



The Issue of Plastic Pollution



Plastic pollution is the build-up of plastics in the earth's environment. Plastics degrade very slowly leading to a build-up in plastics. Most plastics end up in either landfill or the ocean. We produce 300 million US tons (272 million tonnes) of plastic every year, only 9% of which is recycled. According to national geographic, mass production of plastic over the past 68 years has created 8.3 billion tonnes of plastic. Every year, over 8 million US tons (7.3 million tonnes) of plastic end up in the world's oceans. Currently, there is an estimated 150 million tonnes of plastic in the oceans – however it is difficult to fully measure this as much of the plastic is denser than water so sinks to the ocean floor.

Plastics are used in everything from the insides of phones to large industrial machines. They are everywhere in daily life, and most companies and manufacturers of everyday items have built a reliance on the material due to its inexpensiveness, availability and durability.

The primary uses for plastics include packaging, straws and earbuds. Plastic cotton buds are often flushed down toilets and end up in the ocean. Consumers are also often ill-educated about what can and cannot be recycled, with most people throwing away items that could be recycled. It also takes 450 years for plastics to break down into microscopic pieces, so every piece of plastic that has ever been produced, that hasn't been incinerated, is still with us today.

Plastic harms most wildlife, especially marine wildlife. Wildlife is harmed by either mechanical effects like entanglement in the plastic or through problems related to the ingestion of plastic waste. As it is a big problem for marine wildlife, in turn it is a big problem for us as well. Plastics can be mistaken for food and ingested by an animal which in many cases leads to the death of the animal. Plastic is killing more than 100,000 sea turtles and birds a year due to indigestion and entanglement. Furthermore, if we eat marine life, such as fish, that has ingested plastic, thus containing plastic, our health can be negatively impacted.

Micro-plastics are increasingly becoming a threat too. Their size of about 5 millimetres means they can be ingested by almost any living creature. They also can't be broken down by bacteria due to their polymeric structure. Ingested micro-plastic particles can damage organs and leach hazardous chemicals.

The majority of the plastics in our oceans come from important rivers, approximately 95% of plastic enters the oceans this way. Eight of these major rivers are found in Asia. Most of the plastic in our oceans come from China and other countries like Indonesia. The Philippines and Vietnam are significant plastic polluters too.

However, more affluent countries like Canada, the US and the UK offload most their plastic waste and export it to lesser affluent continents like Asia and Africa. Consumer behaviour in developed countries is a major factor in plastic pollution. Kuwaiti citizens produce 250 kg of plastic waste per capita per year (the highest), German citizens produce around 176 kg of plastic waste a year (4 times more than that of Chinese citizens) and US citizens produce around 122kg of plastic waste per capita per year, and the This shows that the more

developed countries are the ones that are contributing to the highest amount of plastic waste compared to their population size.

Last December, 193 countries committed to a UN plan to stop plastic waste from entering the oceans but the commitment was not legally binding and didn't have a timetable, and different countries have created their schemes. Around 40 countries have banned the use of plastic bags with some countries like Rwanda, China and Indonesia even introducing penalty charges. Other countries like the UK are planning to ban earbuds and plastic straws. Zero plastic waste shops have also opened in some countries.

Points to consider:

- How much does your country contribute to the production of plastic? How much plastic does your country discard / incinerate / recycle?
- Should there be research and development into more biodegradable plastics?
- How should the plastic in the oceans should be fixed?
- Should there be a global target for percentage of plastic recycled?

Useful links:

- CIA World Factbook <https://www.cia.gov/library/publications/the-world-factbook/>
- Our World in Data – Plastic Pollution <https://ourworldindata.org/plastic-pollution>
- National Geographic – Plastic Produced <https://news.nationalgeographic.com/2017/07/plastic-produced-recycling-waste-ocean-trash-debris-environment/>
- Wikipedia – Plastic Pollution https://en.wikipedia.org/wiki/Plastic_pollution