

The United Nations Environmental Programme (UNEP):

Junior Committee: The Great Pacific Garbage Patch

C.I.M.A. January 25-26, 2019

Members of the Dias:

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I. Background Information

The Great Pacific Garbage Patch (GPGP) is a mass accumulation of waste products, mainly plastics, that is found between Hawaii and California. It is estimated that it covers an area of 1.6 million square kilometers, which is twice the size of Texas or three times the size of France. There are approximately 1.8 trillion plastic pieces floating in the patch, weighting 80,000 tons or an equivalent of 500 jumbo jets. This plastic debris piles up in near equal amounts from fishing sources and land: “fishing nets account for 46 percent of the trash, with the majority of the rest composed of other fishing industry gear, including ropes, oyster spacers, eel traps, crates, and baskets” (citation, 2018). Moreover, scientists report that the amount of plastic rises exponentially throughout the years, meaning that there is a greater input of trash than an output. The plastic that accumulates on the GPGP begins to stray away from the region as the bigger plastic pieces begin breaking down into microplastics. These micro pieces, which are harder to clean up than bigger plastics, are then ingested by the marine life prevalent in the region.

II. Effects on Marine and Human Health

The Great Pacific Garbage Patch has a variety of repercussions on marine life and the ocean’s ecosystem. Albatrosses, a type of sea bird, confuse plastic pellets in the water with fish eggs and feed them to their young. When an animal ingests plastic, the result is a lack of nutrient absorbency, mechanical blockages, reduced space for food, and chemical poisoning from the plastic. Another consequence of plastic waste product is that animals commonly become entangled in them, causing many species to drown or suffocate. It is well known that animals like sea turtles will confuse plastic bags with jellyfish and will eat them, causing severe harm to the population of these endangered animals. A popular term for this occurrence is “Ghost Fishing,” which happens when animals intertwine with fishing nets that have been discarded and are now floating in the ocean. Fishing gear, like nets, makes up a significant chunk of marine debris in the

GPPG and continues to capture fish and bycatch that goes to waste. “Ghost fishing” also destructs marine ecosystems like coral reefs and seagrass as a result of contact with fishing gear.

The GPPG and marine debris blocks sunlight from entering and passing through the water, meaning that autotrophs, like algae, cannot grow or produce its food. Autotrophs form the bottom of nearly every food chain. Consequently, if they are affected, all levels of an ecosystem are disrupted. Yet another consideration is that the chemicals in the plastic dissolve and leach in the water, entering the ecosystem and eventually, human food supply. It is important that all of these aspects are taken into consideration since each will require a different approach to fix and manage; countries are also affected differently. One universal aspect is that small flecks of plastic are difficult to distinguish from other plankton. They serve as sponges for harmful chemicals around the ocean, acquiring the toxins from different sources of pollution, and are eventually ingested by marine life. These plastics also carry bacteria and algae to places where they are not native and can become invasive colonies.

Plastic from consumer goods is not the only thing that pollutes the ocean. Pre-production plastic known as “nurdles” often spill off ships and make their way into the sea. Organizations like the Debris Free Oceans Organizations have conducted studies that find that microplastics and “nurdles” are “able to adsorb, concentrate, and deliver toxic compounds to organisms that ingest them or to benthic communities. In fact, studies have demonstrated that plastics readily absorb contaminants with greater ease than natural sediments like rocks and sand. The contaminants that plastics absorb include polychlorinated biphenyls (PCBs) and dichlorodiphenyltrichloroethane (DDT).” These contaminants are regarded as carcinogenic and can affect the nervous and endocrine systems of humans. People become susceptible to ingesting large amounts of these toxins as they consume fish high up the food chain, like tuna. In small island communities, where fish makes up 90% of their animal proteins, compounds that are resistant to biodegradation will not only affect the direct consumers of said fish, but also the subsequent generations. This perpetuation of toxins occurs because these harmful compounds are transferred to offspring through breast milk and placenta. Marine debris also has a direct impact on human health and safety. When it washes ashore, it can immediately injure beachgoers. Debris like glass and aluminum can cut and hazardous medical waste like used needles can transmit disease. These injuries are caused by a lack of proper waste management facilities and disposal regulations.

III. Economic Repercussions

Garbage pollution has copious effects on our life, an unsurprising one being severe economic repercussions. Plastic is omnipresent in our society because it is flexible, cheap, and easy to produce. Markets are constantly flooded with plastic products, of which only 9% is recycled. People buy 1 million plastic bottles a minute around the world and half end up in landfills or the ocean. Face washes and other grooming products contain non-biodegradable plastic beads that are washed directly down drains and into the ocean. These beads are not filtered through sewage systems. Much of our economy is based around plastics and drastic changes need to be made to see a sizable difference. The pollution of plastics in the ocean accounts for a \$13 billion economy from consumer goods. This is caused by littering, poorly managed landfills, tourist activities, and fisheries. It has also been found that countries with a rapidly developing economy contribute the most to ocean trash because waste infrastructures are the last to be developed. Countries such as India and China are developing at astonishing rates, which puts great pressure on global marine ecosystems. Their development is a tricky situation to handle because these countries are progressing because they are trying to increase the standards of living for millions in their population. Reform needs to strike a balance in which plastic pollution is limited, yet these countries can continue to develop.

Plastic creation consumes a lot of the planet's oil with 8% of the world's oil reserves used in creating plastic alone. This equates to the amount of oil used by all of Africa. Oil usage must be taken into consideration when considering the economic repercussions of reducing plastic as oil is an important economic factor in many countries. A reduction in the demand of oil by reducing plastic consumption would mean the restructuring of many countries' economies.

We rely on the ocean to provide with oxygen, absorb harmful materials, and provide an abundance of raw materials for a range of goods from cosmetics to medicine. This creates what is called the ocean economy. If the ocean's health diminishes, the ocean economy and global economies fall fast. The value of the ocean, including fisheries and shipping lanes for goods is \$12.3 trillion. The benefits of algae and phytoplankton in reducing carbon emission is valued at \$12 trillion. The presence of plastic and garbage patches mean that the ocean is losing its ability to feed and sustain millions. About 90% of fish stocks are exploited, a problem only worsened by plastic pollution. If these species go extinct, then the biodiversity and economic contributions of the ocean will be limited. All economic sectors depend on the ocean's health in some way since it provides raw material for the production of goods. Fishing and food related industries suffer as

well. Tourism suffers from beach's distasteful appearances, and housing values fall from beach pollution.

IV. United Nations Environmental Program and Political Engagement

After acknowledging the growing presence of pollution within the planet Earth, the United Nations created an agency called the United Nations Environment Programme or UN Environment. This branch of the UN is the ultimate authority on environmental issues and is composed of all 193-member states of the United Nations. Representatives from every country as well as other groups and stakeholders meet in what is known as the UN Environment Assembly to discuss major topics of concern and to draft general resolution to these topics. Although their resolutions are not legally binding, UN Environment shares an important role in policy making and prioritizing sustainable development in an international spectrum.

The matter of ocean pollution, specifically that which concerns microplastics, only became imminent in 2014 during the first session of the Assembly. Since this is a relatively new topic, states and stakeholders recognize its importance and agree that it must be discussed further and, in more depth, yet they are unwilling to draft new treaties and prefer to retain their current methods of plastic regulation. Furthermore, member states have declared that each country should make voluntary commitments on a national level to regulate plastics, an approach that is not at all progressive given that their regulations are not founded on any international effort nor can they be checked by an unbiased authoritative body, like UN Environment.

Given that there exists no global treaty that binds nations to focus on sustainable development, every country can decide how to approach marine pollution based on their own political agenda. This can be especially detrimental when it concerns countries that focus on using natural resources for their economic benefit. For example, in 2017 the United States withdrew from the Paris Agreement, stating that "the Paris accord will undermine (the U.S.) economy," and "puts (the U.S.) at a permanent disadvantage." This decision, although unrelated to oceanic pollution demonstrates to what extent the United States and possibly other capitalistic countries are willing to go to benefit their economies. Moreover, western countries used to send their plastic wastes to China to be recycled in their facilities and transformed into other forms of plastic. In December of 2017, however, China halted all exports of plastics into their country, which has left countries with piles of wastes and nowhere to place them. Consequently, countries are now sending their plastic trash to Thailand, Malaysia, and Vietnam where there is no regulatory framework to ensure plastic waste is processed in an environmentally friendly way.

This change in how plastic debris is managed is destructive to the environment given that, China, Indonesia, Philippines, Thailand, and Vietnam are dumping more plastic into oceans than the rest of the world combined, according to a study conducted by the Ocean Conservatory. These five countries are largely poor and still in process of development. A modern hypothesis states that as countries begin developing and industrializing, the environment will worsen until the country reaches a stable average income, at which point said country will begin investing back on the environment in order to ameliorate its condition and restore it. This phenomenon is known as the Environmental Kuznets Curve and has been substantiated by several studies; however, it is not a law and, thus, not true for every nation. Due to the aforementioned theory, many experts believe that in order to halt ocean pollution it is necessary to invest in other countries to help them modernize their infrastructure. Nonetheless, this is not the only measure that has been proposed.

V. Short-Term and long-Term Solutions

The most advanced initiative that focuses on cleaning the Great Pacific Garbage Patch is known as the Ocean Cleanup Project. Said organization strives to develop technology that will cleanse the GPGP and is the only progressive project endorsed by the UN Environment. Scientists of the organization developed a 600-meter-long floater that is attached to a three-meter-deep net. The purpose is that the floater will be carried away by the waves and the net will trap all the plastic material. Then, a vessel will close the U-shaped net, engulfing all the trash in it, and it will take the plastic to land where it can be processed. Although, researcher have conducted several tests with this floater, it is still imperfect. Boyan Slat, the inventor of this contraption and CEO of Ocean Cleanup Project, stated that due to the low speed of the floater, it is unable to latch onto plastics, so they will need to run further tests before it becomes fully operational. This project costs approximately \$20 million dollars and up to now, has not given satisfactory results. For this reason, many experts believe that the solution to the ocean pollution problem is not to clean the ocean nor the GPGP, but to prevent further plastic debris from reaching the oceans. This idea is akin to the Environmental Kuznets Curve hypothesis given that it proposes to create better infrastructure in order to prevent wastes from ending on open sea. However, no concrete action has been propelled to help developing countries in formalizing an environmentally sensible agenda.

Several countries have taken action themselves to help lower consumer plastic products. Sri Lanka, for example, banned plastic bags and are working to lower the usage of plastic bottles

as well. Moreover, Chile, Oman, Sri Lanka, Australia, South Africa, and several other countries have joined the Clean Seas campaign, which is a social media movement initiated by UN Environment in order to create awareness of ocean pollution. These countries have voluntarily agreed to form part of this movement, and some have already drafted progressive laws in their respective governments. Similarly to the Clean Seas movement, former US vice-president and nature enthusiast Al Gore drafted a petition to recognize the Great Pacific Garbage Patch as the 196th country of Earth in an effort to draw attention to the subject. The new country would be named The Trash Isles and an online petition has already gained more than 115,000 signatories who would constitute the population of Trash Isles. If the petition reaches its goal of 150,000 signatures, it would have more “citizens” than 24 other countries. The application was sent to the United Nations for them to admit or deny the GPGP as a country. The activists behind this ploy stated that even if the petition fails, it has drawn mass attention to the problem, which was their primary goal. Overall, more action is needed from a greater number of countries, and this action can come in many forms from raising awareness to clean-up methods.

VI. Guide Questions

1. What is your delegation’s position in regards to the Great Pacific Garbage Patch?
2. Does your country believe that ocean pollution is a priority?
3. Does your delegation contribute to the Great Pacific Garbage Patch growth and creation? How? What can your delegation do to reduce the GPGP?
4. What are the specific social, health, economic, and political repercussions of the GPGP on your delegation?
5. What short-term solutions can your delegation take to solve the problem?
6. What long-term solutions can your delegation take to solve the problem?

VII. Message from the Dias

Delegates, as your chairs, we wish you the best of luck in this committee and hope you enjoy it. This is a Junior Committee and we wish to make it an exciting learning experience. As this is an environmental committee, we recognize that there are a lot of aspects and problems to be solved. We ask that you avoid expanding on topics not related to the Great Pacific Garbage Patch so that we can have time to touch upon all relevant topics in committee. This briefing is meant to serve as a guide and we encourage you to research further, especially pertaining to your specific delegation. We also recommend starting with the sources used in the citations for more

information on the topic. As the delegates, the success of this committee depends on the quality of debate and solutions brought to the committee. We hope to see solutions that go past the expected and focus on all aspects and consequences of the issue. By this we mean that we expect to have solutions that touch upon the prevention and ramifications, not just clean-up efforts. The position paper must be sent to GPGarbagePatch@gmail.com

by **Wednesday, January 16, 2018.**

The position paper should be written in **Times New Roman, size 12 font, double spaced**, and **minimum 1.5 pages** and a **maximum of 3 pages**. We hope that this committee is fun for you. We will be guiding you at all times! We want for you to feel free to ask any question about the committee or of Model United Nations in general; just send us an email. Study, prepare yourselves, and come to committee ready to work hard!

Cordially,

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