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UNEP STUDY GUIDE

TOPIC A: RECYCLING OR JUST ANOTHER TRASH MOUNTAIN? - THE REALITY OF RECYCLING PLASTIC

TOPIC B: LONGLINE FISHING AND DRIFT NETS: INHUMANE AQUATIC MASSACRE OR AN EFFECTIVE FISHING METHOD?



**United Nations
Environment Programme**



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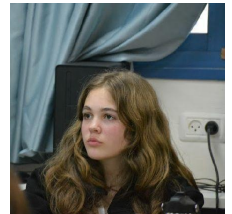
CHAIR LETTER

Dear Delegates, We are very excited and look forward to welcoming you to our UNEP Committee in ATIDMUN 2024! Our committee, the United Nations Environment Program (UNEP), is essential in addressing some of the world's most pressing issues.

UNEP's mission is to encourage leadership and care for the environment. We will work to improve our quality of life without compromising it for future generations. Our committee's significance lies in its efforts to generate resolutions and offer diplomatic solutions to conflicts that often involve complex political and cultural dimensions. By tackling subjects ranging from the "waste trade phenomenon" and plastic use in developed countries to the dangers and consequences of longline fishing, UNEP plays a vital role in informing nations on improving the quality of life globally for us and in the future.

Our first topic is "the reality of recycling plastic," and our second is "Longline fishing and drift nets - inhumane aquatic massacre or effective fishing method? ". Both topics have long and complex backgrounds, pose significant challenges in our modern world, and require creative and innovative resolutions. We cannot wait to hear the ideas and solutions you will bring to the table. If you have any questions regarding the committee or the topics, please contact us; we would be happy to help.

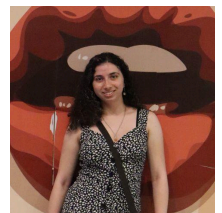
Rotem Tsadok; phone number - +972 0548899259, email - rotemt102@gmail.com



Yair Ziv-Av ; phone number - +972 0549175548 , email - yairzivav@gmail.com



Mika Isaacs ; phone number - +972 0548808864 , email - mikaisaacs11@gmail.com





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INTRODUCTION TO THE UNEP COMMITTEE

The United Nations Environmental Program (or UNEP for short) was established on June 5th, 1972, by Maurice Strong as the leading global authority on the environment and response to environmental issues. Among UNEP's responsibilities are conducting global environmental assessments to monitor and evaluate environmental trends and conditions and providing early warnings about potential threats. UNEP also plays a significant role in formulating international environmental policies and supporting the implementation of these policies at the national level.

Another core responsibility of UNEP is capacity building and technology transfer, which involves enhancing the ability of countries to manage environmental challenges effectively and facilitating the transfer of environmentally sound technologies. UNEP also emphasizes the importance of coordination and collaboration, promoting international cooperation on environmental issues and coordinating activities related to the environment across the UN system. Raising public awareness and advocating for sustainable environmental practices are also key elements of UNEP's mandate. UNEP also supports international treaties and agreements, advocating for their adoption and implementation, and focuses on capacity building to enhance the abilities of countries to address environmental challenges.

UNEP's membership includes all United Nations member states, Various subsidiary bodies and committees within UNEP also include representatives from member states, experts, and stakeholders from non-governmental organizations and private sector.

The mandate of UNEP is to provide leadership and encourage partnerships in caring for the environment. UNEP aims to inspire, inform, and enable nations and people to improve their quality of life without compromising that of future generations. It also facilitates international cooperation and action on environmental issues.

Conversely, there are certain practices UNEP avoids or doesn't have the authority to do, and it's important for you to know what to expect:

- UNEP does not have the authority to enforce environmental laws or regulations. It can advocate for, promote, and assist in the development and implementation of environmental policies and treaties, but it lacks the legal power to enforce compliance.



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Enforcement typically falls within the jurisdiction of national governments or other international bodies.

- UNEP cannot create or impose international laws. It can facilitate negotiations and help develop international environmental agreements, but the adoption and ratification of these agreements are the prerogatives of sovereign states.
- As a UN body, UNEP must maintain political neutrality and cannot engage in activities that might be seen as taking sides in political disputes. This can sometimes limit its ability to address environmental issues that are intertwined with political conflicts.



TOPIC A - RECYCLING OR JUST ANOTHER TRASH MOUNTAIN? - THE REALITY OF RECYCLING PLASTIC

BACKGROUND OF THE ISSUE

Plastics are synthetic, polymer materials. The first synthetic plastic (plastics made out of materials not found in nature, as we know them today) was first made in 1907 by Leo Baekeland and was called Bakelite., although the origins of plastics date back to the mid-19th century. The 20th century saw many important developments in the world of plastics, such as the invention of nylon and polyester. During these times the use of plastic and especially synthetic plastic was highly increased., such as in replacing silk in parachutes, ropes, and more with nylon along with the replacement of glass in airplanes with Lexan polycarbonate or acrylic plastics. During World War II, plastic production in the United States increased by 300%. The production of plastics was greatly increased as WWII made the necessity for cheap and sturdy materials pressing, and the need to preserve scarce natural resources made the production of synthetic alternatives a priority.

Plastics surged into our culture in the 1950s as a part of the economic boom after World War II, as production at the time of the war and the American public was ready to spend again after the great depression before the war. In summary, the people were prepared to spend a lot of money, and there was a lot of plastic to be bought. And when there is supply and there is demand, marketing will ensue: Plastics were presented as a cheap, effective, flexible, yet strong, and overall a great alternative for many products and manufacturing materials. Plastic was presented as a super material to the entire world (but it was the most severe in the US), with many pro-plastics advertisements and campaigns such as the “Plastic makes it possible” campaign and the many others who pushed everything from plastic baggies for food storage to self-care products, interior decorations, clothing, and even more, and people bought it, plastic became infused with almost every aspect of the global consumer society. Plastics drove out conventional materials in product after product and market after market, replacing steel in vehicles, paper and glass in packaging, and wood in decor.





However, the hype around plastic didn't last long. In fact, it greatly decreased in the 1960s and 1970s due to several reasons:

1. Plastic debris started emerging in our oceans in the 1960s, which was the first sign the public got that plastic is very hard to get rid of and recycling/dumping isn't going to help.
2. Rachel Carson's 1962 book, *Silent Spring*, exposed the dangers of chemical pesticides and raised concerns about pollution.
3. The 1969 Santa Barbara Oil Spill was a slap in the face of the American public and, by extension, the world, as it was an absolute environmental disaster, which made awareness of the state of the environment much greater.
4. Many environmental movements led to the foundation of many environmental agencies, such as EPA (Environmental Protection Agency) in 1970, EPA (Environmental Protection Authority) in 1971, UNEP in 1972, and the Directorate-General Environment (DG ENV) in 1973. All these environmental agencies raised awareness of pollution.
5. The International Convention for the Prevention of Pollution from Ships (The MARPOL 73/78) made world governments bring great attention to polluting the ocean and waste dumping (which were the main ways of getting rid of plastic at the time). It shed light on how unsustainable they are and their effects on our planet.

Not all of these things mentioned above directly have something to do with plastic. Still, they all raised the global society's awareness of pollution, and the way waste disposal was done at the time was incredibly unsustainable. As awareness about these environmental issues spread, the persistence of plastic waste began to trouble observers. When governments caught wind of the danger plastic posed to the environment, many decided to heavily regulate it in hopes of preventing further damage.

Plastic's reputation fell further in the late 1970s and 1980s as anxiety about waste increased and regulations followed suit. Plastic became a special target because, while so many plastic products are disposable, plastic lasts forever in the environment. This made the plastics industry search for a way to improve/repair its image (which evolved into a unreliable and environmentally damaging industry) and make its products seem more eco-friendly, its solution was recycling.



In the 1980s, the plastics industry started pushing the idea of recycling plastic to cities and governments worldwide. However, the plastic recycling process is far from perfect (more details in the current situation section), and the vast majority of plastic waste still ends up in landfills or our environment. The plastic industry lobbied American municipalities to launch or expand plastic waste collection programs and lobbied U.S. states to require the labeling of plastic containers and products with recycling symbols. “No doubt about it, legislation [restricting plastics] is the single most important reason why we are looking at recycling,” said Wayne Pearson, the then-executive director of the Plastics Recycling Foundation, an initiative that 45 companies such as Coca-Cola and Pepsi formed in the mid-1980s. The industry similarly established the Council for Solid Waste Solutions to promote recycling programs and infrastructure. Around the same time, society also pushed incineration, the process of burning non perishable materials, which releases air pollution, as “really a form of recycling,” but it was not. Recycling was also referred to as a “guilt eraser,” as outright bans on polystyrene packaging were dropped with a promise of recycling by industry.

In summary, the public image of the plastic industry was looking bad in the 1970s and 1980s, so the plastics industry told the public that plastic is recyclable, and that recycling would solve the problem, and it worked; its public image was pretty much fixed. However, the plastics industry had to lie and lobby politicians to get this result.

Globalization hit the world of recycling in the 1990s, and like the various other industries, the plastic recycling industry caught on to the fact that the cost of labor is infinitely cheaper in developing countries, as the rules and regulations regarding both labor and recycling are often looser in those countries. This led to developed nations sending their used plastics to developing nations to recycle them cheaply. This phenomenon took shape in 1933 and has been coined the “global waste trade” (or sometimes the “global recycling trade”). Many governments worldwide count items as “recycled” if they have been exported by a country via the waste trade, regardless of the quality or final result, and this practice is still going strong.

By 2016, around 14 metric tons of plastic products were exported, with China being the largest importer by far (taking about 7.3 MT of it). As plastic is used a lot in Chinese manufacturing, this was a way to import it more cheaply. Unfortunately, to further cut costs, it was recycled very



poorly with outdated technology. and high-income countries such as Germany, Japan, the United Kingdom, and the United States were the top exporters at the time.

But in 2017, China started importing less and less, and the burden it carried moved to other countries such as Vietnam, Malaysia, Turkey, and India.

Some countries that feared the negative consequences of being the next target for plastic exporters and stopping illegal plastic trade (such as Indonesia, Malaysia, and Thailand) have reinforced their borders, and illegally imported plastic was denied entry to the country, which resulted in lots of plastic accumulating at their shores.

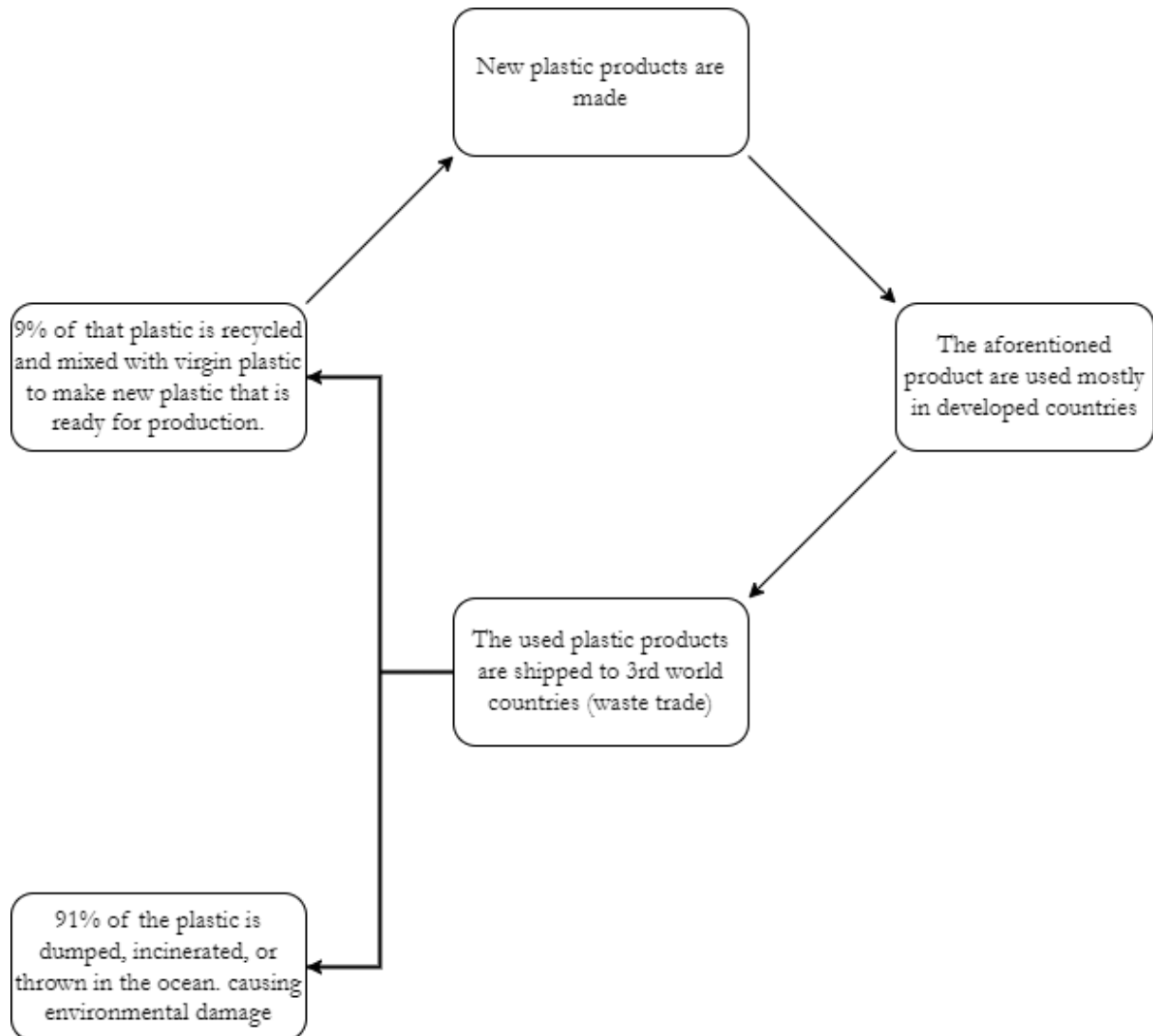
Under the Basel Convention, the worldwide commerce of plastic trash became regulated in 2019. As per the convention, any party may choose to forbid the importation of certain mixed plastic wastes as well as hazardous plastic wastes starting on January 1, 2021. Parties to the treaty are expected to make sure that their waste is managed sustainably, either by expanding capacity or finding alternate importers.



CURRENT SITUATION

Plastic Recycling Flowchart

The following flowchart describes the course of used plastic in our hands:





CHAPTER A: THE CURRENT STATE OF PLASTIC AND ITS RECYCLING:

Currently, no less than hundreds of **millions** of tons of plastic are produced yearly, with the vast majority of plastic, and plastic products being used in highly developed nations (with China, Germany, and the United States leading the pact for the last several years). Furthermore, as discussed above in the “background section”, plastic lobbyists have gotten in some way to the governments of most countries, and the solution they found to keep the image of plastic is exporting the used plastic product to be disposed of in other countries. While some of those nations on the receiving end of all that used plastic are well-developed nations such as the UK and Canada, many of those countries are 3rd world countries such as Kazakhstan, Ghana, Namibia, and more in a practice called the “Plastic Waste Trade.”. In those countries, there are facilities that deal with plastic. Most of the plastic in the facilities is deemed unsuitable and then promptly disposed of, by dumping, incineration, or just throwing it into the ocean. The slim percentage of plastics that are deemed usable is mixed with virgin plastic (new plastic) to create the next plastic product. This practice is harmful to the environment, but it still goes by the name “plastic recycling” (although very few plastics are recycled), which deceives the public. Now that may sound grim, but there are many efforts to combat or at least lessen the effects of plastic waste on the environment, such as the Global Plastic Treaty and UNEP’s own plastic initiative. Furthermore, many countries took measures to fight plastic pollution by banning single-use plastics, implementing EPR policies, and implementing deposit return schemes (like the 0.3 shekels per bottle you return).

CHAPTER B: THE WAY LARGE CORPORATIONS CONTRIBUTE TO THE PROBLEM

Large corporations contribute to the issues at hand in two main ways: the way they use plastics, and the way they wave off responsibility for their actions:

- The way large corporations use plastics:

Many large corporations/manufacturers need to mass produce and deliver enormous amounts of products and thus need a solution for single-use materials, be it if they create a product that is only used once (straws, shopping bags, plastic plates, etc) or if they need to pack their products. Plastic has solidified itself as the absolute best option for any companies single use needs for several reasons, mainly its very low-cost and very high flexibility, so it can be used for whatever the manufacturer wants. This however created amongst many companies a dependency on plastic, which encourages them to buy more and more plastic, which causes more plastic manufacturers to create more plastic, and all



this plastic ends up in the ocean or landfills at the end. Now this behavior is quite destructive for the planet.

- The way large corporations wave off responsibility for their actions:

Companies have managed to get away with their policies in several ways:

1. Lobbying - as was discussed in the history of plastics section of the study guide, a large part of the way the plastics industry even remained above water is through lobbying government agencies and politicians to loose laws and guidelines against plastic and its disposal. This has taken care of the largest threat to the plastic industry, if the government can't sanction them or shut them down, they are pretty much free to do as they please with almost no backlash. Furthermore, in addition to lessening regulations on plastic and thus the leverage the government has on them, plastic companies have also lobbied to abolish as much as they can of the EPR (Extended producer responsibilities) so they don't have to take any of the credit for the destruction their products cause.
2. GreenWashing - Now, the government may be the number 1 threat to plastic manufacturers, but the second largest is the public. If the public finds out that those companies are as bad for the environment as they are, they will be boycotted and banned.. Thus, corporations have taken steps to appear as eco-friendly as possible, straight up **lying** to the public with deceiving marketing techniques such as:
 - a. Vague or Unverifiable Claims: Using terms like "eco-friendly," "natural," or "sustainable" without clear definitions or evidence.
 - b. Focus on a Single Issue: Highlighting one small green initiative while ignoring larger environmental impacts.
 - c. False Certifications: Creating or misrepresenting certifications to imply environmental responsibility.

This is how the plastic industry has basically eliminated the government's and the public's power over them and their wasteful practices.



CHAPTER C: THE STRAIN THAT THIS ISSUE IS PUTTING ON DEVELOPING COUNTRIES:

The situation is problematic for everyone, as it hurts the environment, but due to the practice of plastic waste trade, 3rd world nations are suffering the harshest consequences.

1. Lack of money: Recycling plastic is an expensive affair that requires a lot of capital, and has an unfortunately low return. Those are 3rd world countries, they have problems such as lacking public infrastructure, public health, poverty, starvation, and education, meaning they might lack the resources to invest at plastic recycling plants as well, yet the act of plastic waste trade forces them to face the problem.
2. It's a risky business: The economics of plastic recycling in developing countries are fraught with challenges, primarily due to the volatility in the prices of virgin and recycled plastics. The market prices for these materials can fluctuate significantly based on changes in oil prices, global economic conditions, and supply and demand dynamics. When oil prices are low, virgin plastics become cheaper to produce, reducing the demand for recycled plastics and undermining the profitability of recycling businesses. This economic imbalance discourages investment in recycling infrastructure and technology, making it difficult for the sector to thrive.
3. Recycling or not, it's still trash: The practice of global plastic waste trade can overwhelm local recycling capacities, leading to environmental pollution and public health issues. Developing countries sometimes receive low-quality or contaminated plastic waste that is difficult to recycle and often ends up in landfills or is incinerated, causing significant environmental harm. The lack of stringent regulations and oversight in some developing nations exacerbates this problem, allowing the importation of problematic waste streams that strain local waste management systems. Economic incentives drive the import of plastic waste, as it can be a source of revenue and raw materials for the recycling industry. However, the long-term environmental and health costs are frequently overlooked.
4. There is no one to buy: developing countries might have limited access to international markets for their recycled products, while domestic markets may not be sufficiently developed to absorb the supply. Furthermore, manufacturers tend to prefer virgin plastics for their consistency and reliability, limiting the market for recycled materials.



QUESTIONS TO CONSIDER

1. What is the current state of plastic production and consumption within your country?
2. What are the key plastic-related policies and regulations in your country?
3. What were the **former solutions** to the problem? and did they work? Why or why not?
4. What are some steps that your country can take in order to deal with plastic waste?
5. What are some **other helpful alternatives** to plastic waste that could replace recycling?
6. What policies and incentives are in place in your country to encourage plastic recycling among consumers and businesses?
7. What are the economic implications of plastic waste for your country, including costs associated with waste management and potential revenue from recycling?
8. Is your country a net exporter or importer of plastic waste?
9. What steps is your country taking to reduce plastic consumption?
10. How does your country manage plastic waste that cannot be recycled?



SUGGESTED READING

The effects of plastic waste:

https://www.unep.org/interactives/beat-plastic-pollution/?gad_source=1&gclid=Cj0KCQjww5u2BhDeARIsALBuLnN1c27xXFeKKwSVOxQb1Ss1moWIMIFJ3ObFNVwBme8OkIIDFKukRUwaAndkEALw_wcB

plastic industry lobbying:

<https://www.opensecrets.org/federal-lobbying/clients/summary?id=D000029104>

Alternatives for recycling:

<https://www.flexico.com/en/what-are-the-alternatives-to-recycling/>

environmental movements

<https://www.pbs.org/wgbh/americanexperience/features/earth-days-modern-environmental-movement/>

Developing countries in international trade:

<https://www.un.org/en/chronicle/article/trade-and-mdgs-how-trade-can-help-developing-countries-eradicate-poverty#:~:text=Developing%20countries%20have%20to%20be,opportunities%20that%20trade%20opening%20provides.>

recycled materials in markets:

<https://www.eea.europa.eu/en/newsroom/news/markets-commonly-recycled-materials-struggle#:~:text=According%20to%20the%20EEA%20analysis,of%20materials%20for%20industrial%20use.>



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https://www.unep.org/topics/climate-action?gad_source=1&gclid=Cj0KCQjww5u2BhDeARIsALBuLnNJQAg0PloRVm0uhy2t8pVIvN88YfttTUI2O0tnvIJGvbKwyphLjvIaAnzXEALw_wcB

The History Of Plastic + Plastic's reputation, the Science History Institute:

<https://www.sciencehistory.org/education/classroom-activities/role-playing-games/case-of-plastics/history-and-future-of-plastics/#:~:text=In%201907%20Leo%20Baekeland%20invented,the%20rapidly%20electrifying%20United%20States.>

Environmental Protection Agency:

<https://www.epa.gov/>

Environmental Protection Authority:

<https://www.epa.nsw.gov.au/>

Directorate-General Environment:

<https://www.eumonitor.eu/9353000/1/j9vvik7m1c3gyxp/vg9ibcoqcoyt>

Plastic debris emerging in the ocean:

<https://www.britannica.com/science/plastic-pollution/Plastic-pollution-in-oceans-and-on-land>

Rachel Carson's 1962 book, Silent Spring

<https://www.nrdc.org/stories/story-silent-spring>

The 1969 Santa Barbara Oil Spill:

<https://www.latimes.com/local/lanow/la-me-ln-santa-barbara-oil-spill-1969-20150520-htlstory.html>

The International Convention for the Prevention of Pollution from Ships (The MARPOL 73/78)

https://hec.lrfoundation.org.uk/whats-on/marpol?gad_source=1&gclid=Cj0KCQjww5u2BhDeARIsALBuLnNEutyG_BeAnk3W6pTgOSvETLAKRkXc9u7vslcvYfmBfdzjBegpsiQaArBREALw_wcB



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Wayne Pearson and the Plastics Recycling Foundation:

<https://www.commondreams.org/news/plastics-industry-lie-recycling>

The Plastic Industry lies:

<https://www.theguardian.com/us-news/2024/feb/15/recycling-plastics-producers-report>

Global West Trade:

<https://www.breakfreefromplastic.org/waste-trade/>

The Basel Convention:

<https://www.state.gov/key-topics-office-of-environmental-quality-and-transboundary-issues/basel-convention-on-hazardous-wastes/#:~:text=Overview,wastes%20and%20certain%20other%20wastes.>

Global Plastic treaty:

<https://www.un.org/en/climatechange/nations-agree-end-plastic-pollution>

EPR Policies:

<https://www.gwp.co.uk/guides/packaging-extended-producer-responsibility-epr/#:~:text=From%202023%2C%20the%20packaging%20extended,%20more%20easily%20recycled%20materials.>

Why is plastic used?

<https://plastipol.pl/en/why-is-plastic-so-widely-used/#:~:text=and%20disadvantages%20here.-,Why%20is%20plastic%20widely%20used%20in%20the%20industry%3F,from%20packaging%20to%20automotive%20parts.>

Large corporation use of plastic

<https://www.sierraclub.org/sierra/just-five-companies-produce-nearly-25-percent-all-plastic-waste-worldwide#:~:text=Companies%20across%20the%20world%20produce,it%20back%20to%20its%20manufacturer.>

Lobbying:



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<https://www.theguardian.com/environment/2024/apr/25/fears-grow-over-rising-number-of-oil-lobbyists-at-un-plastic-pollution-talks>

GreenWashing:

<https://www.terrascope.com/blog/what-is-greenwashing-why-should-large-enterprises-care#:~:text=Greenwashing%20takes%20many%20forms%20%E2%80%93%20be,products%20appear%20more%20environmentally%20friendly.>



TOPIC B: - LONGLINE FISHING AND DRIFT NETS: INHUMANE AQUATIC MASSACRE OR AN EFFECTIVE FISHING METHOD?

BACKGROUND TO THE ISSUE

DRIFT NETS:

Drift nets are nylon nets which can reach 35 meters in height and 20 kms in length. The nets are hung vertically in the water while the marine species nearby are getting trapped in those nets.

During the 1980s, this type of gear became extremely popular due to its effectiveness, easy use and the fact that it doesn't require any type of specialization.

In 2002, the United Nations General Assembly prohibited the use of these nets and the European Union banned their use in 2013. Yet many ship owners are investing in the nets in order to keep fishing illegally.

LONGLINE FISHING:

Longline fishing, often referred to as 'hook-and-line' fishing, is a common commercial fishing method in both offshore and deep-sea environments, designed to catch a variety of fish and seafood species. Its technique is to use long and horizontal fishing lines that can reach several kilometers in length, into which numerous baited hooks are attached, as seen in the picture below. The baited fishing lines are then left to soak in the water until enough fishes are attached.





Longline fishing and drift nets, innovated as a method to efficiently target large pelagic fish like tuna and swordfish, revolutionized fishing practices. However, its worldwide adoption has resulted in significant environmental consequences. One of the most pressing issues is the unwanted capture of non-target species, known as bycatch, which includes endangered species such as sea turtles, sharks, seals and seabirds. This indiscriminate catch poses a severe threat to marine biodiversity and global health. The same problem persists with drift nets as well - drift nets are not selective; there is no way to use them to target a particular species of fish. Drift nets can catch almost everything in their path, and there are few protections for species that were never intended to be caught. In the 1950s, drift net and longline fishing became much bigger. Fishermen started using new nets made from stronger, see-through and non-biodegradable materials. The longlines also got longer, with an increasing number of hooks. Both methods are traps made to catch everything in their path.

Governments and international organizations have taken steps to address the harmful impacts of longline fishing and drift nets. Many countries have implemented regulations limiting where and when these methods can be used, as well as setting strict catch quotas. Additionally, international bodies like the UN have created protected marine areas where these fishing methods are completely banned. Marine protected areas (MPAs) are designated zones where certain human activities, like fishing, are restricted or completely prohibited. By creating MPAs in critical habitats for marine life, governments can help protect vulnerable species from becoming entangled in longlines and driftnets. These areas also allow fish populations to recover, which benefits the overall marine ecosystem. These efforts aim to protect marine life, especially vulnerable species like sea turtles and dolphins, which often become entangled in these fishing gear. However, some fishermen still fish in MPAs regardless of regulations, this solution is not yet a perfect one.

Exploring alternative fishing methods is crucial. Sustainable practices such as pole-and-line fishing, which targets specific fish species with minimal bycatch, and innovative gear designs that reduce unintended bycatch are gaining traction.



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Preserving endangered marine species requires using effective fishing methods such as setting clear fishing limits based on science, using gear that reduces accidental catches, creating safe zones in the ocean where fishing is restricted, improving monitoring to stop illegal fishing, promoting sustainable practices through education, working with other countries to protect migratory species, and investing in research. These steps help ensure that fishing is sustainable, protect marine life, and support the livelihoods of fishing communities.



CURRENT SITUATION

CHAPTER A- CONSUMERISM AND OVERFISHING

In recent years, the demand for seafood has increased, and over 7 billion people now tap into natural resources to satisfy ever-growing demands. The reason for this demand is growing affluence and population growth. Communities worldwide rely on fishing for their livelihoods and as a vital source of food and nutrition. More than a third of the global population relies on seafood as a source of protein, and 38 million people are employed in wild capture fisheries.

Brazil, Ghana, India, Mexico, and Nigeria are all expected to more than double the weight of fish they consume by 2050. China, meanwhile, will remain the biggest consumer, expanding its appetite from just over 50 million tons of fish in 2015 to just under 100 million by 2050. The growth is expected to decrease meat and dairy demand per person in countries, including China and the US, and raise the intake of iron, calcium, and vitamin B-12.

In addition, there is a fear of continuing overfishing, which is the removal of a species of fish (i.e. fishing) from a body of water at a rate greater than that at which the species can replenish its population naturally (i.e. the overexploitation of the fishery's existing fish stock), resulting in the species becoming increasingly underpopulated in that area. Sustained overfishing can lead to critical depletion, where the fish population is no longer able to sustain itself, which may soon result in the collapse of the world's fisheries. The fishing economy has become a veritable gold mine and now threatens world biodiversity.

Nevertheless, fishing takes a big part in the economic systems of many countries. Fisheries and its linked fields (e.g. packaging, transport etc.) **economically support between 10-12% of the world's population.** By limiting the fishing industry we are risking hurting 10-12% of the world population's source of income. Which is why the problem is extremely challenging to resolve, as we need a solution that sustains marine life and the ecosystem without compromising citizen's income.

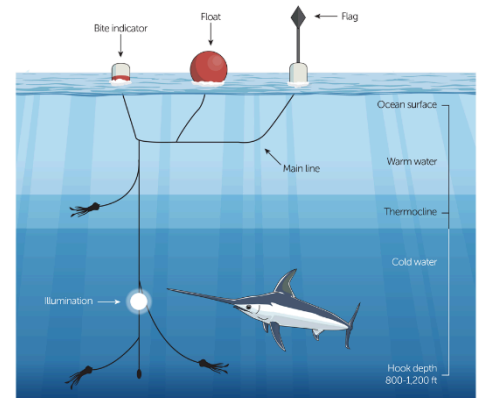
CHAPTER B- ALTERNATIVE AND SUSTAINABLE FISHING

In order to keep the fish species from going extinct, there are several ways of alternative and sustainable fishing, these include:



Buoy gear-

This is an alternative fishing method where fishermen take a line wrapped around a buoyant spool that is tethered to a weight on the bottom. When a signal is sent from the boat, the spool is released. As the spool ascends to the surface, the line unwinds from the spool. It rises to the surface where the fishing vessel can retrieve it, and the gear on the string.



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Sustainable fishing-

Sustainable fishing respects marine ecosystems and adapts to the reproductive rate of fish to maintain a balance and ensure the survival of all species. Sustainable fishing rejects the indiscriminate capture of fry (fish young) and endangered species or those without commercial value. More than a third of global fisheries have been fished beyond sustainable limits and world demand for seafood continues to grow. Sustainable fishing can reverse this decline and ensure that there are enough fish left in the sea so that fishing can take place indefinitely into the future. The long-term health of fish stocks is also vital to secure a source of nutrient-rich food to feed a growing population.

Certified sustainable wild-capture fishing can also reduce the pressure on land-based agriculture as a source of protein. Seafood also has, on average, a lower carbon footprint than land-based animal proteins. A key aspect of sustainable fishing also involves adopting precautionary measures known as harvest control rules, which require catches to be reduced if the stock population declines. This is particularly important when stocks are shared by several different countries and a collective effort is needed to prevent overfishing.

Fish stocks are also more abundant when targeted by fisheries operating sustainably than those which do not. Sustainable fishing helps maintain healthy and diverse ocean ecosystems and minimizes impacts on endangered, threatened, and protected species.

All species have a unique role within ocean ecosystems and are part of a balanced food web of predators and prey. The loss of a single species due to overfishing or excessive bycatch can have a knock-on effect across the entire food web.



QUESTIONS TO CONSIDER

1. Is your country a big supplier or buyer of seafood?
2. How much does your country rely economically on fishing?
3. What were the former solutions? Did they work? Why or why not?
4. What are some alternative methods to longline fishing and drift nets that are more sustainable?
5. What are some solutions to preserve marine life?
6. How can countries work together to protect endangered marine species without hurting economies?
7. Does your country practice sustainable fishing? What are the benefits?

SUGGESTED READING

Longline Fishing Gear: A Brief History:

<https://www.ingentaconnect.com/contentone/mts/mts/2006/00000040/00000003/art00003?crawler=true>

The current Gear and fishing restrictions:

<https://www.law.cornell.edu/cfr/text/50/660.712>

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Drift nets:

<https://europe.oceana.org/driftnets/>

Longline fishing:

<https://www.northcoastseafoods.com/blogs/sustainability/what-is-longline-fishing?srsId=AfmBOopWU1exosthl-87mUZ6jzXcLM-iTylgbfmb-wz-QXKsrC4oPGto>

Longline fishing consequences:

<https://oceanbites.org/untangling-the-issues-with-longline-fishing/#:~:text=An%20unfortunate%20consequence%20of%20the,entangled%20in%20fishing%20line%20.>



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endangered marine species:

<https://www.gvi.co.uk/blog/smb-endangered-marine-species-protecting-our-oceans-biodiversity/>

Sea-food demand:

<https://foodinstitute.com/focus/report-global-seafood-production-could-rise-20-to-2050/#:~:text=Global%20seafood%20demand%20per%20capita,the%20midpoint%20of%20the%20century.>

Economic effects:

<https://typeset.io/questions/what-are-the-economic-benefits-of-fishing-43pnzbp7m>

<https://www.futurelearn.com/info/courses/sustainable-seafood/0/steps/317404>

Buoy gear:

<https://inthebite.com/2020/03/the-story-of-buoy-gear/>

Sustainable fishing:

<https://www.iberdrola.com/social-commitment/sustainable-fishing#:~:text=Sustainable%20fishing%20respects%20marine%20ecosystems,or%20those%20without%20commercial%20value.>