

CHAPTER 4

PLASTIC POLLUTION: SILENT DEATH FOR ANIMALS

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Abstract

Life is the most precious gift given by nature. All living beings depend on natural resources such as air, water and soil. And when these resources are polluted all forms of life get under threat. One of the major pollutants in the environment is plastic. Plastic is super useful but it also harms the life of humans as well as non- humans. Plastic pollution affects lands, oceans, waterways, humans, wildlife, wildlife habitat and all kinds of animals in an adverse manner. In India, the open garbage system is a menace for the stray animals. It is a very common scene that a stray cow or a bull is chewing on something from the open garbage bins searching for anything edible just for its survival. The plastic from the garbage gets accumulated and stuck in their rumens and becomes hard. These animals look healthy but it is actually an illusion. They often die a slow and painful death due to starvation.

The article focuses on the problem caused by the plastic waste. It discusses the laws and policies made for the reduction of plastic waste and for the management of the plastic waste. The articles further analyses the adequacy of the laws and policies and makes an attempt to determine that whether more strict laws are needed or the awareness and education is sufficient for reduction of plastic waste.

Keywords: - Animals, Environment, Fishes, Plastic, Pollution

Introduction

Environment is the key component for life on earth. It includes the surrounding and condition according to the geographical areas around humans, animals and plants for their survival. It plays an important role in the

existence of life on earth in a healthy manner. All the species on earth including humans are dependent on the environment for food, air, water and other needs.[1] We most often read or listen about the threat to the environment. It may be the consequences of climate change, pollution, deforestation or any other event. It can be very difficult to distinguish which problem is affecting the environment most. The environment impacts our daily life and therefore it is very crucial to protect and save the environment.

The constitution of India imposes the duty on all its citizens to protect, improve and safeguard the environment including lakes, rivers, forests and wildlife creatures. It also imposes the duty to have compassion towards all living beings.[2] The constitution also includes the idea of a welfare state under the directive principles of state policies. The constitution in particular directs the state to take steps for preserving and improving the breeds and prohibiting the slaughter of cows and calves and other milch and draught cattle. According to article 48A of the constitution, “the state shall endeavour to protect and improve the environment and to safeguard the forest and wildlife of the country.”

The Constitution of India under part III provides the rights which are important for the development of an individual as well as the progress of the society. As per Article 21 of the constitution, “no person shall be deprived of his life and personal liberty except procedure established by the law.” The term personal liberty has been broadly interpreted in the *Maneka Gandhi* case.[3] The right to live in a healthy environment is covered under Article 21 of the constitution. This was recognized for the first time in the Dehradun Quarrying Case.[4] Thus we can easily understand that the right to a healthy environment is an important attribute of the right to live with human dignity.[5]

Plastic as pollutant

A polymer is a large molecule consisting of many equal or similar subunits bonded together. The environment is full of polymers and polymers are not invented by humans. Horns, DNA, rubber, cellulose, silk, hairs, etc. all are polymers present in the environment. On the other hand, plastic is invented by humans. Plastic is the synthetic term used for man-made or synthetic polymers.

Plastic can be very useful in human life. It is a material that may save lives in the field of medicine, it adds safety to the vehicles, it protects food from being wasted and can perform any other service to ease our life.[6] Plastic and its derivatives have become so abundantly used in our daily life that life without plastic is unimaginable. Plastic has also revolutionised electronics we use in our day-to-day life. At the same time, plastic is causing havoc on our environment. It is the most visible threat to our oceans. The issues linked to disposal or recycling of plastic and avoiding the pollution of soil and water is a worldwide concern. The quantity of plastic debris in the form of mega plastic, macro plastic, micro plastic and nano plastic as well as the plastic particles known as micro beads has reached the level that is a threat to waters of our rivers and oceans endangering marine wildlife as the animals are mistaking the trash for food and consequently it is also affecting human health. Several hundred marine species including marine mammals and seabirds have been found with plastic in their stomachs which affected them to their death.[7]

Plastics revolutionised medicine with life-saving devices, made space travel possible, lightened cars and jets—saving fuel and pollution—and saved lives with helmets, incubators, and equipment for clean drinking water. The convenience offered by plastic led to throw-away culture and this reveals the dark side of the material. Many of the plastic products such as plastic bags or food wrappers have a very less utility span but it persists in the environment for centuries.

Due to the rapid increase in the production of disposable plastic products, plastic pollution has become one of the most focused issues of the environment. The plastic pollution has overpowered the ability of humans to deal with it. In the developing nations, plastic pollution is more visible because the garbage collection system is either inefficient or it is not in existence. Apart from the developing nations, the developed nations which have low recycling rates are also responsible for the plastic pollution if they face problems in collecting discarded plastic properly.

From coastal nations, about 8 million tons of plastic waste escapes into the oceans every year. That is equivalent to setting 5 garbage bags full of trash on every foot of coastline around the world. Half of all the plastics ever manufactured have been made in the last 15 years. To increase the strength, durability and flexibility of plastic, additives are used. But any of these additives can extend the life of the product if they become litter. It might take 400 years to break it down.[8]

Mixed action of sea, wave, sunlight and wind breaks down the plastic waste into small particles. These particles are called microplastic and their size is about one fifth of an inch. These micro plastics are spread across the globe throughout the water columns from Mariana Trench to Mount Everest.[9] These micro plastics further break into smaller and smaller pieces. These pieces are called microfibers and are found drifting through air or in the drinking water.

Effect of Plastic on Non- Human Animals

Humans use plastic for keeping their food safe, but the same plastic can adversely affect the animals if they are poisoned by the components of plastic. Accumulation of plastic in our oceans and on the beach is becoming a global issue. The plastic which is floating continuously in the ocean makes up about 40% of the world's ocean surface and it is anticipated that by 2050 the plastic waste in the ocean would outweigh all the fishes in the ocean if we keep littering at the same pace.[10]

Plastic pollution has a direct and deadly effect on the wildlife. Thousands of species of birds, animals and marine mammals are killed each year after they consume plastic or by getting entangled in it. Endangered species like Pacific loggerhead sea turtles and Hawaiian monk seals are amongst those many animal species that die due to plastic waste either by eating it or by getting entangled. And it is high time to look into the matter and to get to the root of this crisis caused due to plastic waste.

We are surrounded by plastic and it is urgently needed to take action against the global plastic pollution epidemic. The studies estimate that from equator to poles, from Arctic ice sheets to the sea floor, there are 15-51 trillion pieces of plastic in the world's oceans. That means not even one square mile of ocean surface is free from plastic pollution, anywhere on the earth.[11]

From small fishes to blue whales, thousands of animals die horrible deaths from eating and getting caught in plastic. Plastic consumption by animals reduces storage volume of the stomach; due to this the animal starves to death. It is estimated that 60% of all seabird species have eaten pieces of plastic, and that number is predicted to be increased to 99% by 2050.[12] Dead seabirds are often found with their stomach full of plastic, reflecting how the amount of garbage in our oceans has rapidly increased in the past 40 years. In various researches it has been found that Sea turtles worldwide have consumed a lot of plastic. And plastic pollution of beaches is so common that it has affected the reproduction of sea turtles. New research shows that larval fish are eating nanofibers from the first day of their life.

One of the most dangerous aspects of plastic pollution is that it has entered the food chain. Small fishes eat plastic which causes its death, or that small fish will be consumed by the bigger fish or marine mammals or by the humans who love to eat seafood. And through this plastic enters the human body and causes further damage to the body.[13]

Plastic is also consumed by many land-based animals including hyenas, elephants, tigers, camels, cattle and other large mammals. Animals shows symptoms of pain exhibited by depression, arched back and grunting.[14] Apart from this, there is sudden drop in the milk yield of the animal. This further causes their death by starvation. It has also been confirmed by the various tests that due to plastic eating the liver and other organs get damaged and disruptions to the reproductive system are also observed. It is regular news stating that surgeries are performed on animals to remove plastic from their bellies.[15]

Steps taken by the Government to fight Plastic Pollution

According to the United Nations there was a boom in plastic production in the last few decades because plastic is cheap, light weighted and easy to produce and it is expected to continue in coming decades. But not many countries are struggling and facing problems in the management of the plastic waste that they have generated.

India is tackling a massive garbage problem due to the absence of an efficient and well-organized waste management system. The land, water and air of the country are polluted by the tons of unsegregated and untreated waste.

The general and far-reaching use of plastic in India has reached an alarming stage and everyone should be worried about it. The Annual Report of the Central Pollution Control Board (CPCB) on implementing the Plastic Garbage Rule, 2016 is the only regular evaluation of the amount of plastic waste produced in India.

According to the report, the plastic waste produced in 2018-19 was 33, 60,043 tons per year that means 9,200 tons per day. According to the science breakthrough study of 2017, only 9% of the plastic waste has ever been recycled, approximately 12% has been burnt and the remaining 79% has accumulated in landfills. Plastic waste blocks sewers, threatens marine life and generates health risks for the humans as well as the natural environment.

Plastic pollution due to single-use plastic has become an important environmental challenge for all the countries. In 2019 at the 4th United Nations Environmental Assembly, India had led a resolution on addressing single-use plastic pollution recognizing the urgent need for the global community to focus on this extremely important issue. India is committed to take actions for mitigation of pollution caused by the single-use plastics.[16]

The Government of India has announced a ban on various low utility or single-use plastics. In August 2021, the central government announced the ban following its 2019 resolution to address plastic pollution in the country. The adoption of the resolution at the 4th United Nations Environmental Assembly was a significant step. The major reason for announcing the ban is the adverse effect of plastic on the environment. India has collected around 60% of the plastic waste and the remaining 40% that amounts to 10,376 tons of plastic still remains uncollected.[17] Independent waste pickers collect plastic waste from households or landfills and sell it to the plastic recycle centers or to plastic manufacturers at a low cost. But the plastic used in India has low economic value and is not collected for recycling. Therefore, it becomes a common cause of air and water pollution.[18]

Many countries including India are taking steps to reduce plastic waste by encouraging the use of biodegradable alternatives which are less harmful to the environment in comparison to plastic. Food vendors, restaurant chains and some local businesses have shifted towards using biodegradable cutlery and cloth or paper bags as an alternative to plastic. Currently, in India, there is no guideline related to the alternative to plastics. Therefore, it could be a problem when the ban on plastic will be implemented. Clear rules are needed to promote alternative options, which are expected to become commonplace in future. The new rules also lack the guidelines on recycling of plastic.

Many environmentalists have the view that a ban on plastic is not sufficient on its own. Other initiatives are also necessary to be taken to beat the plastic problem. Recycling of plastic can be done seven to eight times. The problem is created when the plastic is down-cycles. Down-cycling is a process where high quality plastics are recycled into new plastic of lower quality and then it has to be disposed of after its one or two lives. Thus, it is necessary to regulate manufacturers and ask them to mark the down-cycled and recycled plastics clearly so that it can be recycled or disposed appropriately. Apart from focusing on recycling of plastic, development of alternatives should also be the priority and proper investment should be made in that area. India is a price sensitive market where plastic alternatives could be produced in bulk and can be sold at

an affordable price. Many states in India have announced restrictions on plastic bags and other single-use plastic but most of them were not strictly enforced.[19]

In India, from 1st July 2022, the manufacture, import, stocking, distribution, sale and use of following single-use plastic, including polystyrene and expanded polystyrene, commodities shall be prohibited. The single-use plastic items which are covered under the ban are ear buds with plastic stick, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene for decoration, plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards and cigarette packets, plastic or PVC banners less than 100 micron.[20]

Conclusion and Suggestions

Environment protection is part of our cultural values and traditions. Earth is considered to be Man's paradise according to the Atharvaveda. It is our duty to protect our paradise. Earth has the blessings of nature's bounties. The constitution of India also embodies the framework of protection and preservation of nature without which life cannot be enjoyed. Right to environment, environment free from danger and infection is inherent part of Right to life guaranteed under Article 21 of the Constitution of India.

Land and other water bodies are affected by the pollution caused by the plastic. The plastic hurts animals, marine life and birds. Even the small insects are not spared by the plastic pollution. From small fishes to sea turtles to jelly fish to whales every marine creature is having the effect of plastic and hence when such marine creatures are consumed by humans then that plastic affects humans too.

The animals which are exposed to the plastic pollution suffer from various problems like developmental defects, reduction of weight or more often starvation to death. Plastic is one of the most dangerous components which are disturbing the balance of nature.

The problem of marine plastic pollution should be tackled from various sides.

- To reduce the plastic waste from the environment it is necessary to identify the plastic items that can be replaced with non-plastic, recyclable or biodegradable material. It is necessary to find the alternative to single-use plastics.
- We must focus on recycling of plastic.
- The state must identify the hotspot of the plastic pollution so that it can develop effective policies that address the plastic problems in the environment.
- We can focus on technological developments, to assist the government in measuring and monitoring the plastic garbage in the cities. The United Nations Economic and Social Commission has launched

a project 'Closing the loop' assists the cities in developing more incentive policy solutions to tackle the problem. A similar approach can be adopted in India.

- The catering businesses must use reusable items or more sustainable single-use products as an alternative to single-use plastic. This will encourage the workers and clients to improve their habits. Therefore, the state shall prohibit the usage of single-use plastics by all catering operations. This initiative can save tons of plastic waste each year.
- We can also make the producers responsible for collection and recycling the products they launched into the market. That means the extended responsibilities can be applied to the packaging sector.

Apart from the above-mentioned steps, the state can take several other steps to combat plastic pollution in the environment. These steps can certainly reduce the plastic pollution and save enormous amounts of plastic from being wasted.

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