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**Dr. Ramamohana Reddy Appannagari**  
CHEMTEX Environmental  
Laboratory, Texas, USA

## Plastic pollution effects on human health & environment: Impact study

**Dr. Ramamohana Reddy Appannagari**

### Abstract

Environmental pollution is defined as the contamination of the physical and biological components of the earth and atmosphere system to such an extent that normal environmental process is adversely affected. Environmental pollution is one of the most serious problems facing humanity and other life forms on our planet today. Pollutants can be naturally occurring substances or energies, but they are considered contaminants when in excess of natural levels. Any use of natural resources at a rate higher than nature's capacity to restore itself can result in pollution of air, water, and land. The invention of plastic in 1907 was considered a breakthrough. Plastic products soon became omnipresent in our daily lives. For many years, we only perceived the benefits of plastic and knew little of the damaging consequences for human health, natural ecosystems and the climate. Plastics are a problem mostly due to their un-biodegradable nature, the materials used for plastic production (hydrocarbon molecules derived from the refining of oil and natural gas), and the challenges behind properly discarding them.

Plastics are synthetic organic polymers, and though they have only existed for just over a century by 1988 in the United States alone, 30 million tons of plastic were produced annually of these materials has led to a great increase in their use over the past three decades, and they have rapidly moved into all aspects of everyday of human life. Plastics are lightweight, strong, durable and cheap characteristics that make them suitable for the manufacture of a very wide range of products. These same properties happen to be the reasons why plastics are a serious hazard to the environment. Plastic is the real problem, you might ask. Plastics have come to clutter almost every landscape, but they are so useful and have made our lives much easier. We can carry our purchases from the store, stay dry in the rain, store things easily and securely, and preserve perishable food. Plastics are present in furniture, construction materials, cars, appliances, electronics and countless other things. Plastics are everywhere, even in our homes.

**Keywords:** Plastic pollution, human health, environment

### Discussion

Plastic pollution is currently one of the biggest environmental concerns. It may seem like large amounts of plastic waste are inevitable in the world we live in, but you can help with the plastic pollution issue by being aware of its dangers and taking steps to reduce waste. The amount of garbage in the world increases as the population grows, and disposable plastic products, like water bottles and soda cans, accumulate over time. Plastic pollution occurs when enough plastic has gathered in an area that it affects the natural environment and harms plants, animals, or humans. Overuse of plastic is the main cause of plastic pollution. Plastic is cheap and widely available, but people frequently dispose of plastic items. They don't decompose, and they release an incredible amount of toxins into the air if they're burned. Regular, everyday trash is one of the biggest contributors to plastic pollution. Milk cartons with plastic linings, disposable water bottles, soaps with small plastic beads, and other products end up in the environment or in dumps where they can affect the groundwater and nearby wildlife. Commercial fishing nets are another big issue. Although fishing is necessary for the economy and for food supply in many regions, nets are often made of plastic. When the nets are submerged in the water, they leak toxins. They can also break or get lost, adding even more pollutants to the water. The pollution in the ocean is mostly from plastic, and it has a terrible impact on marine species. As a result, it can hurt the economy and food supply for communities that rely on fishing.

Plastic can hurt tiny organisms like plankton, which larger animals rely on for food. If small organisms are poisoned from ingesting plastic, the animals that eat them will also consume

**Corresponding Author:**  
**Dr. Ramamohana Reddy Appannagari**  
CHEMTEX Environmental  
Laboratory, Texas, USA

toxins. The toxins work their way up the food chain and can even be present in the fish people eat. Not only does plastic cause damage to the ocean, but it can also damage groundwater sources. Many regions are already facing issues with, but water sources everywhere are in danger because of plastic pollution. Plastic toxins in dumps and from litter can seep into the groundwater, which people drink every day. On land, wind can carry plastic waste or litter throughout the environment. It can get stuck in trees, fences, traffic lights, or other structures. When animals encounter this plastic waste, they risk consuming the toxins or becoming entangled in the plastic and suffocating. If an animal consumes a piece of plastic, the plastic can clog its stomach while also poisoning it with toxins. Almost 200 different species of animals are known to ingest plastic debris. In addition to harming plants, animals, and people, it costs millions of dollars every year for cleanup of areas exposed to plastic toxins. Many regions have seen a decrease in tourism because of the amount of pollution in their environment, which can have a serious impact on local economies. Consumers can help fix the problem by trying to reduce plastic waste. A great way to reduce waste is to use reusable bags when your grocery shop. People often leave stores with dozens of plastic bags that just get thrown away. Drinking from a reusable water bottle instead of a disposable one can also be very helpful. If everyone drank the recommended amount of water per day from disposable bottles, it would create an unbelievable amount of plastic waste. You can also avoid to-go containers like cups from coffee shops and Styrofoam containers for leftovers from restaurants. Instead, purchase reusable containers to cut down on waste.

Avoid using plastic straws, even in restaurants. If you like using straws, you can purchase a reusable glass or stainless-steel straw. Try to buy household products like laundry detergent in cardboard boxes instead of plastic bottles. If you use plastic lighters frequently, consider investing in a metal refillable lighter instead. Even small changes in your day-to-day life can add up and greatly reduce the amount of plastic waste in the environment. After reducing your plastic use as much as possible, recycle everything you can. Jars, milk jugs, batteries, and even items like crayons and ink cartridges can be recycled.

If you're passionate about decreasing plastic waste and reducing pollution in the environment, you can become an advocate in your community. Speak to local restaurants, shops, or other businesses about environmentally friendly packaging and bagging options. More and more businesses are decreasing their use of plastic supplies because of environmental concerns, and local businesses are likely to take their patrons' suggestions seriously. You can also speak to lawmakers or local government members about plastic pollution. Get your friends, neighbors, and other community members involved, too. The more people in the community who speak up about pollution, the more likely your local politicians are to pay attention. Some plastics are produced with the assistance of a substance called Bisphenol A (BPA), which is a synthetic chemical compound studied by the Environmental Health Net (2008). BPA can interfere with the regulation of both development and reproduction, through its interaction with estrogen. Some scientists conclude that the experimental results are inconsistent, therefore do not constitute further regulation of BPA. Other scientists are convinced that there is obvious toxicity of

BPA in the experimented animals and this gives obvious reason to work towards lowering this substance's exposure to humans.



**Fig 1:** Household items made of various types of plastic.

### Plastic Pollution Impact Climate

You may have thought that the only problem caused by plastic pollution is the negative effect that litter has on the environment. That is not the whole story. Plastic is a petroleum product. It is created from petroleum just like refined gasoline. The EPA estimates that production of plastic products account for an estimated 8% of global oil production. The drilling of oil and processing into plastic releases harmful gas emissions into the environment including carbon monoxide, hydrogen sulfide, ozone, benzene, and methane (a greenhouse gas that causes a greater warming effect than carbon dioxide) according to the Plastic Pollution Coalition. Environmental Protection Agency (EPA) estimated that five ounces of carbon dioxide are emitted for every ounce of Polyethylene Terephthalate produced (also known as PET is the plastic most commonly used to make water bottles). It is important to remember the connection between plastics and climate change. Climate change is one of the most pressing issues we face as a planet today. If other reasons to consume less plastic weren't already enough to convince you to act, the fact that consuming plastic products exacerbates climate change should be an important reason to take personal responsibility and make a commitment to help.



**Fig 2:** Plastic pollution in Ghana, 2018

### Conclusion

Plastic pollution has a big impact on the environment, but plastic waste isn't unavoidable. Every time you make the choice to avoid or recycle plastic products, you lower the risk of environmental damage. Be conscious of your choices and encourage those around you to think twice before they

throw away plastic or buy unnecessary plastic items. While there is a long way to go to address the global plastic pollution crisis, which have relationship with both consumers and consumer goods companies, are an important industry to start with, say experts, working together the reduction of plastic use will mean direct relief for communities, oceans and waterways worldwide. However raise public awareness, the regional and national different levels of educational curriculums must include the waste management systems from the grass-roots as information resources. In addition to creating public awareness on the importance of a healthy environment, mechanisms of controlling the generation of wastes at the source, alternative disposal ways, establishing additional drop-off areas (landfills) and incineration mechanisms, plastic recycling facilities are also recommended. Helping communities to reduce their exposures to health toxicants It is important to note that the best behavior when it comes to disposing of plastics varies drastically by location. We have done our best to include advice and recommendations that are applicable across many different contexts and locations, but not all will necessarily be useful to you. This document is just the initial step to learning about this problem, what you can do and what resources are available to you and your community. The more you talk to others and learn about how your community and city are managing their consumption and disposal of plastics, the better prepared you will be to develop a personal plastic reduction plan. Will increase the likelihood for a healthy society and clean environment for the coming generations.

### References

1. Daniel D Chiras, Environmental Science: Creating a Sustainable Future. Jones & Bartlett Learning, Hill, Marquita K, Understanding Environmental Pollution, Cambridge 2. University Press, 1997, 257. Karleskint, George, Introduction to Marine Biology, Cengage Learning, 2009, 536. 2004; 517-518.
2. Engineering & Environmental Sciences, Retrieved November 3, 2008, from Academic Search Complete database. Environmental Health Net. 2008; 31(2):119-126.
3. Journal of Environmental Health, Retrieved October 15, 2008, from Academic Search Complete database. Knopper, M. Bottled Water BACKLASH. E, 2008.
4. The Environmental Magazine, Retrieved November 3, 2008, from Academic Search Complete database. Saeki, M. (2006, April). Vibratory Separation of Plastic Mixtures Using Triboelectric Charging. Particulate Science & Technology, 24(2), 153-164. Retrieved November 1, 2008, doi:10.1080/02726350500544208 Xing, L., Wang, P., Liu, S., & Fang, X. 2008; 19(3):36-39.
5. Research on cryogenic grinding of plastics with air turbine refrigeration system. Proceedings of the Institution of Mechanical Engineers -- Part E -- Journal of Process Mechanical Engineering, 222(2):93-101.
6. Dr. Ramamohana Reddy Appannagari, Research journal on Environmental Pollution Causes and consequences: A study North Asian International Research Journal consortiums - www.nairjc.com,ISSN 2454-9827, 2017; 3(8).
7. Dr. Ramamohana Reddy Appannagari, Research Article By www.nairjc.com: Biodiversity and its impact on

Agriculture and Human life.\_www.nairjc.com,ISSN 2454-9827, 2018; 4(2).

8. Dr. RamamohanaReddy Appannagari, Research Article on Ecological Imbalances causes and consequences.by Golden Research Thoughts: www.lsrj.in ISSN 2231-5063. 2016, 6(6).
9. Dr. Ramamohana Reddy Appannagari, Research Article on Water for People and the Environment International Journal of Development Research, www.journalijdr.com, ISSN:2230-9926, 2019; 08(03).