oils such as soybean oil to palm or canola oil. This increased demand may also be attributed to the growth of the processed food industry compared to primary agricultural products as well as the growth of population and affluence of urban areas that consume disproportionately large amounts of processed foods, oils and cosmetics.⁴ This growth is particularly noticeable in Indonesia; as their population has grown exponentially, they have now taken over India (as of 2013) as the largest consumer of palm oil, consuming over 17 percent of the global supply.⁵

It is now clear that although the oil palm is not native to Indonesia, the plant has thrived in its climate and the interest in and cultivation of it has taken off. Yet, this exponential growth was not necessarily considerate of the ecological and social sacrifices made in order for its economic success. Among the most dramatic and influential repercussions of this industry is the deforestation and burning of peatland in order to clear large tracks of land for oil palm plantations. Peatland lines the coast of the Indonesian archipelago and is made up of soil and partially decayed vegetation that has very high carbon content. Deforestation of the tropical rainforests (with dense vegetation) exposes peat as well as the natural drainage systems of the

forest.⁶ This increases the likelihood of erosion as the quality and integrity of the land is weakened which in turn increases the instability of the land for human communities and plantations as well as potential future endeavors. Palm oil along with mining and timber are the three sectors responsible for the mass deforestation seen in Indonesia, with palm oil responsible for 16 percent of recent deforestation, clearing over 10 million hectares of land, much of it peatland, and this expansion is expected to continue to increase along with demand.⁷

The truly devastating nuance of the destruction of peatland is the process by which it is carried out. Already, exposed peatland releases large amounts of carbon dioxide (CO₂) and methane (CH₄) which are both powerful greenhouse gases.⁸ To expedite and cost-effectively clear the land, farmers burn the peat, which exponentially increases carbon emissions. These fires have been estimated to add more than one billion tons of carbon emissions into the atmosphere, which have been shown to have a clear impact on the progression of climate change, not to mention the decrease in CO₂ absorption by the lost foliage.⁹ Not only do these fires (primarily the smoke and smog they create) devastate and destroy these ecosystems, flora and fauna, but they also have major impacts on human health. This includes, but is not limited to: 75 million peoples' property and livelihood negatively impacted, 500,000 people with respiratory systems related to the smoke, toxins from the soot and smoke (carbon monoxide, ammonia, formaldehyde, cyanide etc.) being released into neighboring environments and communities, correlated premature death of 11,000 adults from cardiovascular disease and immediate smoke induced headaches, dizziness and fatigue.¹⁰ This does not even include the potential long-term health risks of exposure.

It is evident that deforestation and the destruction of peatlands have numerous environmental and health concerns, yet, these are only scratching the surface. The loss of peatland and forest greatly contributes to the decline in biodiversity. A recent study showed that

this negatively impacts 16 species in Sumatra alone (the Indonesian island that contains more than half of oil palm plantations), including the endangered Sumatran tiger, elephants and rhinos.¹¹ The most well-known victim is the orangutan, which is a keystone species that plays a vital role for the health of the rest of the ecosystem. Over the past 20 years, over 90 percent of the orangutan's habitat has been destroyed in Sumatra and Borneo. The United Nations (UN) considered this a "conservation emergency," as an estimated 1,000-5,000 orangutans are killed each year due to the development of palm oil plantations.¹² The tropical rainforests of Indonesia are home to over 300,000 different species of animals and their habitats are not only being destroyed, but they are also being cut off and separated from the rest of the forests which increases their vulnerability to poaching and smuggling.¹³

If the arguments against the palm oil industry due to habitat, flora and fauna destruction are not enough, there are also plenty of examples of human exploitation and deportation. It is argued that a benefit of the palm oil industry is that it employs many poor, isolated communities in Sumatra and Borneo (the island shared with Malaysia). Yet, the negative impacts on these groups of people far outweigh the benefits. Because the government is so economically motivated, the law does not always protect the indigenous' rights to their land, and often, the corporate or government-run plantations are allowed to take their land. This perpetuates their poverty and immobilizes any kind of economic future they could have as they have been cheated from their resources.¹⁴ This industry has also been linked to extreme human rights violations, particularly child labor in rural areas. Apart from the physical trauma of intense physical labor of working in hot and humid fields for weeks on end, and little to no pay, these children are further disadvantaged because of the opportunity cost of going to school, which would have a hugely beneficial impact on their futures. These communities are more often than not left with no other

choice than to work for the same plantations that stole their land. Their working conditions are far below adequate and the pay is hardly enough to sustain them. They are practically indentured servants to the plantations and because of this dependence, they are greatly impacted by a decrease in the global price for palm oil.¹⁵

Much of the heated criticisms by international environmental NGOs focuses on the inefficiency of the Indonesian palm oil industry to convert forests to plantations. It is frequently noted that there has been an excessive amount of waste in regards to deforestation because farmers are not implementing the most efficient and advanced methods of producing oil, necessitating expansion. To perpetuate this dilemma, although demand for palm oil continues to rise, the relative growth in demand has tapered. As the oil has remains relatively cheap, and demand is no longer exploding, small farmers are unable to invest in better infrastructure and management systems. This decreases the potential productivity of the crop, which in turn lowers their potential return that could have then been invested, continuing to perpetuate the cycle of expansion versus innovation and specialization in production.¹⁶

In attempts to improve the sustainability of palm oil production, the Roundtable on Sustainable Palm Oil (RSPO), a private-sector organization was created in 2004 to bring together oil producers, processors, investors and NGOs.¹⁷ Unfortunately, the RSPO is widely considered to have falling standards and does not do nearly enough to protect a variety of vulnerable forests. This inadequate jurisdiction limits the protection of peatlands, which allows for oil to be “RSPO-certified,” yet not necessarily “deforestation-free.”¹⁸ With only 40 percent of producers certified and 30 percent of the sustainable oil sold as such, the industry was frustrated and disincentivized to produce such a product, while the product was also nearly impossible to label accurately, as much of the oil from different parts of and even different plantations is often combined.¹⁹ As a

silver lining to this darkening cloud, the current president of Indonesia, Joko Widodo, has made commitments to reduce deforestation rates and protect remaining vulnerable habitats. In an effort to challenge the “entrenched political patronage system,” which often challenges the legitimacy of government efforts, Widodo has pledged to a deforestation moratorium that will last for five years (2016-2021).^{20,21} Widodo’s efforts have already seen some success in that the Ministry of Forestry has been forced to recognize the legitimacy of indigenous claims to forest land that they ministry had illegally claimed.²² Similar to the RSPO, the government organized a sustainability policy, the Indonesian Sustainability Palm Oil (ISPO) in 2009.²³ This was created in collaboration with the UN Development Programme, and intends to implement a nationwide certification process to help smallholder farmers (who produce about 40 percent of the country’s oil) gain higher productivity in sustainable, environmentally responsible and legal manners.²⁴

In light of the theological discussions of ecology in *Loving Nature*, there are numerous Christian complaints against the Indonesian palm oil industry. The ecological trauma caused by the unsustainable development of the palm oil industry has a number of theological responses. Firstly, it would seem that Indonesia is in the midst of an economics-ecology dilemma. As a poor, developing country, their economy has improved, and even thrived thanks to the demand for and success of the palm oil industry. It is unimaginable for farmers to prioritize the environment when their quality of life has greatly increased, and will likely continue to do so. Yet, as Nash describes in his final chapter of *Loving Nature*, this is more of an argument for speedy economic growth rather than economic security or development. “Ecological protection cannot be dismissed simply as an economic liability;” it is impossible to maintain economic growth without consideration for and active involvement in protecting and preserving the environment.²⁵ In order to secure sustainable economic growth, the industry must adapt, as it

would need to do in any other threatening situation. The constant emphasis on growth, though, is morally ambiguous according to Edmund Burke, and often comes with a combination of blessings and curses.²⁶ Instead, our gaze should be shifted to that of Herman Daly's "steady-state economy," in which sustainable development is emphasized as opposed to economic growth. This theory prioritizes human well-being rather than material productivity.²⁷ Although this is an optimistic theory, it is hard to imagine that it would work in the case of Indonesia. As a developing country, it would be difficult to influence their priority of economic success. One of the only possible solutions would be for wealthier countries to support such efforts financially, politically, and even sacrificially. If Indonesia and similar countries had the full support of large and wealthy consumer countries, they would be more invested in making positive ecological changes. Nash concludes this discussion with a wise and humble evaluation; "from a Christian perspective of global solidarity and quality of human value, this situation implies limits to growth for the affluent and economic sharing with the poor."²⁸ Indonesia will have a hard time sustaining its population and economy without the exploitation of its natural resources; but it is up to wealthier countries, and we as Christians to make sustainable development a priority, in both our consumer choices and advocacy.

Another motivating argument against this destructive industry is the concept of ecological love. As Nash states, humans are the only creatures with moral agency. We have the relative freedom and rationality to act beyond instinct and choose good or evil, as Nash calls it, we are either altruistic or profligate predators.²⁹ As moral agents, we have the responsibility of frugal discernment when it comes to utilizing and accessing resources. Christian love in an ecological context demands a high level of other regard, which may at times require an element of self-sacrifice.³⁰ This love renounces the anthropocentrism that views the world as created

purely for human wants. If we view the tropical rainforests in Indonesia as a human commodity to do with as we please, we will destroy hundreds of thousands of species of plants and animals. Of course, this flora and fauna is not of equal value as humans, but we have the responsibility as altruistic predators to protect vulnerable creatures. This ecological dimension of love also encompasses love as justice and love of neighbor. As Nash states, the Christian call for love as justice is to allocate to each their own fair share. This recognizes the inherent and intrinsic value that are present in all God's creations.³¹ Therefore, we must recognize the orangutan, the Sumatran tiger and elephants, as well as the forests and ecosystems in which they reside as our neighbor in God. Our Christian responsibility is to respect, protect and love these threatened creatures.

One final call to action in *Loving Nature* that is imminently applicable to palm oil in Indonesia is our Christian responsibility to future generations. According to Nash, the real tragedy of the sustainability crisis is not only the damage done in the present, but also the often irreparable harm done to future generations.³² In addition to the Biblical duties to future generations, our predecessors can be said to have anticipatory rights, while we as the current generation have anticipatory obligations.³³ To be good, loving and responsible Christians, we must preserve and sustainably utilize the plethora of God given resources and opportunities that are available to us. The tropical rainforests in Indonesia were created to last until the end of time, and if they are so mistreated and exploited that there are less than four million hectares of peatland remaining after less than a century of deforestation, it is not hard to imagine how little time may remain.³⁴ Not only do Christians have the responsibility to preserve the environment for future *human* generations, but we are also called to preserve it for the future generations of all *biotic* creatures that call it home.

This paper provides evidence that the integrity of the ecosystems of Indonesia are being gravely threatened by deforestation for palm oil production. There have been numerous attempts by NGOs, the Indonesian government, and even individual consumers appealing to large manufacturers to produce more sustainable palm oil. Yet, despite these efforts, over ten million hectares of (primarily) thriving tropical rainforest has been destroyed and dozens of species are near the end of their viability because their habitat has been destroyed for the economic benefits of humans. Christians are called to action and compassion as we were created as moral agents with the responsibility to care for all God's creation. Through love, justice and accountability, it is possible to reverse the effects of deforestation in Indonesia, but not without great effort and dedication by all people, including, but not limited to, Christians.

Endnotes

¹ Alexandria Morel, Rachel Friedmam, Daniel J. Tulloch, and Ben Caldecott. “Stranded Assets in Palm Oil Production,” *Sustainable Finance Programme* (2016): 12, accessed February 10, 2017, http://www.smithschool.ox.ac.uk/research-programmes/stranded-assets/Stranded_Assets_in_Palm_Oil_Production.pdf.

² “The Other Oil Spill,” accessed February 10, 2016, <http://www.economist.com/node/16423833>

³ Morel et al., “Stranded Assets,” 10.

⁴ Ibid.

⁵ Ibid.

⁶ “Clearing the smoke: The causes and consequences of Indonesia’s fires,” accessed February 10, 2017, <http://blog.cifor.org/37016/clearing-the-smoke-the-causes-and-consequences-of-indonesias-fires?fnl=en>

⁷ Morel et al., “Stranded Assets,” 18.

⁸ Ibid., 28.

⁹ “Clearing the smoke.”

¹⁰ Ibid.

¹¹ Morel et al., “Stranded Assets,” 18-19.

¹² “Palm Oil,” accessed February 10, 2017, http://www.saynotopalmoil.com/Whats_the_issue.php

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Morel et al., “Stranded Assets,” 5.

¹⁷ “Palm Oil,” accessed February 9, 2017, <http://www.ucsusa.org/global-warming/stop-deforestation/drivers-of-deforestation-2016-palm-oil#.WJ7vPrGZOjR>

¹⁸ Ibid.

¹⁹ “The Other Oil Spill.”

²⁰ Morel et al., “Stranded Assets,” 5.

²¹ “Indonesia’s palm oil permit moratorium to last five years,” accessed February 15, 2017, <https://news.mongabay.com/2016/07/indonesias-palm-oil-permit-moratorium-to-last-five-years/>

²² Morel et al., “Stranded Assets,” 5.

²³ Ibid.

²⁴ “Indonesia kicks off scheme for palm oil farmers to meet new sustainability standards,” accessed February 10, 2017, <http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/02/24/indonesia-kicks-off-scheme-for-palm-oil-farmers-to-meet-new-sustainability-standards.html>

²⁵ James A. Nash, *Loving Nature: Ecological Integrity and Christian responsibility* (Nashville: Abingdon Press, 1991), 198.

²⁶ Ibid., 199.

²⁷ Ibid., 201.

²⁸ Ibid., 203.

²⁹ Ibid., 149.

³⁰ Ibid., 150.

³¹ Ibid., 167.

³² Ibid., 207-208.

³³ Ibid., 208.

³⁴ Morel et al., “Stranded Assets,” 18.