



Winner of Zone 1

**RAMDHONY YEAANA SHAARVI**

Pamplemousses State Secondary School

Essay Title:

Plastic is the most destructive weapon, even more than the nuclear bomb or the atom bomb, and its impact remains for centuries on the future generation. Discuss.

# PLASTIC

“Plastic is the most destructive weapon, even more than the nuclear bomb or the atom bomb, and its impact remains for centuries on the future generation. Discuss.”

Word Count: 625

At present, plastic is known to be one of the most commonly used materials on planet Earth. Since it was first developed in 1907 by the Belgian chemist and marketeer known as Leo Baekeland and started being mass-produced during the 1950s, the immense amounts of plastic found in our environment today has only been increasing.

Comprised of natural, non-renewable resources, plastics are laced with toxic chemicals used in the production process itself. Those chemicals were later studied and found to be seeping into packaged products when left stagnant. These ‘packaged products’ refer to most foodstuffs, including bottled water found in supermarkets or stores everywhere. Based on research, when an individual is exposed to these micro-plastics they are subjected to health issues related to damaged DNA and inflammation. And in the long term it would have caused much more severe health complications.

When plastics are thrown into rivers, streams, or any large body of water, the toxins ooze out, affecting the marine biome as well. Additionally, plastics left to float in the water more often than not get mistaken as food and consumed by fish or other animals. Thus causing them to suffocate or starve to death. And when larger predators eat the prey who have swallowed the plastic, they end up unintentionally ingesting what could have now been broken down to micro-plastics; which does still release chemicals and poison the animal and again cause its untimely demise. It only goes to show how much damage will inevitably be inflicted to the food chain as the years progress.

But the harm doesn’t stop there. Humans are required to use plastic in their daily lives. It has been so well established as a basic necessity in society, most people think of it as ineradicable by this point. Plastic is repeatedly used and thrown out with neither care nor concern. It is destructive and disastrous. When in abundance it can cause huge mounds that block drain systems that may result in flooding or it can pile up on beaches which quickly becomes an inconvenience to the environment and people. Plastic can also pollute residential areas, especially poorer communities, so much so that it directly affects the residents’ livelihood for the worse

While a nuclear bomb or an atom bomb seem much more hazardous and devastating to the world than plastic pollution, the damage they cause is on a much smaller scale and only temporary next to the irreversible detriment plastic has been silently causing. Bombs may be certified weapons of mass destruction however the effect they have on the planet as a whole is not nearly bad as what these synthetic chemical substances, otherwise known as plastic has. It is incomparable.

Plastic is long lasting and actively emits greenhouse gases, acting as a catalyst to climate change. And yet we produce about 380 million metric tons of plastic per year. Even recycling may do more harm than good due to the high levels of carbon emissions; and on top of that, recycled plastic happens to contain even more toxic chemicals in them than the original piece of plastic would have had. Furthermore, incineration also causes high emissions of greenhouse gases which makes the idea of destroying plastic seem despondent.

No matter what, plastic will keep on poisoning the planet and unless mankind is able to acknowledge the enormity of the problem and help themselves by ridding the oceans, the land and the planet of the ruinous pollution they have caused, the future generations are going to suffer for it; whether from the economic impact or the ever-increasing threats of global warming and climate change or even an increased mortality rate due to the previously mentioned consequences. The next centuries to come will probably still feel the unfortunate environmental impact.

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2<sup>nd</sup> Prize Winner of Zone 1

**BEEDASEE PARI GIRISHA**

Lady Sushil Ramgoolam State Secondary  
School

Essay Title:  
Discuss how the local communities can  
benefit from eco-tourism

Discuss how the local communities can benefit from eco-tourism.

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"Mauritius was made first and then heaven, and heaven was copied after Mauritius, no wonder I came back from the island with my heart singing and my soul nourished": Mark Twain, 1896.

The paradise island of Mauritius, with its turquoise blue sea, silky yellow beaches, sugarcane plantation, and indigenous forests, has been a dream destination for tourists worldwide for nearly six decades now.

With the inspiration and foresightedness of eminent people like Amedée Maingard, Sir Seewoosagur Ramgoolam, and the flamboyant Sir Gaëtan Duval, Mauritius rapidly became the privileged destination of stars such as Chantal Goya, Dalida, Richard Berry, Brigitte Bardot, and the famous Johnny Halliday, hence the beginning of an era which would lead to the success of our tourism industry which is our first source of revenue in our economy.

Over the years, conscious that our beaches, hotels, and our Mauritian legendary smile will not be the only assets to attract tourists, the local authorities, that is the ministry of tourism, the MTPA, and dedicated local investors have initiated numerous projects related to ecotourism. If in the past the Pamplemousses Botanical Garden, the Seven Coloured Earth, and the Black River Georges were the main attractions for eco-friendly tourists, people like Alain O'Reilly set up venues like Domaine du Chasseur where hunting and gaming were promoted. Ultimately, other projects like the Casela Nature Park, The Chamarel Ebony Forest, La Vanille Reserve, Des Mascareignes, Domaine de L'étoile, and Vallée de Ferney started cropping up so as to cater to the increasing demands of tourists eager for wildlife, hiking, trekking, canyoning, kayaking, and overnight stays in lodges, in harmony with nature.

In this context, in view of promoting the flora and the fauna of our island, the Bras D'Eau National Park and The Black River Georges National Park, in collaboration with the Mauritius Wildlife Foundation have been relentlessly working on preserving nearly extinct endemic species such as the kestrel, the pink pigeon, the trochetia boutoniana and ebony tree.

Marine sanctuaries are also attractions for eco-tourists. The Tamarind Bay, where tourists can swim with dolphins, and The Blue Bay Marine Park, where you can observe an abundant species of wild marine life. From agencies, canvassers, taxi drivers, catamaran and glass boat owners, skippers, and divers; everybody finds his share.



With the arrival of the above-mentioned venues, needless to mention that the following ancillary jobs namely tour operators, agencies, guides, and local vendors benefit from ecotourism. More so, the proximity of the villages near these outlets is enabling locals to earn a living, with the set up of traditional restaurants, street food, table d'hôte, and craftsmen. Street food can be referred to as 'dholl puri', 'farata ', 'boulettes mines'. Vegetable and fruit sellers, farmers, and fishermen are also beneficiaries due to ecotourism.

Eco-tourism can promote cultural exchange and preserve local traditions. It often involves visiting indigenous communities, where visitors can learn about the local way of life and traditional customs. This not only provides a unique and authentic experience for tourists but also promotes cultural understanding and appreciation. A typical example will be the village of Chamarel, where tourists can eat local rare and fresh delicacies, such as tandrec, and sip a homemade flavoured rum, ending this gourmet adventure with freshly brewed grounded coffee, picked from the nearby forest. Furthermore, by highlighting the importance of local traditions, eco-tourism can help to preserve cultural heritage and prevent its loss due to globalization. Reference can be made to Le Morne Heritage Site and Aapravasi Ghat, recognised by UNESCO.

Despite the many benefits of eco-tourism, it is essential to note that it can also negatively impact local communities if not managed properly. For example, over-tourism can lead to environmental degradation and cultural commodification, which can negatively affect the well-being of local communities. Therefore, it is crucial to implement sustainable tourism practices that prioritize the conservation of natural resources and the well-being of local communities.

3<sup>rd</sup> Prize Winner of Zone 1

**ANARATH MOHUMMAD DJOUNAID  
HUSSAYN KHALEEL**

Islamic Cultural College

Essay title:

Discuss the global issue of ocean pollution and its  
solutions

Discuss the global issue of ocean pollution and its solutions.

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**NUMBER OF WORDS:(797 WORDS)**

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Ocean pollution is defined as the introduction of toxic materials such as plastic, oil, chemicals, agricultural waste and industrial waste into the ocean. Marine pollution is a global issue which is faced by every country, even developed countries like the United States of America. It is important to seek effective solutions to be able to solve the global problems caused by marine pollution.

There are several pollutants which cause marine pollution but plastic waste and oil spill are the two main pollutants which pollute the ocean. Plastic is the most enduring material, it takes 500 to 1000 years to decompose and even then, it becomes microplastics without fully decomposing. Plastic waste makes up 80% of all marine pollution and 8 to 10 million metric tons end up in the ocean each year. Currently there are about 50 to 75 trillion pieces of plastic and microplastics in the ocean. Plastic pollution is one of the main causes of marine species extinction, health issues for human beings and animals.

Microplastics which are eaten by marine animals end up in their bodies and tissues, then enter the food chain and lead to disastrous consequences. The ingestion of plastics causes suffocation, entanglement, laceration and internal injuries to aquatic animals. Another health hazard is caused by toxic contaminants that often accumulate on plastic's surface, and are then transferred to human beings through the consumption of seafood. Unfortunately even if human beings are aware, the presence of plastic in the ocean is constantly increasing.

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Oil spill is also one of the main causes of marine pollution. It is constantly destroying marine life. Oil spill is the release of a liquid petroleum hydrocarbon into the environment, especially the marine ecosystem, due to human activity, and is a form of pollution. The term is usually given to marine oil spill, where oil is released into the ocean. The increasing demand for crude oil is a factor that contributes to oil spill in the ocean, as there are accidental spills from ships such as those which are transporting crude oil. Normally oil spills that happen in the ocean are most often caused by accidents involving tanker, barges and pipelines but sometimes it can also be deliberate acts by terrorists, acts of war, vandalism or illegal dumping.

Oil spill has devastating consequences on marine life for example, sea turtles can mistake oil for food and it can be trapped and may die. If dolphins and whales inhale oil, it will affect their lungs, immune function and reproduction. Birds and other animals who clean themselves in the ocean, can ingest oil and this can poison them. Fish which are exposed to oil may experience reduced growth, enlarged livers, changes in heart and respiration rates and reproduction impairment. Oil spill also affects corals, it can kill them or impede their reproduction, growth and development. Oil spill also has consequences on human health.

Awareness plays a decisive role in the protection of our ocean. We should be aware of how marine pollution and other forms of pollution are a threat for the future of humanity.

Governments in every country should introduce environmental education in schools to increase the awareness of youngsters. We should use popular social media like Facebook to spread the message as many people use social media constantly. We should also raise the awareness of people through documentaries and television.

Technology can help us to resolve problems such as marine pollution. The government can allocate more resources to develop new machines and robots that will clean up the ocean. Investing money in research that can find radical solutions to pollution issues and especially marine pollution is also a good alternative.

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We also notice how plastic pollution is affecting our ocean and for this reason, we should seek solutions to solve this issue. As individual, we can contribute to prevent plastic pollution for example, by using reusable shopping bag instead of using plastic bags. We should not throw plastics and other wastage in the ocean or on the beach instead we should throw them in the dustbins that can be found everywhere. We can participate or organise a beach clean up and we can support organisations which address plastic pollution. The government also plays an important role in the protection of the ocean. The government should implement law that will protect the ocean from pollution such as plastic pollution. These solutions are important for the protection and preservation of the ocean.

Ship proprietors should be aware of the measures to be taken to be able to prevent oil spill in the ocean. They should not overfill ships should be inspected regularly by professionals. People should recycle used oil and filter it. Government should implement strict laws.

According to me we should act now for the future of earth and our generations.

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Winner of Zone 2

**BONTEMPS EMILLIE**

Professor Basdeo Bissoondoyal College Girls

Essay title:

Discuss the global issue of ocean pollution and its solutions.



*Ministry of Environment, Solid waste Management and Climate Change*

(Environment and Climate Change Division)

Essay Competition 2023 for Secondary School Students of Grade 10

# MARINE POLLUTION

Topic: 13. Discuss the global issue of ocean pollution and its solutions.

Number of words: 735

### **13. Discuss the global issue of ocean pollution and its solutions.**

The oceans accounts for 70% of the surface of our planet. It plays a pivotal role in the health of both our planet and its inhabitants. Unfortunately, our oceans are polluted. The National Oceanic and Atmospheric Administration estimates that every year, millions of tons of trash and other pollutants find their way into our oceans. This has significant and far-reaching effects. However, in order to tackle marine pollution and its effect, some solutions are put in place as when there is a will, there is a way.

There are many causes of ocean pollution. Most pollution in our oceans starts on land and is caused by humans. Some of the major causes of marine pollution are nonpoint source pollution, intentional discharge, oil spills, littering, ocean mining among others. Firstly, the result of nonpoint source pollution is runoff, which occurs when rain dissolves and transports pollutants from the ground into oceans. Toxic waste such as Mercury is released intentionally into the ocean by manufacturing plants in some parts of the world. Sewage together with plastic products also form part of intentional discharge. The Ocean Conservancy claims that eight million metric ton of plastics enters our water annually. A major issue is littering. Marine beaches serve as natural traps for marine debris. Some people throw Styrofoam containers and plastic bag on the beach which may lead to atmospheric pollution, which is the term for materials transported by the wind to the ocean. These in turn, suspend in the water and do not decompose. Deep-sea ocean mining pollutes and disrupts the benthic ecosystem.

Moreover, there are a variety of effects of ocean pollution on marine life as well as on human both directly and indirectly. Pesticides can enter the ocean by runoff. These pesticides and sewage contain nutrients such nitrates and phosphate ions and toxic compounds which may kill a range of marine organisms. When there is an excess of nitrates and phosphates in the ocean, this causes eutrophication. Eutrophication can in turn lead to a depletion of oxygen in the water body. This can become a place where no aquatic life can survive. In addition to that, oil spills damage the fauna and flora of marine ecosystem. For example, when oil gets into seabirds' feathers, they are unable to fly and they die. Other effects are behavioural changes and the organisms lose the ability to reproduce. Furthermore, the main dangers of littering to marine life are ingestion of these fragments which may block the gut, may entangle organisms such as sea turtles and cause suffocation, prevent movement and feeding. Ocean pollutants find their way back to human.

Small organisms that absorb toxins are consumed by larger predators, many of which are seafood that we eventually eat. These toxins are deposited in human tissue and can cause long-term health issues such as cancer, birth defects.

Nevertheless, everything we can do to prevent ocean pollution is a good idea given the long term and devastating effects it has on the environment. One idea is to reduce the use of chemical fertiliser which finds its way into the oceans. Organic fertilisers with less nutrients should be used. The fertiliser should be applied half as often and half the recommended dosage. For oil spills, mechanical containment such as a variety of boom, barrier is used to capture and store the spilled oil until it can be disposed of properly. Bacteria can also be used to degrade the oil. Furthermore, instead of using throw away plastic containers or utensils, we should opt for reusable bottles and utensils. Beach clean-up should be put in place as less litter enters our waters when it is picked up and properly disposed of. Severe laws, for instance paying fines should be put in place against people throwing litter. Last but not the least, to avoid plastic and other recyclable items from ending up in the ocean, we should properly dispose them. In other words, when we are in outdoor spaces such as beaches, we should dispose our rubbish in a secure dustbin or we should take it home.

To sum up, the root cause of ocean pollution is human. Most of marine pollution starts on land therefore in order to preserve our marine ecosystem, we should tackle the problem from the source. For our own betterment, we as individual should take the responsibility to protect our ocean and its ecosystem as what goes around comes around.

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2<sup>nd</sup> Prize Winner of Zone 2

**TIN WAN YUEN MATTEO ERIC TIN  
KWET**

Queen Elizabeth College

Essay Title:

If climate change advances at the same pace, what  
will be the fate of humanity?

## Essay Competition

Subject chosen: 8. If climate change advances at the same pace, what will be the fate of humanity?

Title:

# Climate Change and the Fate of Humanity

Word Count: 797

For centuries now, from the golden age of industrialization, we, humans have grown exponentially, progressing faster than we have ever before. Though we have evolved tremendously from our predecessors with staggering developments in various fields as well as state-of-the-art technology, we may have inadvertently caused more harm than good. As we have slowly come to realization, our world - home to millions of species harmoniously inhabiting our lush forests and vast oceans - has fallen in great jeopardy. Is our impetuous desire to strive further and further into a more advanced society with no regards to the consequent environmental impacts, worth sacrificing the future of humanity and possibly the prospect of accomplishing even more substantial feats?

Years have elapsed and climate change has metamorphosed into a critical and persistent issue, plunging not only scientists but also world leaders, into a complex dilemma imperiled by a ticking time bomb. The effects of climate change have manifested themselves more and more frequently during the past decades, creating the so-called domino effect which has opened ways for a plethora of problems. One of the most notorious is none other than global warming. Studies conducted since 1880, identified an increase of 1°C over the Earth's average temperature. Although it may seem insignificant, this negligible change can generate devastating results. According to this data, the IPCC(International Panel on Climate Change) has predicted a further rise of 2 to 4°C by 2100 which will undoubtedly have cataclysmic effects on the planet.

In fact, with the escalation of greenhouse gas emissions and pollution due to human activities, natural abnormalities are becoming more frequent. As ice bergs melt, sea levels have begun rising at alarming rates, displacing and endangering the fate of many people around the world. What is heartbreaking is that poverty-stricken and impotent countries, having little to no contribution to this global catastrophe are suffering the most. A recent example is the archipelago of Tuvalu. This low-lying nation, currently being threatened to extinction, may never see the dawn of the next century and may inevitably become the first “digitalized country” in history. The disappearance of islands and coastal regions will become even more imminent if nothing is done now.

With accelerated water evaporation and more severe droughts, natural calamities have intensified, creating instability in weather patterns globally. This has particularly affected high-risk regions for instance the pacific rim of fire which encompasses many countries including

Australia, frequently bombarded by scorching wildfires, Japan, a nation prone to deadly typhoons and the USA, held hostage by extreme heat and cold waves. Record-breaking temperatures have been documented all over the world and in places where it had never been the case before. For instance, New York experienced a lethal and apocalyptic blizzard during December of 2022 where people were caught by surprise by a 30°C drop in temperature within 24 hours. As of late, these natural disasters have become more and more baleful, causing widespread destruction and taking away lives effortlessly by tens of thousands annually. Consequently, millions of people have been left stranded and homeless, and forced to migrate to other countries as refugees and predictions fear even more overwhelming and off the charts statistics.

Furthermore, climate change will have significant repercussions on our standard of living. As the weather changes more and more unpredictably, plantations and agriculture will be crucially affected. The supply of various foods will unquestionably be disrupted, leading to fluctuating prices in the world market, reduced availability and quality of these items. As a result, this may lead to famines and diseases in many places. In January 2023, farms in Auckland, New Zealand suffered great losses due to flashfloods from heavy rainfalls, some farmers losing hectares of crop yields. In addition, costs for the reconstruction and reparation of destroyed buildings together with fortifications are exorbitant and the perpetual fight to preserve the dwindling resources we have left for the future to come is not looking very promising.

Scientists have for long explored for alternatives to planet Earth, the most known being the search for a new habitable planet, but losing our one and only true home will lead to irreversible and irreparable damage to the long and rich past of humanity. Having overcome and surmounted innumerable predicaments, it is not the time to concede defeat but rather to prove that together as one, we can soar high and break free from our mistakes. Barack Obama once said, “We are the first generation to feel the impact of climate change and we are the last generation that can do something about it.” The urgency to resolve this issue and prevent our doom is impending. It is now or never and our duty to bring humanity and the destiny of following generations back on the right path towards a sustainable and bright future.



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**3rd Prize Winner of Zone 2**

**RAMKHELAWON YNSHREE**

**Darwin College**

**Essay Title:**

**Discuss how the local communities can  
benefit from ecotourism.**

Tourism is a resilient industry that has been evolving over the years. With the development of mass tourism in the 1950s, it has contributed to the advancement of many countries. However, with many economic loopholes, social degradation and environmental issues such as climate change, people are now more conscious about their travel preferences which has led to the rise of ecotourism. This has forced many tourism businesses to review their business models as well.

Ecotourism involves responsible travel to locations to experience natural beauty, promoting conservation and supporting local community. Empowering local people is one of the most economic importance laid by tourism stakeholders. According to research conducted by tourism professionals, \$5 out of \$100 tourism spending stays in the economy. As such, by adopting ecotourism principles, hotels have provided employment opportunities to locals who are averagely poor to work as guides and drivers while women have used their skills such as embroidery to sell local made crafts to tourists; enabling them to earn a revenue. Hotels and governments have provided better infrastructures in the surrounding areas to improve access to local community and provide unique tourism experiences. They have also engaged in local supply chain of food that makes their products more culturally appealing to tourists. In so doing, local communities have been able to pave their way out of poverty and improve their standard of living.

Tourists are in need of unique tourism experiences. Mass tourism has contributed enormously to the loss of cultural authenticity. In the hope of earning more financial gains, locals have tolerated disrespectful tourism behaviors. However, ecotourism practices have led to local and respectful travel. Cultural heritage tourism contributes to \$171 billion to local economies yearly; governments and travel businesses understand its importance and have put the interest of the local communities at the center of decision-making processes. Tour operators are engaging in promoting sustainable travel guidelines to educate tourists about the importance of local culture and to respect local heritage and traditions before their visits. In so doing, tour operators have been able to pull more ecotourists into the country and maximise benefits for both the local community and themselves.

Nature is an important component of the tourism industry and is one of the main reasons for travel for most leisure tourists. Engaging in unsustainable practices may lead to the downfall of

the industry thus affecting the economies worldwide. Ecotourism focusses on environmental goals such as providing memorable experiences to tourists visiting places of natural beauty and to generate environmental awareness. Governments and tourism operators have taken considerable initiatives for environment conservation and raising awareness of the importance of the environment. For example, there has been an increase in the development of eco- lodging to minimise disruption to local wildlife; nature-based activities such as hiking, mountain climbing to experience nature; trips dedicated to activities that promote the planet's well-being, like beach cleanups, visiting rural areas to participate in local life and culture such as farming activities. Governments have provided educational campaigns to both locals and visitors about their surrounding environment and the importance of its conservation. On the other hand, ecotourists are mindful about the impact of their activities, they attempt to engage in activities with a low adverse impact. By welcoming ecotourists, they will contribute to low carbon footprints, no wastes thrown and respect nature.

Tourism is a crucial industry with 319 million jobs and many other growing opportunities. With rising inequality and environmental crisis, there is immense need to adopt new strategies and responsible behaviors. Embracing ecotourism principles will ensure destinations spread financial benefits to local as well as unique tourism experiences. With the urgency to tackle climate change, ecotourism is one of the crucial measures that may be undertaken. New strategies are challenging for governments and tourism organisations of less economically developed countries. However, with global acceptance and support, ecotourism will very likely become a popular lifestyle among visitors in the future.



**Winner of Zone 3**

**CHINIAH DHAIRYASH**

**Imperial College**

**Essay Title:**

**The great pacific garbage patch is a threat  
to our environment. How far do you  
agree?**

**1. Title: The Great Pacific Garbage Patch is a threat to our environment. How far do you agree?**

Word Count: 632 words

Located in the North Pacific Ocean is the Great Pacific Garbage Patch (GPGP). It is one of the largest dumps in the world stretching from the West Coast of the United States to Japan. There is an estimated 80,000 tonnes of floating marine debris and plastic in the GPGP. (Harse, 2011). The origin of the debris comprises of 80% land based sources and 20% ocean based sources (Jambeck *et al.*, 2015). Moreover, plastics form 99.9% of GPGP of which 94% are microplastic (Jambeck *et al.*, 2015). Also, 52% of the total mass of GPGP are fishing gears and nets while 75% of its total mass are larger plastics (Ritchie and Roser, 2018). Referring to the information mentioned above, I do agree that GPGP is a threat to the planet. Hence, in line with the above, I will elaborate on its various impacts on (1) marine flora and fauna, (2) on food chain, (3) degradation of beaches and (4) introduction of invasive alien species.

The presence of marine debris and plastic in the ocean can be detrimental to the marine fauna and flora. It is estimated that around 700 species of marine fauna have been found entangled in or have ingested marine debris from around the world (Aini, 2021). For example, studies conducted on deceased whales have shown that their digestive system contained lots of plastic, meters long of rope and other decomposing matter (Simmonds, 2012). Also, when animals get entangled, they are more at risk of being preyed upon by predators. Furthermore, floating debris covering the surface of the ocean can prevent sunlight from penetrating the water column thus reducing the ability of marine autotrophs to photosynthesise (Ozturk and Altinok, 2020). Eventually this could lead to their death and result in a knock-on effect on the marine food web. So, it could be inferred that the impact of marine garbage can lead to the extinction of already vulnerable marine biota like turtles and whales (Pillai, 2021).

Furthermore, at least half of the plastic debris within the GPGP float on the surface of ocean (Silvestrova and Stepanova, 2021). This means that floating plastic debris can become an international issue when they are transported to various countries around the world by ocean currents. Hence, causing economic and ecological damage to a country (Keswani *et al.*, 2016). This could occur when floating plastic debris are colonised by microbes, algae, fish, and invertebrates. These are then transported to places that are outside of their natural range thus becoming invasive alien species (García, Zamora and Amico, 2011; Pipkin, 2018) and competing with native species for space, water, sunlight and nutrients. Also, when floating debris reach beaches, they can become an eyesore and negatively affect tourist and fishery industries (Kershaw

D.C

*et al.*, 2011) which can become a socio-economic issue with people losing their livelihood and the revenue of the country might decrease.

Moreover, as mentioned previously microplastics are present in substantial amount within the GPGP. They are particles of plastics that measure less than 5 mm (Kurniawan and Imron, 2019) and can pose serious threat to marine flora and fauna and human health. This is because microplastics together with their chemicals like Persistent Bio-accumulative Toxic (PBT) can be consumed by marine fauna and travel up the food chain through processes like bioaccumulation and biomagnification (Nelms *et al.*, 2018; Akhbarizadeh, Moore and Keshavarzi, 2019). As a consequence, this can lead to health problems like cancer, infertility and others in marine biota and humans (Sharma and Chatterjee, 2017).

As stated previously, I still have firm belief that the GPGP poses a threat to the planet and needs immediate attention. This can be achieved by adopting recycling, implementing the MARPOL protocol, using alternatives to plastic, having more coastal guards to monitor illegal dumping of waste and setting campaigns to clean beaches.



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**2<sup>nd</sup> Prize Winner of Zone 3**

**BHEEKHARRY YAJNESH**

**Royal College Curepipe**

**Essay Title:**

**What are your views on the importance of  
environmental literacy in society?**

**Title of the Essay:**

Plastic

1. Plastic will be the main ingredient of all our grandchildren's recipes. What are your views?

**Word count: 654**

Pollution is nowadays increasing with the upsurge in the worldwide human population. Pollution refers to the release of harmful chemicals in our natural environment. There are different types of pollution, notably air, water, and soil pollution. One of the causes behind the surging three main types of pollution is the use of plastic.

As we are aware, people burn plastic in factories to produce more products such as synthetic clothing, which leads to air pollution. When we burn plastic to manufacture these products, a toxic gas is released in our atmosphere. This toxic gas is known as dioxins. Dioxins, on the other hand, are highly toxic and can cause health complications such as heart disease, cancer, skin diseases and other complications. It is highly recommended to not inhale this gas. If we ignore this occurrence, the plastic particles in the air will enter our lungs and stay there for a long period of time. Later on this will cause inflammation in a person. People with lungs disease should take more precaution as they could suffer from asthma attacks. Tiny particles which are flying in the air can also lay in food and drinks, therefore negligent people will absorb them and develop diseases and this can also be harmful for pregnant woman and their child. We need to take actions so that our future generation will not follow our brainless actions and stay healthy.

A century ago pollution was not that high level as it is today, and if this generation does not control the situation, our future generations will have to suffer drastically. In a country like Mauritius where tourism is the main economic pillar, plastic pollution definitely will have a huge impact in a negative way. In the sea, plastic is found in the form of bottles, bags and many other forms. Even on the roads or in places of attraction there are litters of plastic everywhere. If situation is not controlled in the upcoming decades, this might repel tourists and their visits will decline drastically. Consequently, there will be drastic decline in job opportunities for the upcoming generations.

**T.D.J**

Plastic in the ocean may also affect the marine life negatively, even on the beaches it is not good to throw litters. With the help of many aquatic biologists, it has been discovered that aquatic animals consume plastic particles. Even the corals have plastic stuck on them. There are many people who deliberately throw plastic products in the sea and hence, each year many tonnes of plastic are removed from the sea. Dead Sea animals are often found on the shore of the beach due to plastic consumption. This will bring a decline in the food chain for the future generations as we will consume fish containing plastics. People will eat small particles of plastic that are found inside the fish and this can cause complications to their own health.

We all know that plastic is made with a variety of different chemicals. More than 8.3 billion metric-tons plastic has been produced globally in the last 70 years. Plastics can be in different forms such as microplastic. Microplastic is small in size and dangerous for one's. They can be flying in our air that we breathe, in the water that we drink and on the food that we consume. It is very tiny and is not visible to our eyes. When this microplastic enters our body, it can unknowingly cause major health problems. It can lead to disruption in our immune system, irritation inside our body and more life-threatening diseases such as cancer, heart diseases, arthritis and many more. If the air continues to be polluted as such, the future generations will have to suffer eve more.

The fight against plastic and pollution cannot be done by a single person, if we all collaborate there may be a slight change in the future. We should stop choking the Earth and say no to plastic

[654 words]

**T.D.J**

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**T.D.J**

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**T.D.J**



**3<sup>rd</sup> Prize Winner of Zone 3**

**GUNGARAM LAKSHYA**

**Royal College Curepipe**

**Essay Title:**

**Discuss the importance of plant  
conservation for human survival**

Discuss the importance of plant conservation for human survival.

Word count: 618 words

Plant conservation is the preservation of flora from the harmful effects of several activities, along with guaranteeing their abundance. According to scientists, extinction threatens 21% of all vegetation, in other words, one in every five species. Every day, thousands of individuals work to help with the tedious task of preservation. As a result, what is the role of plant conservation for human survival?

Plants provide several benefits on which life depends for survival. The most eminent factor is that all plants exposed to light absorb carbon dioxide to produce food and release oxygen. This conventional operation regulates carbon dioxide and oxygen levels in our atmosphere. Without it, the accumulation of carbon dioxide gas would be massive enough to render our atmosphere unbreathable and unfit for life. Carbon dioxide is a greenhouse gas that retains solar heat radiation and warms our planet. Nonetheless, plants absorb carbon dioxide, which aids in maintaining the earth's temperature stable for humans and animals.

We protect plants due to their ability to bond to the soil. Plant roots twine the ground and hold it securely in place, which helps to prevent landslides and further disasters. Their roots also help in water absorption, which helps to reduce the likelihood of flooding. As a result, plants actively help reduce the severity of a wide range of natural disasters. Consequently, plants regulate climate change and prevent global warming. It assures our survival.

We use plants in an array of medicinal applications. Some common plant usages include: the Madagascar periwinkle is used to treat cancer, the Willow tree is used to produce aspirin, and Chamomile is used to alleviate stress. Chemicals cannot yet replicate the unique medicinal properties that these plants offer. As a result, conserving these plants is crucial. Without them, humanity would no longer have access to these medicinal plants, potentially making some previously curable diseases incurable. Plants can benefit humans in transitioning away from pharmaceutical medications and towards natural ones. This can serve to halt the vicious cycle of illnesses induced by inorganic chemical exposure.

Apart from medicinal uses, plants play vital functions in food chains and food webs. Plants offer sustenance for little animals as well as large creatures. Without plant conservation, humans wouldn't have nutritious food because animals that rely on plants would go extinct, causing a domino effect. In the end, the food left will be poor in nutrition.

Dr Eimear Lughadha, a co-researcher and scientist said, "plant extinction is bad news for all species." Plants have the ability to pull an entire ecosystem down with them. It is truly worrisome; perhaps we will find ourselves in that ecosystem.

Plant conservation helps to offer sustainable jobs in society. It keeps the economy from collapsing, as everyone works for the greater good of the earth and human survival. Other jobs that plant conservation provide is landscaping. To beautify gardens, landscapers can make use of endemic and rare plants. Conservation helps us to make better use of plant resources. Scientists can continue to study these beings and derive new insights from them.

But, just like all good things have their fair share of drawbacks, it is questionable if plant conservation can be negligible for human existence.

If we do not protect plants correctly, they might endorse dangers such as pests, invasive species, and changes in natural disturbances. Controlling pests can reduce the carry of harmful diseases from plants to humans or vice-versa. Invasive plant species should be monitored and not conserved as they can spread illnesses and will compete with native plants for resources. These invasive alien plants can hinder our efforts to save and conserve plants.

Plants are critical to human existence, which is why we should commit greater resources to plant conservation.

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Winner of Zone 4

**MARIE MÉLODIE LOÏS**

Loretto College Quatre Bornes

Essay title:

Plastic is the most destructive weapon, even more than the nuclear bomb or the atom bomb, and its impact remains for centuries on the future generation. Discuss.



# PLASTIC.

Plastic is the most destructive weapon, even more than the nuclear bomb or the atom bomb, and its impact remains for centuries on the future generation. Discuss.

## Abstract

A plea from a special victim of plastic pollution.

Humans. By far the most selfish, whiny and hypocritical creatures to ever exist. I should know; I witness it all unfold all day, every day. I hear them complain about being used and tired, all while walking all over my body; the irony is almost funny. I watch as they throw their empty bottle on the street. I would've kept to myself if that very bottle was made of some sort of cardboard or paper, but instead my fellow humans thought better to use the most damaging material I've ever experienced: Plastic.

Among all the horrible things the human creation has done to me -Fossil digging, smoke and chemicals I can't even name released in the air from factories and vehicles on a daily basis, the nuclear bomb or atomic bomb that wounded me for years- the invention of plastic is the worst thing they could've ever done to me. Don't get me wrong, I know it has its benefits even though they don't apply to me. Plastic is not expensive and very easy to access. Even more, it is really malleable, making production easier and smoother; you can melt plastic into any shape you want really. This material is also very durable which is one of the many things that encourage people to buy it. I fully understand that it makes their life a lot easier- on the short run- but what about my life?

One thing that I fail to wrap my head around is the burning of plastic. Why? Why would you buy something just to end up burning it? Plastic burning releases extremely harmful gases such as carbon monoxide and more. Not only is this damaging to me but it is also threatening their own health, I don't think they seized that part yet.

All this plastic not only hurts me but also harms my other creatures I nurture. It affects land and marine life, no one is safe. From bottle caps being found in my birds' intestines in Faroe Islands, to plastic bags suffocating tortoises who mistake them for jelly fishes, my fauna goes through hell along with me, another thing we have in common along with the fact that we're helpless. We can't intervene, our fate is in humans' hands, I hate thinking about it.

Gone are so much of my beautiful green, somehow, I've managed to now host a new continent made only of plastic. Found in between Hawaii and California, The Great Pacific Garbage Patch holds great justice to its name for it is exactly that; a humungous pile of plastic floating in the middle of the ocean. From what I've heard it's composed of 1.8 billion bits of plastic, yearly killing my marine life by thousands. The toxic area is roughly 1.6 million square kilometres. I get sick thinking about it. How did I get here? I used to be all green and blue with not one ounce of unnatural waste and now? Well I have a million square kilometres of plastic floating on me.

In a sadistic way, I do hope the human species keeps going, dealing with the consequences of their actions in the long run is the only thing that will make them learn. They'll snap back into reality and take actual matters in hand to try and save their situation. I won't be able to help nor do I want to; they did it to themselves and one day they will have to bear what disaster they caused.

I can't be biased, I see and appreciate those who actually care and take actions to help me. I'm aware that they are low in quantity but they bring me hope. I can't help the relief I feel when I



see the many manifestations and press against the use of plastic. I feel some satisfaction when I see some people earning fines for the use of non-biodegradable plastic bags or when I see schools encouraging recycling. "Maybe we're not doomed after all" I often let myself think.

I know nobody can fully make plastic disappear, it was an irreversible decision to create it. Even if it gets banned, humans are stubborn and they will find a way to sneak it around in toys or packaging. However, we can reduce it. Whoever might end up reading this, you can do your part and make a change. A small improvement can go a long way.

In return, I'll be able to cool down this excruciatingly hot climate, I will preserve our ice caps some more keeping our sea level constant and thus saving so many islands at threat. When you come to think about it, we depend on each other. This is a two-way street, it's time to start acting like it. This was my message to you, from Earth.

2<sup>nd</sup> Prize Winner of Zone 4

**GOPEE HOSHIKA**

Sodnac State Secondary School

Essay title:

If climate change advances at the same pace,  
what will be the fate of humanity?

IF CLIMATE CHANGE ADVANCES AT THE SAME  
PACE, WHAT WILL BE THE FATE OF  
HUMANITY?



**WORD COUNT: 672 WORDS**

Has anyone wonder how life would be in future years?

Our ancestors have been around for about six million years while the modern form of humans only evolved about 200,000 years ago. Humanity has come a long way but how long can it continue if we, humans are vastly contributing to the doom of our own planet?

Climate change is the biggest global crisis that humanity is currently facing. It focuses on the changes of the weather patterns over time caused by increasing amount of greenhouse gases and other pollutants. The major cause of this increase in greenhouse gases and pollutants is none other than human activities. The constant burning of fossil fuels for electricity and manufacturing of goods, deforestation and excessive consumption not only generate an enormous amount of these heat-trapping gases, but also contributes massively to climate change. Its impact cannot be ignored either. Soaring temperatures, powerful hurricanes, intensified floods and a longer and more severe wildlife season.

But if things get much worsen, could climate change be the cause of human extinction? It is already affecting human health in countless of ways, including by leading to death and illness, since due to changes in the weather patterns, diseases are expanding. It is said that every year environmental factors take the lives of about 13 million people. Climate change is also the reason for poverty and displacement. It has been found that over the past decade (2010-2019) weather-related events displaced around 20 million people on average each year, leaving them more prone to poverty.

Not only this, but climate change is also the reason behind a global rise in hunger and poor nutrition. Crops, fisheries, and livestock may be destroyed or become less productive, while marine resources that feed billions of people are at risk due to the ocean becoming more acidic. The melting of ice and snow in many Arctic regions has disrupted food supplies from hunting, herding and fishing. Not only it is causing an increase in drought that can agitate destructive sand and dust storms that can move billions of tons of sand across continents, but also a reduction in land for cultivation of food due to the expanding of deserts. Climate change is also changing water availability causing people to now face the threat of not having enough water on a regular basis. Moreover, due to melting of glaciers at the Arctic regions, coastal areas will see continued sea level rise throughout the 21<sup>st</sup> century which might pose a threat for them and island communities.

Changes to the ocean, including warming, more frequent marine waves, and reduced oxygen levels, affect both the ocean ecosystem and the people that rely on them, and they will continue throughout at least the rest of this century.

Is the future of humanity decided to be drowned in poverty, malnutrition, more health risks that may potentially result to death and perhaps destruction?

In addition, a report prepared by scientists shows that human influence has warmed the climate at a rate that is unparalleled in at least the last 2,000 years. Global surface temperature has increased faster since 1970 than in any other 50-year period. Roughly 1-degree Celsius increase in the global average surface temperature has occurred since then. If we don't change our behaviour, it could increase to 3-5°C by the end of the century, which might not end well for humanity. Also, a report prepared by an international team of scientists warns that, if nothing is done to slow climate change, 3.5 billion people may have to leave their homes in the next 50 years to escape from the soaring temperature.

Ignoring climate change will bring in “untold suffering” for humanity, scientists warned. They predicted a range of devastating scenarios if climate change is not kept under control. “There is no evidence of climate change scenarios that would render human being extinct,” said Michael Mann, one of world's most influential climate scientists, but if this continues, there is no doubt that the future of humanity is bound to be devastating.

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**3<sup>rd</sup> Prize Winner of Zone 4**

**SECONDIS GUILLIAN GAËL**

**Vacoas SSS Boys**

**Essay Title:**

**What are your views on the importance of  
environmental literacy in society?**



# ENVIRONMENTAL LITERACY

Words Count: 669



In a world threatened by global warming and other climatic challenges that are affecting our blue planet, it is important for youngsters to be conscious of the need to be environmentally literate. Environment literacy aims at creating a community that is well-versed on environment issues. Throughout this study, we are going to address the urgency of implementing environmental literacy.

Indeed, we, youngsters of the 21<sup>st</sup> century, wish to put into action the Sustainable Development's goals so as to prepare the planet earth for future generations. Unfortunately, human beings are destroying nature, the marine life and even jeopardizing the future of the next generation beyond overpopulation, pollution, the exploitation of natural resources and burning of fossil fuels. These changes in our ecosystem have triggered the air quality, the soil, the climate, the fauna and flora with the destruction of forest and animals' habitat, and water.

Eventually, all these can affect the human behaviour and creates battles over clean water in the forthcoming years. As such, there is an urgent need to protect our blue planet for the future generation.

A famous environmental activist, Greta Thunberg, a young Swedish who granted the voice of all climate fighters to tackle climate change by challenging the boundless inactivity of world leaders. She inspired countless of people and proved that the ongoing generation is threatening the prospective of the next generation. She organised a school strike for climate known as the Global Fridays for Future Movement. Greta Thunberg became a symbol and an example for the young to take actions.

A famous quote of Thunberg, “You are never too small to make a difference“, shows that one can be young but still can change things, shows that one is never too old or too young to make things happen, if he wants it to happen. Youngsters should follow the footsteps of this global climate leader, who set the example by raising the red flag against Governmental bodies and associations. This is why we need to make our current generation environmentally literate, to protect the ecosystem and save the future for the next generation.

At school, education can be a great weapon to promote environmental literacy, with the introduction of a new subject: Environmental Studies, aiming to create environmental citizens and leaders and also creates a better world. It will be a welcoming idea to include Environmental Studies within the school curriculum. In this way, students will definitely take the subject seriously as it will be part and parcel of the syllabus. Many students are exam-oriented, so, they will be highly motivated when they study environment, as examinable subject. It will create an educated population, one who is environmentally literate. Such values have to be inculcated in youth, so, there is no better way than to do it through the medium of school.

Several activities can be organised reducing the widespread use of plastic bags which are polluting the environment and marine life. Projects on bio-degradable products. Organise competition green school like essays, it will make children consider the importance of the topic. And implement the rain harvesting system, rather than just letting the rain be wasted, it can be collected and it will help the consumption of water in our dams, thus, preventing droughts.

As the world faces unprecedented calamities due to unstable climatic changes, it is imperative that the future generation carry on the work of saving our planet. It is a team work that spans over a number of years. In my opinion, environmental literacy is too important to be neglected in societies. It makes youngsters conscious that if we don't take actions, our ecosystem will collapse and it will have negative consequences for future of all. It cultivates moral and ethical responsibility to fight against pollution. It gives motivations and necessary skills to work together towards a common goal.

Therefore, environmental literacy is the solution to protect and save our planet earth. The sooner people are conscious about environmental affair, the fastest will they address the issue of climate change.

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