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Ways to Reduce Plastic Waste Pollution

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Abstract

Plastic is now a part of our lives all the time. It is all over: textiles, mobile phones, cosmetics, product packaging, and so on. Even the gum you might be chewing right now contains it! Because of its omnipresence, merely giving it up would be difficult for many. Therefore, reducing plastic use requires not only a shift in behavior but also a shift in perspective. Pollution Reduction Strategies for Plastics: The need for a "zero-plastic" environment has been there for a long time, and now is the time to make a change to protect the environment. Plastic pollution has significantly increased recently and shows no signs of slowing down. This article frames creative thoughts for decreasing your plastic waste that can be applied to any family. The urgent need to address plastic pollution requires not just behavioral changes but also a fundamental shift in perspective. This article explores creative strategies to reduce plastic waste that can be adopted by families and individuals. Plastic pollution is a pressing environmental issue that requires a comprehensive approach to address it effectively. Shifting our perspective towards a zero-plastic environment necessitates both individual behavior changes and collective action. By embracing the three R's, opting for sustainable alternatives, practicing mindful consumerism, spreading awareness, and engaging in community action, we can make a significant impact in reducing plastic waste.

Keywords: Plastic, waste pollution, modern life, recycling, health

INTRODUCTION

It would be very difficult to imagine a modern life without plastic. It means that plastic may be found in a variety of objects, including toys, packaging materials, containers, trains, vehicle parts, satellites, and space stations [1]. On the other hand, there are also glass, watch, and cell phone products that use plastic components. Some have nicknamed the current era of human history the "Plastics Age" since it is now so widespread. However, this admiration for plastic is quite logical. We are aware that plastics can be molded, laminated, or shaped however you like, are inexpensive, and are lightweight. There is a plastic that works well in almost any situation, sometimes even better than other materials [2]. Additionally, due to their durability and corrosion resistance, many plastics provide considerable disposal issues. The environment and human health are at danger due to the vast amount of non-biodegradable plastics. When it is disposed of in landfills, it damages the land; when it is burned, it pollutes the air and requires a lot of energy as well; pollutes water bodies and undermines marine life when it runs off to water bodies. In point of fact, novel strategies to lessen plastic waste pollution have been uncovered by researchers [3].

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Zero-Waste Environment

In the effort to achieve a zero-waste environment, creative solutions to plastic waste are always welcome. Recycled plastic bottles could be used as planters for flowers or other plants, which is one idea. Another idea is to use recycled plastic bottles to create artwork [4].

Turning plastic bottles into colorful planters for flowers or other plants is an inventive and

entertaining method of recycling them. This is an excellent method to add character to your yard or patio without spending a lot of money. All you really want are a few perfect, void plastic jugs, some paint, and a few plants [5].

Wash and thoroughly dry your plastic bottles before using them as planters. Then, utilizing a sharp blade, cut off the highest point of the jug so you have an initial that is around four inches wide. Then, paint the beyond the container with anything plan or varieties you like. Following the paint's drying time, add your plant and soil to the bottom of the bottle and fill it with stones or rocks to allow for drainage [6].

Utilizing plastic bottles for art projects is yet another creative way to recycle them. This can be anything from figures to adornments to inside decorations. There is no end to the possibilities! Start creating with some glue and scissors if you are feeling crafty [7].

Both of these concepts are excellent ways to reduce plastic waste while also benefiting the environment. Reduce plastic waste The world is covered in plastic. It is present in our landfills, oceans, and even the air we inhale. However, this need not be the case. There are numerous novel approaches to eliminating plastic waste and reducing plastic waste [8].

Increased recycling is one strategy for reducing plastic waste. Plastic can be reused into new items, like garments, sacks, and toys. Reusing lessens how much plastic that winds up in landfills or contaminates our seas [9].

- Stop using cover and carry bags made of plastic.
- Never use straws, spoons, knives, or forks made of disposable plastic.
- In your kitchen, use glass containers rather than plastic ones.
- Take your own containers to hotels for takeout.
- Use stainless steel containers to store your children's lunch, snacks, and water.

One more Ways Of diminishing Plastic Waste Contamination is to utilize less dispensable plastic. When you go out to eat or drink, don't use straws or other disposable plastics. Instead, bring your own reusable shopping bags to the store. Additionally, you can purchase products packaged in recyclable materials like glass or aluminum cans [10].

ALTERNATIVE STRATEGIES TO REDUCE PLASTIC WASTE POLLUTION

We are all aware that plastic pollution is a significant environmental issue. It takes hundreds of years for it to break down, and while it is breaking down, it clogs up landfills and pollutes the oceans. Even though the issue is becoming more widely recognized, it is still estimated that just 9% of plastic is recycled. The remaining waste ends up in landfills or in the ocean as pollution.

What, then, can be done about it? Indeed, above all else, we really want to decrease how much plastic we use in any case. Additionally, we must ensure that plastic is recycled appropriately whenever we use it. But it is not enough; we also need to come up with additional strategies for reducing plastic trash.

The replacement of single-use plastics with reusable alternatives is one option. You could, for instance, filter your own tap water or buy a reusable bottle rather than using disposable water bottles. Alternatively, you might use reusable metal or bamboo straws in place of plastic ones.

Purchasing products made from recycled materials is another option. Furniture made from recycled plastic, glassware made from recycled plastic, and even clothing made from recycled fabric are all examples of this. By purchasing these items, you help to close the recycling loop and give otherwise useless materials new life.

CONCLUSION

India generates 3.3 million metric tons of plastic waste annually. States with more resources, such as Delhi and Goa, face a much more serious issue: They produce 60 grams and 37 grams per person per day, respectively, in contrast to the national average of 8 grams per person per day.

The environmental pollution caused by plastic waste can be reduced in a variety of ways by innovative ideas. Reducing single-use plastics, recycling plastic waste, and using biodegradable materials are a few examples. We can significantly reduce the amount of plastic waste that enters our oceans and landfills each year by implementing any or all of these ideas. Last but not least, you can help businesses work toward a waste-free future. This could include businesses. The seriousness of the threat posed by plastic is now well-known, and a number of measures have been taken to contain, reduce, and eliminate plastic pollution. Two of India's biggest e-commerce firms, Amazon and Flipkart, have switched all single-use plastic packaging to paper cushions in response to Prime Minister Narendra Modi's request that Indians stop using single-use plastic by 2022.

THE THRIVING EMERGENCY

Dispensing with the plastic pandemic Innovative technological solutions can help contain the plastic pandemic in a more comprehensive way by using natural alternatives to some plastics, reducing the need for new plastics, discarding plastic-made goods, and collecting and removing plastic trash.

1. Involving nanotechnology for brilliant bundling Banana, Cardboard, paper and other biodegradable items as bundling Medium Nanotechnology permits such coatings to be made more slender and more practical.
2. Natural products and genetic engineering Genetic engineering is helping a lot of natural fibers, like hemp, flax, and jute, acquire properties that can make them better alternatives to plastics for fabrics, textiles, and currency. Examples of innovations developed using flax include "Jute Soy," a product made from jute fiber cellulose and soy resin protein, and "Flaxstic," a product made from discarded flax straw, plant-based biopolymers, and recycled materials.
3. Making lightweight aluminum and steel by altering the microstructure of aluminum, researchers at Purdue College in the United States have used nanotechnology to create a super-solid aluminum composite. This high-strength, lightweight aluminum composites with strength tantamount to treated steels would change the car and aviation ventures. Unlike plastics, they can also be recycled with ease to create aluminum bottles, cups, and packaging foil.
4. Chemical recycling plastics can be recycled into useful materials because chemical recycling breaks them down at the molecular level. Some plastics, such as polyolefins, the substance in a polythene bag, are burned at high temperatures via a thermal degradation process known as "pyrolysis" to typically yield fuels and waxes.
5. Polylactide (PLA), a biodegradable polymer manufactured from sugar beetroot, corn, and lactic acid, is an example of a biodegradable polymer that is used. It is commonly used in the packaging sector, textiles, electronics, 3D printing, and biomedical applications due to its durability and low toxicity.
6. *Utilizing nanocellulose for biodegradation:* This low-cost, recyclable, and biodegradable material comes from natural biomass resources like trees and plants. Paper, packaging, coating, and medical and pharmaceutical applications are just a few potential applications. Because it is inexpensive, light, biodegradable, recyclable, and has the desired optical properties, transparent nanocellulose paper has the potential to revolutionize the electronics industry.
7. Biodegrading PET through catalysis PET (Polyethylene Terephthalate) is a common plastic used to make packaging, but only about 15% of it makes it to recycling facilities. It is still difficult to collect and sort discarded plastic due to the inadequate infrastructure. A Dutch start-up company named Ioniqa has devised a method for dissolving PET plastic at the molecular level using a patented magnetic catalyst. With the assistance of Unilever, the firm has pledged to making all of its plastic packaging reusable, recyclable, or compostable by 2025.

8. *Packaging made of recyclable plastic:* The toothpaste tubes that are currently available on the market are made of sheets of plastic laminate that are sandwiched around a thin layer of aluminum. They are therefore challenging to recycle using the standard techniques. High Density Polyethylene (HDPE) is the material used to make Colgate's recyclable "No. 1" tube. "No. 2" plastic is used to make milk jugs and other plastic bottles.
9. A nonprofit organization called The Ocean Cleanup is creating cleanup systems to remove waste that is already damaging our oceans and to stop plastic from entering the ocean through rivers. In order to do this, satellites will be used to monitor ocean plastic. The company is cleaning up and capturing the 5 trillion pieces of plastic waste that they have identified in the "ocean garbage patches" throughout the world using satellite imaging and machine learning.
10. *Reward system based on the blockchain:* The Plastic Bank, a grassroots organization, provides digital tokens secured by the blockchain that can be exchanged for recycled plastics. By establishing recycling systems in economically disadvantaged regions of the world, they intend to revolutionize the recycling systems worldwide in order to establish a plastic economy that is regenerative, inclusive, and circular. Any phone might become a recycling opportunity thanks to a blockchain banking platform that utilizes the IBM Cloud and a robust, scalable incentive system. The fact that more and more nations are putting forward policies to decrease the negative effects of plastics on the environment shows how serious of an issue they have become.

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