

**Topic: Don't Buy Plastic Bottles**

**Submitted By:**

**Executive Summary:**

The introduction of plastic bottles and the attached dangers to plastic bottles are described in the introduction in detail. Then overview and the importance of not buying plastic bottles is described to provide more information about the hazards of plastic bottles. The benefits of not buying plastic bottles include the harm of plastic bottles being avoided and the disadvantages of plastic bottles include several diseases of stomach, lung diseases, and cardio diseases. In the literature review, theme 1 impact of plastic bottles on human health is discussed according to different journal articles. Literature review theme 2 contains the impact of plastic bottles on ecosystems such as climate change, severe weather conditions, and affected marine life. Literature review theme 3 is about the impact of plastic bottles on business organizations which includes increased cost of recycling, waste management, compliance with legal regulations, lawsuits, and carbon emissions to be reduced. The section of conclusion and recommendations contains 4 suggestions to reduce plastic bottles and their harmful impact on human health, the environment, and business organizations.

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## **1. Introduction:**

The plastic bottles' use in society has increased too much which is causing serious problems for human life as well as for the environment. The use of plastic bottles has been increasing for many years due to numerous benefits of plastic bottles which include low-cost bottles, bottles are durable, lightweight, different colors and attractive shapes, disposable, flexible, and convenient to carry (Dadzie, et al., 2020). Business organizations started to produce plastic bottles due to increasing demand in society and business organizations trying to reduce packaging costs started to pack their products in plastic bottles which worked on providing ease of disposability for customers around the world. It can be further explained that priority is given to plastic bottles over other metal products while going out for entertainment and picnic purposes. The single-use plastic bottles provide ease for users but create a lot of problems for human health and the environment (Alabi, et al., 2019).

The plastic bottles are adding up to environmental pollution as well as human health due to the increased use of plastic bottles microplastics enter into the human body and cause different diseases. Plastic bottles are not easily dissolvable as they take more than a hundred years to decompose naturally if dumped onto land and other related sites (Ahmed, et al., 2021). The plastic bottles are thrown into rivers, lakes, canals, and other small drainage systems which eventually make their way to the ocean and endanger marine life. Plastic bottles are also burnt in the open which also spreads toxic gases and chemicals to the environment. Plastic bottles cause microplastics and nano plastics which are consumed during drinking water and eating food, to cause several fatal diseases. It is observed that so much plastic waste is thrown into the ocean that more than 5 million shipping containers can be filled with these plastic materials (Padilla-vasquez, 2024).

## **2. Overview of Don't Buy Plastic Bottles:**

Plastic bottles are not a good choice for human beings as the plastic bottles are made of polyethylene terephthalate (PET) which can cause several health problems for the people who drink water and consume other eatables from the plastic bottles. It is observed that hazardous chemicals in plastic bottles are mixed in the beverages due to heat or even without heat which leads to the consumption of microplastics in the human body (Laville, 2017). In the beginning, people were not aware of the dangers attached to plastic bottles so their use increased to the

maximum and now the majority of people are aware of the hazards caused by plastic bottles. People around the world have become aware of the fact that plastic bottles are not good for their health even if they don't know the real damages and dangers of plastic bottles to the human body still everyone knows that plastic bottles should be replaced with other healthy choices (Fonseca, 2019).

The trend of buying plastic bottles has increased in recent years due to the convenience attached but the dangers to health and the environment are far more dangerous than the little convenience. The United Nations Foundation is committed to promoting sustainability in its member states to improve environmental health. Avoiding the purchase of plastic bottles helps fulfill 4 important sustainability development goals (SDGs) of the United Nations Foundation: good health and well-being, climate action, life below water, and life on land. It can be further explained that not buying plastic bottles helps to reduce carbon emissions and improve health, improve environmental health, protect oceans, and reduce pollution on the land (de Sousa, 2021).

### **2.1 The Benefits of Not Buying Plastic Bottles:**

Buying plastic bottles has few dangers for the person buying the plastic, but considering the overall dangers, there are several dangers connected with plastic bottles. The benefits of not buying plastic bottles can also be described as the harmful effects of plastic bottles such as avoiding plastic bottles improves environmental health as well as human health. The plastic bottles contain phthalates and bisphenol A which work as endocrine disruptors in the human body which means hormone control is badly affected by the plastic bottles. Not buying plastic bottles also helps to avoid diseases associated with reproductive systems in the human body, thyroid functions are not affected, and there is no negative impact on the growth of children who are not aware of the hazardous uses of plastic bottles. Plastic bottles release toxic chemicals while washing through a heated dishwasher and also in hot places such as in a hot car so it can be avoided by not buying plastic bottles. Plastic bottles when reused are more contaminated with bacteria and fungi which cause several diseases of stomach in the human beings which can also be avoided by stopping the purchase of plastic bottles.

### **2.2 Disadvantages of Plastic Bottles:**

The disadvantages of plastic bottles are countless and harms of plastic bottles' numerous plastic bottles and shopping bags do not dissolve into water but are thrown everywhere even in canals,

rivers, and oceans so these plastic materials cause marine life in danger of being trapped in these materials or the poisonous materials affect the marine life adversely. The fish that consume plastics can also have a direct harmful effect on the human beings who consume those fish. It is estimated that more than 60 million plastic bottles are thrown as waste in landfills every year which leads to contamination of the land with toxic chemicals dangerous for the environment and human health (Mindfulofthehome, 2021). Open burning of plastic bottles also adds pollution to the environment which is dangerous for human health, animals, and environmental health. The plastic bottles wasted and landfilled are not degraded over hundreds of years but are divided into smaller pieces making the plastic bottles more harmful to human health and the environment. A research study conducted recently found that almost 240,000 tiny plastic pieces were found in a liter of bottled water and these are nearly nano plastics dangerous to human health (Nih, 2024).

### **1. Literature Review Theme 1 Impact of Plastic on Our Health:**

According to Smith et al. (2018), human health is largely affected by microplastics which are plastic particles smaller than 5mm, and even smaller particles which are called nanoplastics are detected in water, air, and food leading to the human body through all these ways. It is observed that the research studies conducted to check the microplastics and nonplastics have found plastic particles in everything of human use such as in salt, food products, seafood, and water which is consumed daily and in more quantity. The research studies conducted on animals found that these plastic particles can cross barriers of cells and accumulate in human tissues which have the potential to cause several diseases and also weaken the immunity system (Smith, et al., 2018). Plastic has a severe impact on human health and serious responses and measures need to be taken by governments, organizations, and individuals to create awareness about the dangers of plastic and also to provide alternatives to plastic bottles so the ease of plastic bottles can be shifted to sustainable solutions to the plastic bottles.

Wright & Kelly (2017), have described that plastic particles can harm gastrointestinal health, and affect gut microbiota in animals which means that plastic bottles and other plastic materials are not just affecting the human body but also adversely impacting the animals' health. The animals have not contributed anything to pollute the environment with plastic particles so it is an injustice to the animals. Plastic bottles and other plastic materials have toxic effects on human health if they accumulate in human organs (Wright & Kelly, 2017). Prata (2018), is of the opinion that there is

so an abundance of plastic particles in the air that human beings and other animals are inhaling these microplastics as it is mainly observed in urban areas. The plastic particles are affecting mostly the people who are working in the plastic industry as they are facing plastic particles directly and severe respiratory issues. The plastic industry workers face chronic inflammation and reduced lung functions which indicate that plastic micro and nanoparticles are affecting their health adversely (Prata, 2018).

According to Rahman, et al. (2021), plastic bottles are considered to be an important element in spreading plastic pollution worldwide as more people are using plastic bottles without realizing their harmful effects on human health and the environment. The human immunity system plays a crucial role in fighting against fatal diseases and provides internal protection for the human body against all diseases. Plastic particles lead to exposure compromising the human immune system due to dangerous chemicals exerted by the plastic particles and chemicals such as polystyrene microparticles of plastic lead cause oxidative stress and inflammation in animals and human bodies (Rahman, et al., 2021). Heindel & Blumberg (2019) described that the increased use of plastic bottles and plastic materials in human life is so harmful that it adds chemicals and hazardous materials into the human body continuously from the consumption of eatables in plastic packings and drinking water from plastic bottles. It is also observed that plastic chemicals such as phthalates and BPA cause metabolic disorders, increasing obesity in the human body, cardiovascular diseases, and respiratory diseases. These plastic chemicals and plastic materials can be avoided by discouraging the use of plastic bottles and other plastic packing materials to improve human health as well as environmental health (Heindel & Blumberg, 2019).

## **2. Literature Review Theme 2 Impact of Plastic on Ecosystem:**

According to Allen et al. (2022), plastic bottles and other plastic materials frequently used are affecting environmental health badly which is indirectly affecting human health. The production of plastic materials and bottles, their degradation, and incineration lead to the release of greenhouse gases to the environment such as ethylene and methane. These gases also contribute to climate change due to increased carbon emissions to the environment (Allen, et al., 2022). It is also observed that plastic bottles and related plastic materials are thrown into oceans which also cause adverse impacts on climate change and bring problems for human beings. Plastic bottles and plastic shopping bags affect the human immunity system adversely in the same way plastic bottles,

plastic shopping bags, and other materials affect the immunity system of the environment. The polluted environment is less resilient to fast-paced climate change as polluted rivers, littered coral reefs, and polluted soils can't resist climate change so the animals' and human beings' survival is becoming more difficult due to the increased polluted environment (Allen, et al., 2022).

Dris, et al. (2015), described that the ocean is considered to be the main place for dumping hazardous materials such as plastic bottles and plastic bags but the freshwater resources are also not saved from plastic bottles and other related pollution materials. Freshwater sources such as lakes, streams, and rivers work as a conduit for plastic materials and bottles to enter the ocean as these polluted materials are largely sent to the rivers and other sources of freshwater irrespective of their importance for human health. These sources of freshwater bring a lot of hazardous materials to the ocean leading to an impact on the ecosystem badly and the inhabitants of the world and ocean. The research study found that fresh sources of water contain high levels of microplastics and nano plastics which directly impact the health of aquatic organisms and then indirectly impact human health (Dris, et al., 2015).

According to Lamber & Wagner (2018), the freshwater contaminated by plastic particles leads to increased toxicity of the ocean which is harmful for the species living in the ocean, and when human beings eat these affected marines are affected by fatal diseases. It is also found that microplastics and nano plastics affect small organisms of the ocean such as zooplankton ingest these plastic materials and then bimaculate in the aquatic food chain such as fish and human health due to eating the polluted fish. The people living in nearby areas of the ocean are mainly impacted by the increased plastic particles in the ocean as toxic chemicals are released into the water and air making it harmful to the inhabitants (Lambert & Wagner, 2018).

Rilling et al. (2021) described that there is another important impact of plastic bottles and related materials on the sources of freshwater the quality of freshwater is badly affected which causes several diseases of the lungs and stomach in human beings. Plastic bottles and related materials also disrupt the microbial communities and soil structure which impacts carbon storage and cycling causing huge harm to the inhabitants of the ocean and land which can be avoided by discontinuing buying plastic bottles and reusing plastic bottles(Rilling, et al., 2021).



### **3. Literature Review Theme 3 Impact of Plastic on Business Organizations:**

According to Jambeck & Walker-Franklin (2023), business organizations around the world are also affected by plastic bottles and related materials in numerous ways such as environmental and social responsibility the companies put pressure to spend more money to restore the environment and fulfill their corporate social responsibility. The increased plastic pollution pushes business organizations to introduce alternatives to plastic bottles and plastic shopping bags to impact the environment positively (Jambeck & Walker-Franklin, 2023). Business organizations also need to find ways of reducing carbon emissions during production processes and to take measures that can help to mitigate the pollution impacts on the earth such as planting more trees. Plastic waste management is also critical for business organizations as plastic disposal and recycling lead to incurring heavy expenses for the companies which is not a preferred solution so business organizations are putting efforts to adopt sustainable solutions to reduce carbon emissions and improve environmental health (Jambeck & Walker-Franklin, 2023).

Pires et al. (2022), described that waste management strategies are crucial for business organizations to improve plastic reduction in business operations, waste management, and carbon emissions as these strategies help the businesses to reduce operating expenses as well as improve operational efficiency to achieve business goals. It is also observed that the buying behavior of consumers is also putting pressure on business organizations to reduce carbon emissions and use plastic bottles for packing purposes. Customers are now aware of the consequences of plastic bottles and their impact on health and the environment so they like the business organizations which prefer to utilize sustainable packing products and avoid plastic bottles(Pires, et al., 2022).

White et al. (2019), are of the opinion that consumer buying behavior impacts the strategic choices for business organizations as the consumers buy more sustainable products and also prefer businesses with sustainable products which tend to incur huge costs to the businesses as a business organization moving from plastic bottles to other sustainable products will have to shift to advanced technologies. The preferred solution for business organizations is to stop the production of single-use plastics so there is a decrease in the waste of plastics (White, et al., 2019).

According to Dokmai et al. (2023), business organizations face increased pressure from government departments to avoid plastic bottles and other plastic packing materials to reduce plastic pollution from the environment. The companies face compliance-related regulations which

lead to incurring expenses for compliance for example the ban on plastic bottles can lead to the closure of business operations or force to shift to other sustainable materials to continue business operations (Dokmai, et al., 2023). Business organizations are also facing continuous pressure from government departments to reduce carbon emissions to zero to play a positive role in improving environmental health. Business organizations are also encouraged to take steps to improve freshwater resources so there are reduced plastic bottles and plastic materials in the rivers and streams that freshwater resources fall into the ocean where aquatic animals and species are largely affected by plastic and other pollutant materials thrown into the freshwater resources (Dokmai, et al., 2023). Business organizations also face immense pressure to change the supply chains as plastic products should be replaced with sustainable products such as cassava roots which can also be used to prepare packing products for achieving sustainable business goals in a competitive business environment (White, et al., 2019).

#### **4. Conclusion and Recommendations:**

The United Nations Foundation is committed to improving the environment and improving human health by achieving sustainable development goals. The business report is aligned with the important sustainability goals of UNF which include good health and well-being, climate action, life below water, and life on land. Buying no plastic bottles plays a crucial role in achieving all the above-mentioned sustainable development goals of the United Nations Foundation so it is good to find ways to avoid plastic bottles and improve human health as well as of environment. The recommendations based on this report are given below:

1. It is recommended that alternative options to plastic bottles should be introduced by business organizations as well as individuals to contribute to the environment. The alternative products can be mud pots, stainless steel, glass, tetra packaging, and products with sustainable solutions (Wagner, 2022).
2. It is recommended that local recycling programs should be started to reduce plastic bottles thrown into freshwater resources. The recycling programs will help to reduce plastic waste and carbon emissions leading to successful improvement of environmental health.
3. It is also recommended that business organizations avoid lawsuits and legal compliance costs by switching to sustainable products compared to plastic bottles. Business organizations can switch to tetra packs, aluminum cans, glass, and mud pots all these

materials are healthier compared to plastic bottles so it is better to produce these products to protect the environment and human health (Wagner, 2022).

4. It is also recommended that awareness should be created among people worldwide to inform them about the dangers and hazards contained in plastic bottles even if the plastic bottles are neat and clean. Plastic bottles contain nanoplastics and microplastics which can enter the human body accumulate in different organs and tissues and cause several diseases in human beings (Wagner, 2022).

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