Forum: Economic and Social Council

Issue: The question of the effects of palm oil plantations in the South East Asian rainforests

Student Officer: Abhigyan Lahiri

Position: Deputy President

Introduction

*Elaeis guineensis*, commonly known as the oil palm, was introduced to Southeast Asia as an ornamental crop over a 100 years ago. Today, this crop has become the source of the world’s most popular - yet heavily contentious - vegetable oil. Palm oil, which fulfils over 30% of the global requirement for vegetable oil, is a biofuel that is also used to manufacture roughly 50% of all packaged products ranging from food, cosmetics and pharmaceutical products. In order to fulfil the ever increasing demand, the production of palm oil has increased significantly, doubling from approximately 35 million tonnes in 2005 to almost 70 million tonnes in 2018.

This rapid increase in palm oil production to meet demand has raised concern in recent years. Various studies indicate that rainforests in Southeast Asia have been cleared to accommodate the increase in the number and size of palm oil plantations. These studies further imply that unsustainable palm oil production not only harms the environment via large scale deforestation, but also leads to the destruction of the habitats of endemic species such as the orangutan.

However, the results of these studies are widely contested by palm oil producing countries - most prominently Indonesia and Malaysia, which produce 85% of the global supply. Governments in these countries claim that the negative environmental impact of palm oil plantations have been unfairly exaggerated, while also optimising the sustainability of the palm oil industry by creating laws and imposing strict guidelines and certification standards in accordance with international regulatory bodies like the Roundtable on Sustainable Palm Oil (RSPO).

Despite these efforts, the conflict regarding the impact of palm oil plantations on Southeast Asian Rainforests continues. This is evident by the recent escalation of tension between the European Union (EU) and palm oil producing countries after the former recommended banning the use of palm oil as a biofuel, citing environmental concerns as the primary reason.
Definition of Key Terms

Palm Oil

A vegetable oil extracted from the mesocarp of the oil palm fruit. It is a versatile resource and is heavily used in industries like food processing and cosmetics, and is also used as a biofuel.

Rainforest

A tall dense jungle that receives ample rainfall throughout the year. These forests have unique ecosystems that support a rich biodiversity and help maintain a carbon dioxide oxygen balance in the environment. Vast areas of rainforests have been cleared in recent years to get access to the fertile and nutrient rich soil, timber, and other resources for industries and agriculture.

Deforestation

The permanent clearing for forests through means like cutting and burning in order to use the land for other purposes. This causes loss of vegetation, destruction of natural habitats and contributes to environmental problems including air pollution and climate change.

Vegetable Oil

Oil extracted primarily from seeds or fruits of various plants including oil palm, soya-bean, rapeseed and sunflower. It is an important and versatile resource as it is used to manufacture products like food, biofuel and cosmetics.

Smallholders

Farmers who grow oil palms, along with subsistence crops, on farms smaller than 50 hectares. The farm is cultivated by the farmer’s family and is the principal source of income.

Sustainable Palm Oil

Palm oil produced by plantations which have been independently audited and certified in accordance with RSPO standards. The criteria includes transparency, viability, and responsibility towards the environment and workers.

Biofuel
A fuel that is derived by modern processes from biomass in contrast to fossil fuels which are derived via geological processes. Ex - Ethanol (from sugarcane), Biodiesel (from vegetable oils), Green Diesel (from algae)

Background Information

Importance of Palm Oil

Palm oil is an essential resource in modern industry owing to its versatility, efficiency and economic profitability. These factors make it practically impossible to completely stop using palm oil and thus by extension necessitate the existence of palm oil plantations

Versatility

Palm oil’s chemical composition as an antioxidant rich preservative is one of the driving factors behind its versatility and popularity. Palm oil is an important ingredient in over half of the packaged goods used in the world, including both food and non-food items. The major industries that use palm oil and its derivatives include biofuel, cosmetics, consumer retail food manufacturing, pharmaceutical and animal feed. Aside from its major large scale industrial use, palm oil is also used on a much smaller scale in homes as a cooking oil. Palm oil’s chemical composition as an antioxidant rich preservative is one of the driving factors behind its versatility and popularity.

Efficiency

The oil palm is harvested throughout the year, which makes it a very popular crop among smallholders that depend on their plantations for their livelihood. Furthermore, palm oil has an average yield of about 3.7 tonnes per hectare, which is around 10 times more than alternative vegetable oils like soya-bean oil and rapeseed oil. This means the oil palm plantations require roughly 10% of the land and other resources, such as pesticides and fertilisers, to produce the same amount of vegetable oil through other sources. Finally, palm oil only requires about $\frac{1}{6}$ the energy used to produce other vegetable oils, making it an extremely energy efficient resource.

Economic Profitability

Oil palms are highly profitable and viable crops for the 3 million smallholders and small scale farmers who supply 40% of the world’s palm oil. Palm oil is further profitable on a large scale as the industry accounts for 2-4% of the GDP in countries like Malaysia and Indonesia where the industry has contributed over 50 Billion USD in recent years. Palm oil is also an important export for countries that produce it and brings 18 Billion USD in foreign exchange annually in Indonesia alone.
Environmental Impact of Palm Oil

Despite its many strengths as a vegetable oil, the usage of palm oil is a contentious issue as several studies have linked palm oil plantations to the destruction of rainforests in Southeast Asian producer countries. Deforestation, pollution and the endangerment of endemic species are the main areas of concern over the environmental impact of palm oil. These negative impacts have further created diplomatic tensions between the EU and the major producers of palm oil, i.e. Indonesia and Malaysia.

Deforestation

Palm oil plantations currently cover approximately 27 million hectares of the earth’s surface at present and this number has been on the rise in recent years. Due to the value of the resource and the rapidly increasing demand for it, expansion of the Palm oil industry has led to deforestation in recent years, as new and expanding plantations encroach on rainforest land. A European Commission study conducted in 2013 concluded that at total of 5.5 Million hectares of rainforest land was lost to oil palm plantations between 1990 and 2008. More recently, an investigation by Greenpeace assessed that 25 palm oil producing companies cleared 130,000 hectares of rainforest in Indonesia since 2015.

Pollution

Oil palm plantations have also been linked with increasing levels of pollution and accelerated climate change in Southeast Asian Countries. It is believed that one of the ways rainforest lands are cleared for palm oil plantation is by burning existing vegetation. This slash and burn method of agriculture contributes to large amounts of carbon dioxide pollution in Southeast Asia. According to a study by the Ecole Polytechnique Fédérale de Lausanne, one hectare of rainforest land converted to palm oil plantation loses 174 tonnes of carbon, most of which is released into the air as carbon dioxide. Furthermore, post-harvest, the peat rich plantations are highly flammable, which often leads to unintentional landscape fires, which further pollute the region. These fires result in cyclic events of haze which blankets the region for months. The adverse effects of this pollution are extremely drastic with over 100,000 lives being claimed across Indonesia, Malaysia and Singapore as a result of the Haze Crisis in 2015.

Endangerment of Endemic Species

The loss of rainforests in Southeast Asia has resulted in the loss of habitat for several endemic species including the orangutan and the Sumatran Tiger. This loss of habitat on a large scale has led to the endangerment of these species, putting them at the risk of extinction. According to studies by the World Wide Fund for Nature (WWF), the orang-utan population has dropped by as much as 30% in Malaysian Palm Oil Estate forests, with at least 650 orang-utans lost between 2002 and 2017. The Plantations support considerably less biodiversity than the rainforests they replace, this gives rise to the green desert.
phenomenon where a large area is saturated with very limited vegetation and wildlife, inhibiting the biodiversity of the entire region.

**Counterclaims defending palm oil plantations**

Though the claims against palm oil plantations originate from studies by reputable and credible sources, governments in palm oil producing nations, especially Malaysia and Indonesia, widely contest these claims. These counterclaims are made on the basis of independent studies conducted more recently and recent improvements that make the industry a lot more sustainable. Furthermore these counterclaims emphasise the fact that palm oil is better for the environment than any other viable alternative. For instance, a September 2016 study conducted in Germany by the WWF studied the consequences of replacing palm oil with substitutes and concluded that doing so worsens the environmental problems. The major factor of concern when using substitutes is that most of them use up to 10 times the land and resources used by oil palms and are thus worse for the environment. In October 2018, the Malaysian Minister of Primary Industries announced a halt on the expansion of palm oil plantations to ensure that the country’s forest cover remains above 50%. Furthermore, certification by independent international organisations like the RSPO, which include several stakeholders of the industry, ensure that operation in the palm oil plantations are sustainable and have minimum impact on the environment. The RSPO’s updated Principles and Criteria is an 8 point list that ensures accurate certification of sustainable palm oil from plantations deemed sustainable by a plethora of stakeholders. All of these factors provide evidence that despite its adverse impacts on the environment palm oil is more sustainable and eco-friendly than any alternative and measures are continuously being taken to further optimise the sustainability of the industry and reduce its impact on the environment.
Major Countries and Organizations Involved

RSPO

The Roundtable for Sustainable Palm Oil is an independent international non-profit organisation that consists of stakeholders from the 7 sectors of the palm oil industry namely producers, traders, goods manufacturers, retailers, investors, and socio environmental Non Governmental Organisations (NGOs). The RSPO is also responsible for the development and implementation of global standards of sustainable palm oil. The organisation has more than 4,000 members worldwide who are committed to produce or use sustainable palm oil certified by the RSPO. The members involved in some capacity with the RSPO are an extremely diverse group ranging from NGOs like the World Wide Fund for Nature (WWF), Conservation International and Borneo Conservation Trust to multinational corporations like Unilever, Danone and HSBC Holdings PLC, all of which work towards their common goal of rainforest conservation and the promotion of sustainable palm oil.

EU

The European Union is the second largest importer of palm oil after India, using as much as 7.7 million tonnes of palm oil in 2017 alone. Almost two thirds of all palm oil is used as biofuel in the EU. However recent concern over the adverse environmental impact of palm oil plantations has convinced the
EU to place restrictions on the import of palm oil as a biofuel and ban all subsidies for the same. It is believed that is the first step taken by the EU to limit the use of palm oil in the region and phase it out completely by 2030.

**France**

France has been exceptionally vocal in voicing its concerns about the adverse impacts of palm oil. As part of 2019 Finance Bill, the French National Assembly voted to exclude the use of palm oil as biodiesel feedstock and to end tax incentives for the same by 2020 in an attempt to phase out palm oil from biodiesels. This was one of the factors that led to the EU imposing restrictions on palm oil imports and was thus met with hostility in countries like Malaysia and Indonesia. More recently however, Frederic Laplanche, the French Ambassador to Malaysia, acknowledged the efforts taken by the local government to rectify the environmental problems caused by palm oil plantations and ensured that there will be no total ban imposed against palm oil in either France or the EU as a whole.

**Indonesia**

Indonesia is the largest producer of palm oil in the world. Palm oil plantations are often held responsible for multiple environmental crises in the country including the Haze Crisis of 2015 and has made Indonesia one of the most polluted countries in the world. In the midst of the EU imposing restrictions on palm oil, Indonesia has defended palm oil plantations and has recently called on the industry within the country to avoid sharing information and releasing plantation information, making the industry more opaque. Indonesia is also considering the stoppage of all palm oil exports to the EU in retaliation of the restrictions, an action that would drastically impact several local European industries, weakening the EU economically in the process.

**Malaysia**

Malaysia is the second largest producer of palm oil in the world. Malaysia has also launched several campaigns, including the “Love MY Palm Oil”, spreading consumer awareness about the benefits of palm oil. The Malaysian government has also taken measures to defend palm oil against criticism and has announced that it will file an official complaint against the EU at the World Trade Organisation (WTO) over the restrictions imposed on palm oil. Malaysia is also planning to take retaliatory action against the EU by stopping all EU imports in the country, an action that would not only harm European companies and inconvenience Malaysian consumers, but also give rise to a trade war that will hurt both regions' economies.

**Colombia**
Colombia is the fourth largest producer of palm oil in the world, and the biggest producer outside of Asia, accounting for about 2% of global palm oil production. Columbian palm oil is unique and differentiated as claimed by Fedepalma, the national palm oil trading group. What sets Colombian palm oil aside is the fact that the country has 44 million hectares of under-utilised, already degraded land to develop it without causing any deforestation.

**Timeline of Events**

<table>
<thead>
<tr>
<th>Date</th>
<th>Description of event</th>
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<tbody>
<tr>
<td>1911</td>
<td>Adrien Hallet sets up the first commercial palm oil plantation in Indonesia</td>
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<tr>
<td>1917</td>
<td>Malaysia's first commercial palm oil plantation is set up at Elmina Estate</td>
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<tr>
<td>October 1997</td>
<td>Forest fires, believed to be caused as a result of deforestation, erupt in Indonesia</td>
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<tr>
<td>8 April 2004</td>
<td>RSPO is established under Article 60 of the Swiss Civil Code</td>
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<tr>
<td>2007</td>
<td>A United Nations Environment Programme (UNEP) report claims that forest clearing for oil palm plantations is the leading cause of deforestation in Indonesia</td>
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<tr>
<td>10 November 2016</td>
<td>A new UNEP report urges all stakeholders of the palm oil Industry to work together to save the great apes that lose their habitat as a result of the expansion of plantations</td>
</tr>
<tr>
<td>13 March 2019</td>
<td>The EU classifies palm oil as an unsustainable bio fuel and bans subsidies</td>
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**Relevant UN Treaties and Events**

There are no directly relevant treaties or events regarding the negative impacts of palm oil in Southeast Asian rainforests have occurred in the United Nations as it is an issue that has very recently garnered mass attention and many resolutions would soon be drafted to solve this multifaceted problem.

However, the United Nations has passed the following resolutions in the last two decades that are pertinent to the issue of deforestation and the protection of rainforests

- Resolutions and Decisions of the Economic and Social Council, 18 October 2000 (**E/2000/35**)
This ECOSOC Resolution established provisions for the creation of the United Nations Forum on Forests (UNFOF), an active forum working to strengthen political commitment to the management, conservation and sustainable development of all types of forests.
The Hague International Model United Nations, Singapore 2019 | XV Annual Session


  This recently adopted resolution aimed at halting deforestation and forest degradation while mandating the UNFOF to support the United Nations Sustainable Development Goals (UNSDGs) related to forests through the promotion of sustainable forest management initiatives.

Previous Attempts to Solve the Issue

A recent attempt to solve the issue of the negative impacts of palm oil plantations has been to boycott palm oil altogether. With many brands advertising “palm oil free” as an important feature of their product, the boycott has gained popular support and palm oil’s reputation has taken a hit. However, the major problem with this approach is the necessity of vegetable oil in the manufacturing industry. In the absence of palm oil, food and cosmetic brands turn to substitutes like soybean and rapeseed, both of which have production rates lower than oil palms. This not only wastes more land and resources, but also raises the price of consumer goods, negatively impacting both the environment and the consumers. Furthermore, this causes the stock of palm oil to fall and creates a situation wherein smallholders suffer and lose their sole mode of income.

In response to this growing anti palm oil sentiment, the governments in palm oil producing countries have also been actively advocating for sustainable palm oil through campaigns like “Love MY Palm Oil” which also aim to educate consumers about the entire process of palm oil production and quell any misconceptions regarding the same. Governments have also been helped by collectives of palm oil producing smallholders, the most popular one of which is Faces of Palm Oil. This group of approximately 650,000 small farmers has recently become the face of Malaysian palm oil and is being prepared to campaign in Europe and other international forums according to reports. A large impact from this can also be seen on social media as parties from both sides have been actively voicing their opinions on various platforms which further creates and promotes conversation around this topic and inspires compromises and solutions on both sides.

Another attempt to solve the problem has been certification by relevant authorities. The most unbiased and independent out of these is the RSPO, however both Indonesia and Malaysia have their own certification systems in place as well. While only RSPO certified palm oil is considered truly sustainable, only around 20% of the palm oil produced today is certified by the RSPO. Reports show that a significant percentage of the remaining 80% of palm oil is also sustainable; however, a large part of it
is produced by smallholders who cannot afford the expensive process of certification. Certified palm oil also costs significantly more which means that consumers and industries are hesitant to use it as it would cut into their profits. Unless the process of certification, and certified palm oil itself are made more cost effective, people will continue to use unsustainable palm oil and there will be no major improvement.

Possible Solutions

The simplest and primary step towards solving the issue would be educating all stakeholders of the industry and clearing any misconceptions they may have about palm oil and its impact on the environment. This would allow mutual cooperation and underline the major problems that needs to be solved within the industry. The next step would be the creation of a more accessible certification system, so that smallholders can certify their sustainable palm oil and more accurate figures regarding the sustainability of the industry are made available. Consumers must also be incentivised to use certified sustainable palm oil which can be done through subsidies or other benefits. The governments in countries like Malaysia and Indonesia must develop and implement regulations to restrict the expansion of Palm oil plantations and ensure that the impact on the environment is minimal. Furthermore, to alleviate the damage that has already been caused thus far, the governments should implement extensive reforestation and afforestation programs, some parts of which could be funded or carried out by companies producing and utilising palm oil, as part of their corporate social responsibility.

While there are no conventional natural substitutes for palm oil, there have been attempts to create unconventional alternatives for palm oil. Any commercially viable substitute for palm oil will further be an extremely precious resource and will be in high demand due to its utility, which incentivises not only academic researchers but also multinational corporations and even entire governments to invest resources into the search for an alternative. The first partially successful attempt was made by Ecover a green cleaning company that used an algae as a substitute for palm oil in one of their detergents, however the company faced public backlash as it was revealed they were using a genetically modified form of the algae which is a highly controversial technology in itself. Similarly, scientists in Abu Dhabi were working on algae that naturally produces large amounts of palmitic acid, a fatty acid which is a major component of palm oil. This alternative also has its own drawbacks as research is in the initial stages with low volumes of output and the costs involved with larger outputs are still unclear, making it a potential long term solution rather than a rapid substitute. Finally, the most potentially feasible solution available is being developed by Dr Chris Chuck, at the University of Bath, who is working on creating a palm oil alternative using yeast. Metschnikowia pulcherrima is a variety of yeast that produces an oil with
properties similar to palm oil. This fungus can further be cultivated on various types of municipal waste and agricultural residue which further reduces the land required and minimises the scope for the destruction of rainforests. This project is expected to be completed by 31 March 2020, after which more time will be required if mass production is to be undergone.

Palm oil is thus, despite all its advantages, a resource that will, for the foreseeable future, impact rainforests and other environmental factors in some way or the other. While it is much better than its substitutes, it is still a vegetable oil and thus not an extremely efficient fuel at the present time. Research and development is necessary in the field not only to continually optimise the palm oil industry to minimise its environmental impact, but also to find better alternatives that have all the advantages of palm oil with very few, if any, disadvantages.
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