



# A Study On The Future Of Plastic-Free Life

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## Abstract

Plastics have distorted everyday life; usage is increasing and annual production is probable to exceed 390.7 million metric tons in 2021. Plastic is one of the most commonly used and convenient materials in most societies around the world. The use of plastic is progressively controversial, however, due to its negative impacts on the environment, biodiversity and human health. Tamil Nadu government initiatives to decrease, recover, and reprocess their production and usage. This paper, the current plastic reduction practices in industries and provides practical strategy recommendations for the development of sustainability performance and related business sectors.

**Keywords:** Plastic, plastic-free life, plastic recycling, pollution, health effects.

## 1. Introduction

Plastic is a highly useful and convenient material and it is also one of the world's greatest environmental problems. Its usage is heavy in all the fields like industry, society, etc. Most advances in human society over the past century have been facilitated by the use of plastics. Plastics are composed of a network of molecular monomers bound together to form macromolecules of infinite use in human society. Today, there are more than 20 different major types of plastics in use worldwide.

Plastic production began back in the 1840s and to this day, every piece of plastic produced remains on the earth. This is because plastic does not biodegrade. Now, any of the millions of plastic products thrown out lay way into the future either inland fills or in our precious oceans. Due to UV radiation and the mechanical forces of the wind and waves, plastics break down and fragment. Pieces deteriorate into microplastics increasing their surface area and the possibility of chemical transport. Microplastics act as little sponges with their surface area containing concentrations of harmful pollutants. These minute pieces are mistaken for algae and krill, consumed by small fish, then bigger fish, then bigger mammals: Even humans. This is a comprehensive guide on how to eliminate plastic from your daily lives. While it is not easy, since plastic is everywhere, it's a cause worth fighting for.

These are the solutions that have been heard everywhere, but that is because they are easy to do and make a huge difference. Keep bags in the car, take the time to have a coffee, and constantly teach by leading by example: Bring a reusable water bottle wherever you go, Bring a reusable bag or box when you go shopping, Say no to the plastic straw, Have coffee in, or bring a keep cup and Only take away if you bring your container.

## 2. Plastics and the Future

Looking ahead, we do not appear to be approaching the end of the 'plastic age' described by Yarsley and Couzens in the 1940s, and there is much that plastics can contribute to society. Andrady & Neal (2009) consider that the speed of technological change is increasing exponentially such that life in 2030 will be unrecognizable compared with life today; plastics will play a significant role in this change. Plastic materials have the potential to bring scientific and medical advances, alleviate suffering, and help reduce mankind's environmental footprint on the planet (Andrady & Neal 2009).

### 2.1 Plastic Free Kitchen

It is impossible to go to any supermarket and ignore the vast amounts of fresh produce wrapped in plastic. Go to farmer's markets. Not only is it supporting local businesses, but the prices tend to be lower and you have fresher choices. Make your produce bags or buy reusable ones. Choose bulk stores if you have the opportunity. If you do not, pick the kinds of pasta packaged in paper and canned food over plastic packaging. If you enjoy bubbly water, invest in a bubble maker for your home. If you do not like tap water, invest in a filter. Switch up your tea bags for loose-leaf tea.

### 2.2 Plastic-Free Clothing

When washed, many synthetic materials release microfibers that do not get caught by the washing machine and instead end up in the ocean. This can be up to 4,500 fibers per gram of clothing per wash. Buy clothes made out of 100% natural fibers including cotton, linen, wool, silk, cashmere, jute, or hemp. Wash the synthetic clothing you own less frequently, in colder settings with liquid laundry soap. Line dry instead of spin dry which increases friction and loosens fibers. Check what your shoes are made of and again, invest in fewer but higher quality pairs. Avoid shopping online to minimize packaging.

### 2.3 Plastic-Free Bathroom

We are using many subtle plastic items around the sink, in the shower, and in the drawers. Switch to bars of soap or make your liquid soap. Choose shampoo and conditioner bars to eliminate packaging. Or go No poo. Get a bamboo, biodegradable toothbrush. Consider getting recycled toilet paper without plastic packaging. Get good quality metal razors that last longer and shave better. Check out the myriad of zero-waste toothpastes available online. Experiment with making your soaps, shampoos, and scrubs.

### 2.4 Plastic Free Life

A lot of plastic is hidden: in juice cartons, coffee cups, and most lids. Be on the lookout for natural alternatives: i.e. Natural compostable or flushable cat litter. Keep Tupperware on hand to avoid single-use containers. Choose to recycle newspaper, colorful paper, or even cloth for wrapping presents. Use vinegar as your multipurpose cleaning detergent, or get creative and add essential oils to perfect your recipe. If you smoke, choose tobacco pouches and paper filters.

## 3. Top 10 Ways to Avoid Plastic

Carry reusable shopping bags. Give up bottled water. Buy from bulk bins as often as possible. Shop your local farmers' market. Carry your containers, utensils, and travel mug for takeout food and leftovers. Avoid single-serving sizes. Compost food waste to avoid plastic garbage bags. Look for solid or powdered versions of the cleaning and personal care products that you use. When ordering products online, send a message to the seller requesting zero plastic packaging. Before buying new durable plastic products, try to borrow, rent, or buy used first.

## 4. Plastic Pollution

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 unbiodegradable 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.

### 4.1 Plastics and Our Health

After decades of producing trillions of oil-based plastic items, the negative consequences are startling. Plastic pollution is now recognized as a hazard to public health and the human body. Chemicals leached from some plastics used in food/beverage storage are harmful to human health. Correlations have been shown between levels of some of these chemicals, and an increased risk of problems such as chromosomal and reproductive system abnormalities, impaired brain and neurological functions, cancer, cardiovascular system damage, adult-onset diabetes, early puberty, obesity, and resistance to chemotherapy.

### 4.2 Plastic and Climate

We may have thought that the only problem caused by plastic pollution is the negative effect that litter has on the environment. Plastic is a petroleum product. It is created from petroleum just like refined gasoline. The EPA estimates that production of plastic products accounts 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. The EPA estimated that five ounces of carbon dioxide are emitted for every ounce of Polyethylene Terephthalate produced.

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 the 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 End Plastic Pollution.

### 4.3 Plastic Pollution in the Ocean

Decades of poor waste management policies that saw and continue to see plastic waste being dumped directly into the ocean have led to an international pollution crisis that threatens each of the world's oceans. In the globe, there are five massive patches of marine plastic. These huge concentrations of plastic debris cover large swaths of the ocean; the one between California and Hawaii is the size of the state of Texas. Sea creatures eat or get ensnared in plastic debris and can be killed or maimed. Plastic that is consumed by marine organisms, as well as the toxins they absorb from the water, accumulate up the food chain making seafood potentially dangerous for humans as well.

### 4.4 Plastic Pollution and Our Health

Plastic pollution is not only damaging the health of our planet. After decades of producing trillions of oil-based plastic items, the discovered negative consequences to human health are startling. Many plastics contain phthalates (DEHP) and the chemical biphenyl-A (BPA), now recognized as a hazard to public health and the human body. Both chemicals are potentially harmful to human hormones and reproductive systems. When heated in the Microwave, as reported by Fox News, these chemicals can leach out into the food they contain. Many correlations have been shown between levels of some of these chemicals and an increased risk of the following health problems: Chromosomal and reproductive system abnormalities, Impaired brain and neurological functions, Cancer, Cardiovascular system damage, Adult-onset diabetes, Early puberty, Obesity and Resistance to chemotherapy.

#### 4.5 Reduce

It's time for you to start cutting out that plastic. This Plastic Pollution Primer and Action Toolkit are full of tips and guides for how to minimize your consumption of plastic. The most important step we can take to limit the amount of plastic pollution that makes its way into our oceans is to reduce the amount of plastic we consume in the first place. While recycling plastic waste is important, it is not nearly enough. You may be lulled into thinking it is okay to consume plastic products because you plan to recycle them. Unfortunately, recycling is far from perfect, many plastics can't be efficiently recycled and will end up in the landfill regardless of which bin they were put in. Some localities lack the infrastructure to sort and recycle plastics. For this reason, it is much more important to focus on reducing your level of plastic consumption.

#### 4.6 Refuse

Do you ever wonder why water at a restaurant always comes with a straw? Do you ever marvel at how many plastic shopping bags grocery stores will wrap around your purchases? If you are conscious of the harm that plastic is having on the planet it should astound you how often we are offered free items of disposable plastic in our daily lives. As conscious campaigners against plastic pollution, it is important, whenever possible, to refuse plastic. Much of the most frequently discarded plastic items, with the shortest lifecycles, are those given to us for free. Plastic straws, grocery bags, plastic utensils, plates, and cups are all frequently given away with other purchases. All you have to do to eliminate this source of plastic pollution is simply refuse to accept these items.

#### 4.7 Reuse

The next step we encourage you to take as part of your reduction of plastic consumption is to reuse. One of the main drivers of the massive plastic pollution problem is the incredibly brief life cycle many of these products have. A majority of the items we use one single time before disposal are plastic. This leads to unnecessary waste for low usability. Selecting products that are designed for multiple uses and making sure nothing gets thrown away before their usefulness is spent is another effective way to drastically reduce one's plastic pollution footprint. You can get creative and reuse items for secondary purposes. You can also purchase specialty items that replace single-use plastics and can safely be used again and again.

#### 4.8 Recycle

Recycling is far from the final solution to the Plastic Pollution problem, but it is an important part of it. It cannot replace the need for reducing consumption or refusing and reusing plastics when you can. If recycling is the best option, you should do so following the rules of the community, town, or city in which you live. For the most part, only recycle if you are positive that the item is truly recyclable. If you are unsure about an item, don't try to recycle it as it will only slow the sorting process. If you know for sure that the waste management company or entity serving your community uses a technology or system to sort out non-recyclable plastics, you can afford to make a few mistakes.

Educating yourself on proper recycling is crucial to its effectiveness. Recycling properly might feel daunting at times, but once you figure out the rules in your community it will all feel easier. You can even make a sign explaining the rules and hang it near your recycling and trash cans.

#### 4.9 General information about plastics that can be recycled

Deciding which items to recycle is not always easy and intuitive. It requires looking at the product and making a decision based on the instructions given by the waste management department that serves your community. If you live in a place that does not have a formal system to deal with waste and plastics, it can be even more complicated. Recycling rules vary from place to place. Before recycling it is important to understand your



local recycling programs, what can and can't be recycled, how you should sort your recyclables, and which plastics to leave out and throw in the trash.

A point of contention is the benefit of recycling food containers that need to be washed before they can be placed in the recycling bin. The general wisdom is that you should first check if your community requires that you wash those containers. If yes, try to use as little water as possible because using tap water has its own economic and environmental costs, and you do not want to waste resources. One recommendation is to collect some of the water used to wash your dishes and use it again to wash your plastic containers. If you are not required to wash the containers, make sure to keep them in a bin with a tight lid to avoid unpleasant odors and pests.

#### 4.10 Remove

We have made every effort to reduce the amount of plastic pollution we allow to flow into the environment. Unfortunately, the fact of the matter is that there is already an immense amount of plastic pollution dirtying our waterways and harming the planet's organisms. At this point, we as humans have to accept the fact that we need to do more than stop producing plastic pollution; we need to reverse the impact we have already made. We need to work to clean up the world's oceans and to find a way to deal with all the plastic we collect.

Our fifth and final step in this toolkit is to remove existing plastic. This process presents exciting opportunities. Plastic/litter clean-ups are great community events that let you meet the people who live around you while cleaning up your local community at the same time. New technologies are being invented as we speak to collect the plastics in the world's oceans. New products are being created to take advantage of plastics collected from the environment and recycled.

### 5. Conclusion

This paper attempts to explore the concept of plastic-free and its consequences. Plastic-free life in the future is always good for our younger generations. Also, it is good for our environmental activities. So we promise to avoid plastic and find alternatives to plastic. In this paper, the investigator elaborated on the consequences of plastic and also the advantages of plastic-free life.

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