

Palm Oil Production and Protecting the Biodiversity of the Heart of **Borneo**

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Borneo is located in the country of Indonesia and is the third largest island in the world. It is primarily made up of lush rainforest, referred commonly to as “the heart of Borneo”, which is teeming with some of the most diverse plant and animal species on Earth. There are currently about 15,000 species of flowering plants, 3,000 species of trees, 221 mammal species, and 420 bird species in Borneo. Unfortunately, all of these species are in danger as the Borneo rainforest is under threat. The biggest threat to the forest is the huge production of palm oil in the area, which only leads to new problems and exacerbates existing ones.

Causes of Biodiversity Loss

~ Palm oil plantations

- Palm oil production in Indonesia has increased exponentially since 1985. Malaysia and Indonesia account for 90% of the world's palm oil production area.

~ Illegal logging, land clearing, and habitat destruction

- Most of the land is destroyed for the palm oil. Left over timber is collected and sold to make things such as sawmills. Logging is utilized by the local communities because there is not an economically developed town nearby.

~ Climate change

- Deforestation and forest degradation make up 20% of all man-made CO2 emissions.
- The point of no return in the battle against climate change is between 2035 and 2050.

Another factor:

~ Poaching

- Wildlife hunting and the illegal trade of protected wildlife is a huge business in Indonesia. The Bornean orangutan is prized at one of the highest.

Effects

~ Palm oil plantations

- Many hectares of land in Borneo have been dedicated to palm oil plantations. This has many of the same effects as logging, alongside negatively impact the region's water and terrain.

~ Illegal logging, land clearing, and habitat destruction

- These acts both directly and indirectly impact the species of Borneo. They remove habitat and kill plants/animals, and also contribute to the effects of climate change. Wildfires have become a threat of the Bornean forest as the forest is opened up by humans during logging.
- As of 2019, palm oil is to blame for 39% of forest loss in Borneo.

~ Climate change

- As global temperatures continue to rise, the marine and reptile species of Borneo will be affected severely. The entire forest will be negatively impacted as the island will become more susceptible to resulting global effects of climate change.

Another factor:

~ Poaching

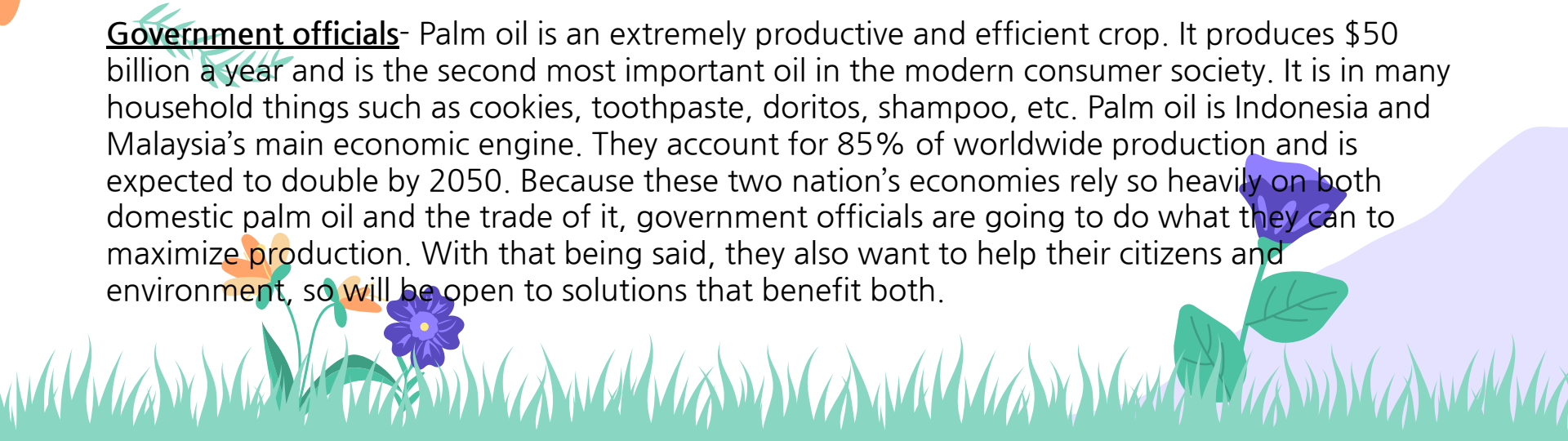
- The Bornean orangutan has been endangered since 2016. National Geographic predicts that up to 1,760 orangutans are killed in that area every year. The Sumatran orangutan is currently critically endangered, with about 7,500 left in the world.



Stakeholders

Conservation Biologists- Biologists and ecologists spend their lives researching and advocating for the conservation of natural land. Maintaining biodiversity is extremely vital to the health of our planet, and in 2020, the Living Index indicated that the decline of biodiversity over the last 50 years is 68%. Forests are crucial because they help regulate the Earth's climate by storing carbon. Destroying them accounts for a fifth of the world's greenhouse gas emissions. Conservation biologists will do anything they can to slow and eventually stop the destruction of the biodiversity in Borneo for human use.

Government officials- Palm oil is an extremely productive and efficient crop. It produces \$50 billion a year and is the second most important oil in the modern consumer society. It is in many household things such as cookies, toothpaste, doritos, shampoo, etc. Palm oil is Indonesia and Malaysia's main economic engine. They account for 85% of worldwide production and is expected to double by 2050. Because these two nation's economies rely so heavily on both domestic palm oil and the trade of it, government officials are going to do what they can to maximize production. With that being said, they also want to help their citizens and environment, so will be open to solutions that benefit both.

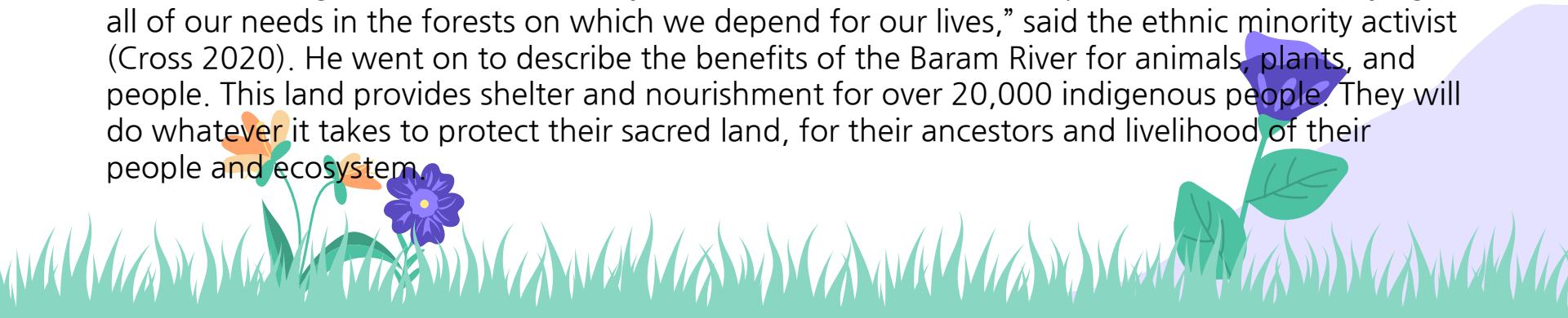




Stakeholders Continued

Palm oil production companies/ workers and palm oil consumers- Palm oil production workers do not make a ton of money being a laborer at a palm oil production, but for a lot of them, it is how they make a living. I am sure that most of them do not support the damage each plant does to the environment, but because it's their jobs, they are most likely going to be mainly interested in keeping it. The higher ups of palm oil companies are going to be interested in maximizing profit in whatever way they can.

Indigenous people- The indigenous people of Borneo rely on the rainforest to survive and are beginning to fight back the harmful actions that have been dismantling the forest for decades. They are rarely consulted by palm oil production companies (amongst others) that impede on their ancestral grounds. "It will destroy our rivers and medicines and prevent us from satisfying all of our needs in the forests on which we depend for our lives," said the ethnic minority activist (Cross 2020). He went on to describe the benefits of the Baram River for animals, plants, and people. This land provides shelter and nourishment for over 20,000 indigenous people. They will do whatever it takes to protect their sacred land, for their ancestors and livelihood of their people and ecosystem.



Who is Hurt by the Problem?

1

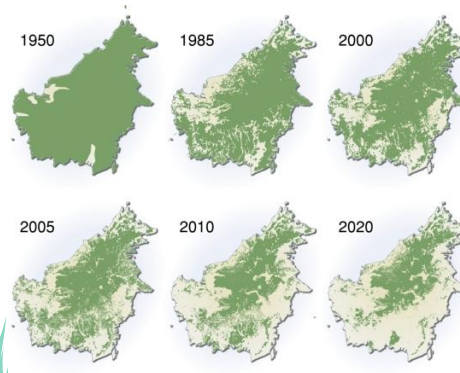
Animals

76 mammals, 219 birds, 22 reptiles and amphibians, and 31 fish are endangered or critically endangered in Borneo. Their habitats are being destroyed by the plantations and the effects of them-- fires, logging, etc.

Less than half of the forest remains today. Not only is the directly affected area being negatively impacted, but really, the whole world. Forests are natural carbon sinks, so without them, more carbon is emitted into the atmosphere.

2

Environment



3

Indigenous people

There are thousands of indigenous people living in Borneo. Their home is being destroyed and they are also facing the same negative outcomes as the animals. In 2016, smoke from a fire caused thousands of people to be hospitalized after inhaling the fumes.

Who Benefits from the Problem?

1

Palm oil companies/ workers

Palm oil takes 3-4 years to bear fruit, so many of the employees work as day laborers. Although I'm sure most of the people working at these plantations do not agree with their destructive mechanisms, they do get paid some amount of money to keep these productions going.

They also, however, get terrible working conditions, so the workers both get hurt by and benefit from the problem. Palm oil companies get to keep making money in whatever destructive way they can/want.

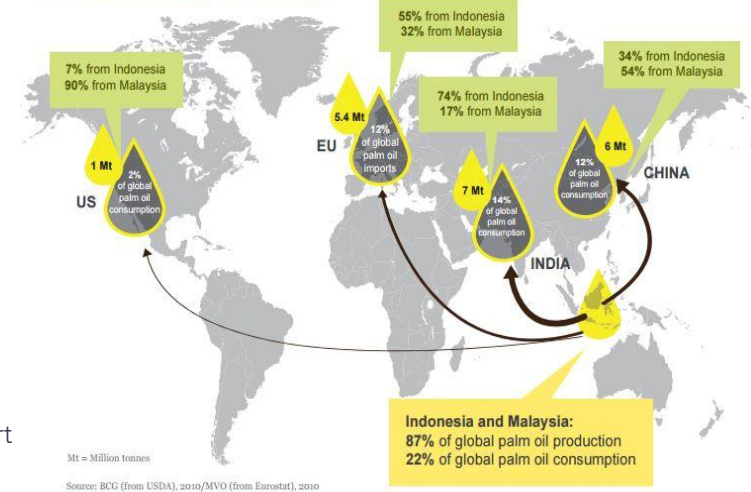
Polyneisian/ Malaysian economy, global consumers

2

Palm oil accounts for 11% of all export earnings in Indonesia and 8% in Malaysia. Monetarily, destroying the forest of Borneo to keep these numbers high benefits the government officials of the countries and their income, mostly from global trade of this oil.

Palm oil is extremely common, so countries all over the world trade for it. Malaysia is also 22% of global palm oil production...that's 20% more than the entire U.S, so they are also being benefited with direct access to a good that is in high demand.

MAJOR TRADE FLOWS OF PALM OIL



What Has Been Done?

- The biggest solution that has been put into action thus far is the pledge from the government of Sabah. They agreed to increase the amount of protected area from 23% of total area to 30% by 2025, which covers about one million acres of rainforest. Due to this agreement, a plan to build the world's largest palm oil plantation in the heart of Borneo has been halted, alongside a road network and some logging. This is definitely a step in the right direction, but it's an extremely reactive solution that seems heavily based on political expediency. All this will do is push logging and building to a different area of the forest and slow the inevitable outcomes for the biodiversity instead of stopping them completely. Keeping policies and practices like these regulated is going to be the key... a one time deal will not have enough impact.
- Another proposed solution that has not been super impactful is the certification standards launched by the WWF called the RSPO- the Roundtable on Sustainable Palm Oil. The criteria that it sets would reduce the negative effects of palm tree crops, which is where palm oil comes from. It does so by establishing harsh production standards to each stage of the palm oil manufacturing process. This would be a great solution, however it only affects the companies that get certified, which as of now is a small number to begin with. In fact, RSPO almost never tracks the suppliers to determine whether or not they actually follow the policies in place. A number of suppliers still produce dirty palm oil from protected areas and treat their employees terribly. The big flaw in this system is that traders do not know this. So, consumers will blindly trade for and support the production dirty palm oil.

There are also a lot of nonprofits that are raising money to protect the forest of Borneo! Some examples include Rainforest Trust, Borneo Nature Foundation, Save the Orangutan, etc.

My Proposed Solutions




Required RSPO certification of all palm oil that goes international	Global tax on use and trade of unsustainable palm oil	Carbon capture technologies alongside reforestation
<ul style="list-style-type: none">• If governments and institutions around the world would require that all palm oil that is traded internationally be RSPO certified, this will help ensure that palm oil will not be produced at the expense of any biodiversity anywhere in the world.• Consumers will also be more in the light about companies that sell dirty palm oil because it will be illegal for them to do so.	<ul style="list-style-type: none">• With every country having the current opportunity to get RSPO certified, taxing the use and trade of unsustainable palm oil would act as an incentive to get certified.• Distributing unsustainable palm oil will be taxed which will attack the source of dirty palm oil, and taxing the use dirty palm oil will also ensure that consumer countries do not get their palm oil from a dirty production company. The dirty companies will take a financial hit and either sell out or get certified.	<ul style="list-style-type: none">• Carbon capture technologies essentially separate carbon dioxide from gases that are produced in industrial and electrical processes. The carbon that would normally be released into the atmosphere is then transported via pipeline and stored deep inside the ground. Utilizing this method alongside a government issued incentive to reforest the at least 30% of the lost rainforest will restore habitat while mitigating the negative effects of the palm oil plants.

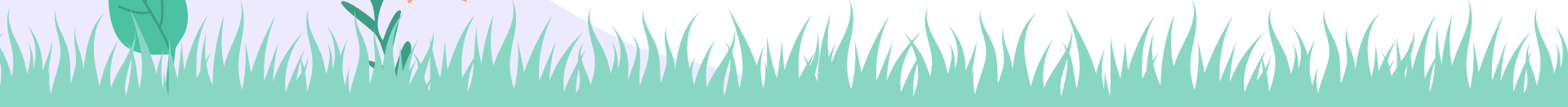





I have chosen to move forward with implementing a global tax on the use and trade of unsustainable palm oil, meaning palm oil made by production companies that are not RSPO certified.



I have chosen this solution over the other two because it is the most solutionary and most feasible. It attacks the problem of overexploitation of palm oil in Borneo at its source by acting as an incentive for palm oil companies to get certified to maintain business. It essentially builds on the RSPO certification to make it 10x more impactful and more reliable. This plan will also make sure that consumers only buy from companies that are certified because the use of dirty palm oil will also be taxed. This is solutionary because it is proactive, efficient, and benefits the environment, wildlife, humans, and the economy of these two countries. This is also more feasible than my other solutions. Requiring a certification for all international oil would not solve any domestic part of the problem, and carbon captures are still a developing technology. Carbon capturing also does not attack the palm oil production problem at its source.



Steps and timeline

Year one



Governments + WWF

The World Wildlife Fund would make their certification more well known amongst global leaders. They would explain the benefits and why it is not working as well as they had hoped.

Year three



Decide on details

Global leaders, the WWF, and other NGOs would discuss details. This would include how much the tax would be, when to implement it, how long until environmental healing would be noticeable, etc.

Year four



Implement

After talking details and maybe some editing of the certification, the tax will be implemented.

Year four



Observe

Keep count of the amount of production companies that get certified and track all of the palm oil trade. Observe for fraud, makes changes where needed, etc.

Projected Outcomes



Government

The Malaysian and Indonesian economy will remain the same after the initial switch to sustainable palm oil production. They will do whatever it takes to keep their countries afloat, and the way to do that will be to get production companies certified.



Palm oil companies/ workers

The outcome of every palm oil company depends on how each one goes about the tax. If they abide, they will have to go through the steps to transition to sustainable palm oil, which will take time and money. But, their profit will not decrease after this stage is complete. However, if they do not abide, they will be heavily taxed, lose money, and risk losing their business altogether. The workers will benefit because they will get better working conditions, as stated in the certification requirements.



Indigenous people

The indigenous people will watch their land heal as the environment is replenished. They will also be happy to know that a part of the RSPO requirements is that they cannot build upon land without consent.



Biologists

Biologists will be happy to see that a WWF plan was implemented worldwide. This plan will help replenish the rainforest of Borneo and protect what land, biodiversity, and resources would've been lost.



Consumers

Consumers of palm oil will be more careful with where they get their palm oil from. This means more work on their part, but because palm oil is so necessary, they will abide.



Environment

The environment will be replenished in the following years and protected from further damage.



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