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THE AWARE CONSUMER

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WORLD CONSUMER RIGHTS DAY 2021 THEME:

TACKLING PLASTIC POLLUTION

RESEARCH FEATURE
Seven Steps To Becoming A Sustainable Consumer

INTERVIEW
Rachel Meidl, Fellow in Energy and Environment in the Center for Energy Studies at the Baker Institute for Public Policy at Rice University in Houston

OUT OF THE BOX
Time We Managed Our E-waste

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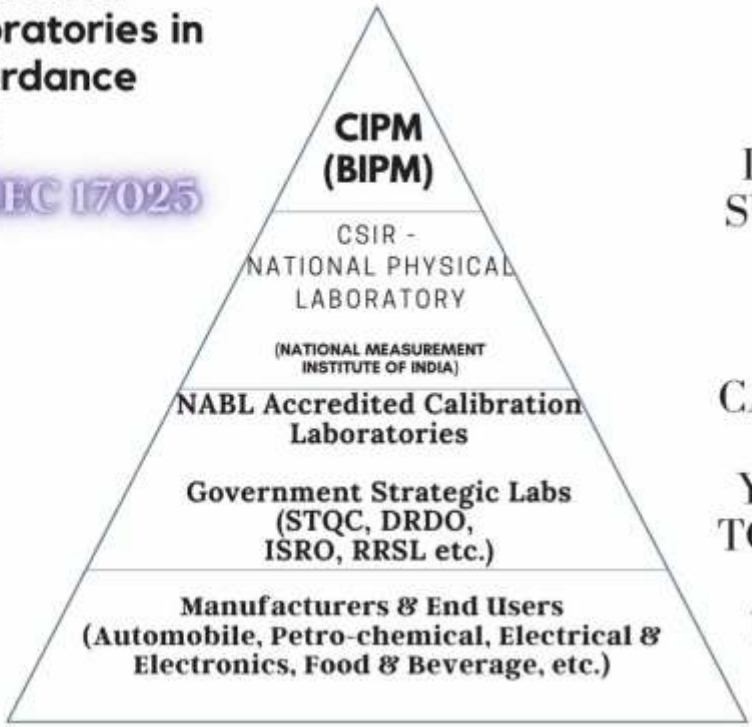

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DESK TALK

MESSAGE FROM PUBLISHER & EDITOR

Let's Rid The World Of
PLASTIC POLLUTION

AS PRIMARY STAKEHOLDERS in the health of the planet, consumers have a huge role and responsibility in tackling plastic pollution. Agreed that systemic change in the marketplace is required at all levels from the governments, businesses and standard setters to make tackling plastic pollution and sustainable consumption the easy choice for consumers. But this will not happen unless the consumers themselves raise the demand for saving the planet.

To achieve an impact at the scale required to deal with our plastic waste, we must forge a path making unsustainable options unviable as choices. Yes, governments will need to work on making more sustainable alternatives available, accessible and affordable, building effective recycling infrastructure, and ensuring that consumers have the information they need to make informed choices. But consumers themselves will need to create enough pressure on the governments to implement these actions.

Then again,just demanding action is not sufficient. As consumers we must not be bystanders in this process of change, but proactively participate in making the world plastic free.We must take up the responsibility of ridding the world of plastics through positive actions at the individual level. This can be done by adopting the 7Rs – Rethink, Refuse, Reduce, Reuse, Recycle, Repair and Replace – in our day-to-day life. Consumers everywhere are taking action on each of the 7Rs and demanding that the government and businesses support them to do more. We must build the momentum to make these actions sustainable and global.

Let's begin by re-evaluating our consumption habits to minimize plastic use - refuse unnecessary plastic wherever possible and demand more sustainable alternatives from businesses and governments, reduce the amount of plastic wepurchase and dispose of, extend the lifetime of plastic products by reusing them, dispose off plastic waste appropriately by following local recycling guidelines, repair items and appliances where possible, and replace plastic products or packaging with more sustainable alternatives.

One step at a time, but urgently.

Prof. Bejon Kumar Misra
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Building A Consumer Movement To Ban Plastics

THE CONSUMER MOVEMENT marks 15th March with World Consumer Rights Day every year, as a means of raising global awareness about consumer rights and needs. Celebrating the day is a chance to demand that the rights of all consumers are respected and protected, and to protest against market abuses and social injustices which undermine those rights.

World Consumer Rights Day was inspired by President John F Kennedy, who sent a special message to the US Congress on 15th March 1962, in which he formally addressed the issue of consumer rights. He was the first world leader to do so. The consumer movement first marked that date in 1983 and now uses the day every year to mobilise action on important issues and campaigns.

Thecampaign theme for the 2021 World Consumer Rights Day,'Tackling Plastic Pollution' takes last year's theme of 'The Sustainable Consumer' a step further into the domain of consumer efforts to control the mounting burden of our plastic waste. The focus this year is on the 7R Model of Waste Management and what consumers can do to tackle plastic pollution – Rethink, Refuse, Reduce, Reuse, Recycle, Repair and Replace. The role of consumers and consumer advocacy in tackling plastic pollution is important as consumers have the power to demand and enforce change for our environment and our health.

We are not new to the hazards of plastic pollution. But the fact that plastic is an extremely useful and cost effective material in everyday life makes it extremely challenging to curb its usage. Despite bans and regulations, we continue to produce and consume plastics, especially single-use plastics, that are unsustainable.Not to mention trading in plastic waste.

This has led the world to the brink of a global plastic pollution crisis. Our ecosystems are badly impacted,and the very health of our planet is at risk.

The sustained campaigns against plastic have increased consumer awareness regarding its hazards and there is a global demand for the authorities to take immediate action to stop plastic pollution. According to a 2019 global study, the consumer response to plastic waste is extremely strong, with 82% of respondents using reusable cleaning utensils instead of single-use plastic alternatives, 72% bringing reusable bags when shopping and 62% using refillable drinking bottles. Several governments across the world have announced bans on single-use plastics and have launched campaigns to educate the public on the need to minimize dependence on plastic products.

Unfortunately, the COVID-19 pandemic brought these strong regulatory actions to a halt as many governments had to ease the restrictions to help businesses. The effect of the pandemic on plastic pollution has been severe as it increased the use of single-use products including plastic face masks, gloves and food packaging.

Yet, despite the increased use of single-use plastic during the pandemic, 55% of consumers globally have now become more concerned about the environment as a result of COVID-19 and nearly 74% of consumers (in Europe, the US and South America) are willing to spend more on sustainable packaging.

This momentum must be maintained and built into a global consumer movement to ban plastics.

INSIDE

THE AWARE CONSUMER MARCH 2021

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UNLOCKING CONSUMER POTENTIAL
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DIRECTOR GENERAL, CONSUMERS INTERNATIONAL

"Consumers are increasingly aware of the impact of plastics on the environment; however, information provided on plastics is not always clear and actionable. The five global recommendations for action will support businesses, policy and standard makers to enable consumers to make sustainable choices."

ROUNDUP

The trade in plastic waste must be controlled to ensure rich countries do not dump their plastic garbage in poorer countries with weaker waste management infrastructure.

IMAGE: PIXABAY

DATA BRIEFING

How The World Can Address Plastic Pollution

To tackle the global plastics economy, the world must address the plastic trade dimension. The WTO has a critical role to play in controlling the trade-related plastic pollution.

The amount of plastic trash that flows into the oceans every year is expected to nearly triple by 2040 to 29 million metric tons.

TRADE PLAYS A central role in plastic pollution and in the global plastics economy. The relevance of trade in the production, consumption and disposal of plastics needs to be recognized and ways developed for cooperation on trade and trade policies to support global efforts to reduce plastic pollution. While there is an appreciable increase in institutionalized efforts across the globe to address plastic pollution, however, trade is yet to be recognized as a key player in these efforts.

The importance of trade in plastic economy brings WTO - as the core multilateral forum for trade cooperation - to the center stage. It has a critical role to play in promoting deeper understanding, dialogue and action among countries with regard to the trade-related aspects of plastic pollution. It is uniquely positioned to enable Member States to work together to promote inter-governmental efforts to reduce plastic pollution.

There is an urgent need to turn policy focus on tackling the nexus of plastic pollution and trade. For this to happen, the plastic chain must be tackled from the roots.

Undeniably, plastic is a versatile, useful and cheap material that finds applications in almost every walk of human life. However, it must be universally acknowledged that many of its uses are excessive and unnecessary. The primary example of this kind of wasteful use of plastic is the many single-use plastics.

Various estimates forecast plastic production will quadruple by 2050. The demand for plastics in markets in developing countries is growing and despite efforts by governments and stakeholders to control plastic pollution, there is no let up as the support for plastic production often continues with the tacit support of the governments.

Plastic is cheap and hence its environmental cost is lost in the cost benefits it offers. It gets a further boost from the cheap and heavily subsidized infrastructure that is vital to its production and leads to the low prices of virgin plastic and plastic products.

It is also important to drive home the fact that plastic pollution is not a one-time phenomenon but rather it occurs across the life cycle of the production, manufacture, use and disposal of plastic. The catch-all term "plastics" which refers to the entire range of plastic polymers and applications present different recyclability and waste management challenges. Not only this, each type of plastic also offers varying risks to the environment and human health.

The rising awareness in the people has led to massive campaigns that have exposed the underbelly of plastic pollution in the oceans and led to a public outcry. This has spurred greater attention to the many health, environmental and economic impacts of plastic pollution on land, air and water in the recent years. Attention has now also become focused on the pollution across the life cycle of plastics.

However, governments must realize that plastic pollution by businesses and consumers cannot be effectively addressed unless we focus on the production and use of polluting plastics in the first place. This calls for concerted efforts to transform the global plastics

Undeniably, plastic is a versatile, useful and cheap material that finds applications in almost every walk of human life.

economy by putting the spotlight on the nexus of trade and plastic pollution.

It is hence important to focus on the international trade across the life cycle of plastics and in plastic supply chains. This means looking at exports in primary forms of plastic that as per estimates in 2015 reached 42% of the total volume of production that year. The total exports in synthetic textiles that year were 60% of the total volume of global production of synthetic textiles in the same year.

Further, tens of millions of tons of plastic packaging are integral to thousands of products traded internationally each year, from electronic goods to bottled water and chocolate bars. Trade flows of "empty" plastic packaging (that is, shipping containers full of plastic packaging) alone account for almost 10% of plastic packaging produced annually. Plastic is also there in the countless number of products that are widely traded and consumed across the world. These include from cars to household goods, toys, construction equipment, rubber tyres and paints to much more.

Shockingly, most of this massive and growing scale of plastic waste that we produce each year is not recycled. In a blatant exploitation of the poorer countries, most of the waste plastic is shipped across borders, ending up in developing countries that have little capacity to manage their own ever-rising plastic waste and ends up in their landfills.

However, the range of trade-related measures and policies regarding plastic production and pollution is not always to control or end it. Some governments actually have policies supporting domestic plastic products and even exports of domestic plastic industries. Governments have also come up with policies to reduce plastic pollution by restricting or banning imports of certain plastic products and waste.

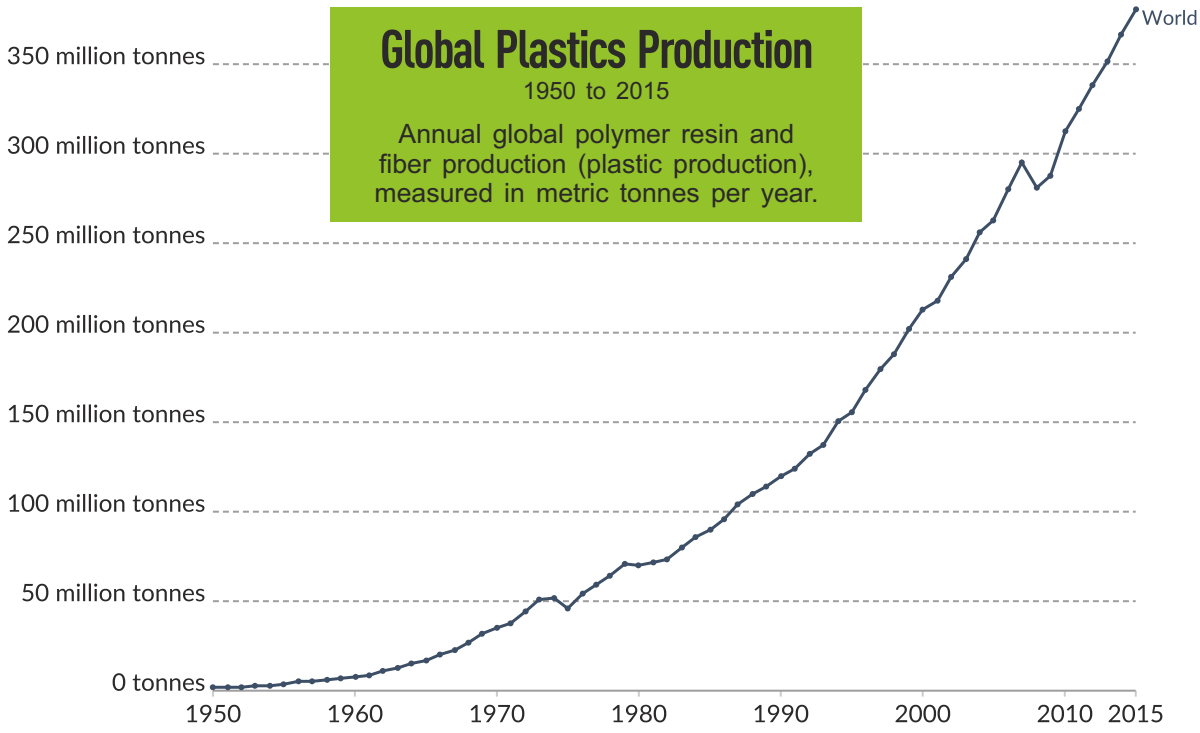
The poorly regulated trade of plastic waste and the concerns around the environmental and economic challenges arising from it, especially with regard to developing countries, led to 180 governments adopting the 2019 "Plastic Amendments" to the waste trade and the Basel Convention. The move was perceived as significant for bringing about trade-related policies to contribute to global efforts to reduce plastic pollution.

Around 127 countries had also brought in legislation to regulate plastic bags by 2018. Most of these rules concern restrictions on manufacturing, distribution, use and imports and to a lesser extent, fees and recycling targets.

Actually, between 2009 to 2018, WTO members notified 128 measures affecting trade in plastics for environmental reasons.

Other measures with important trade dimensions that can be brought in to reduce plastic trade include:

- the removal of subsidies promoting plastic production and trade
- bringing in environmental standards and labelling for plastics
- establishing government procurement policies to reduce use of single-use plastics



Source: Geyer et al. (2017)

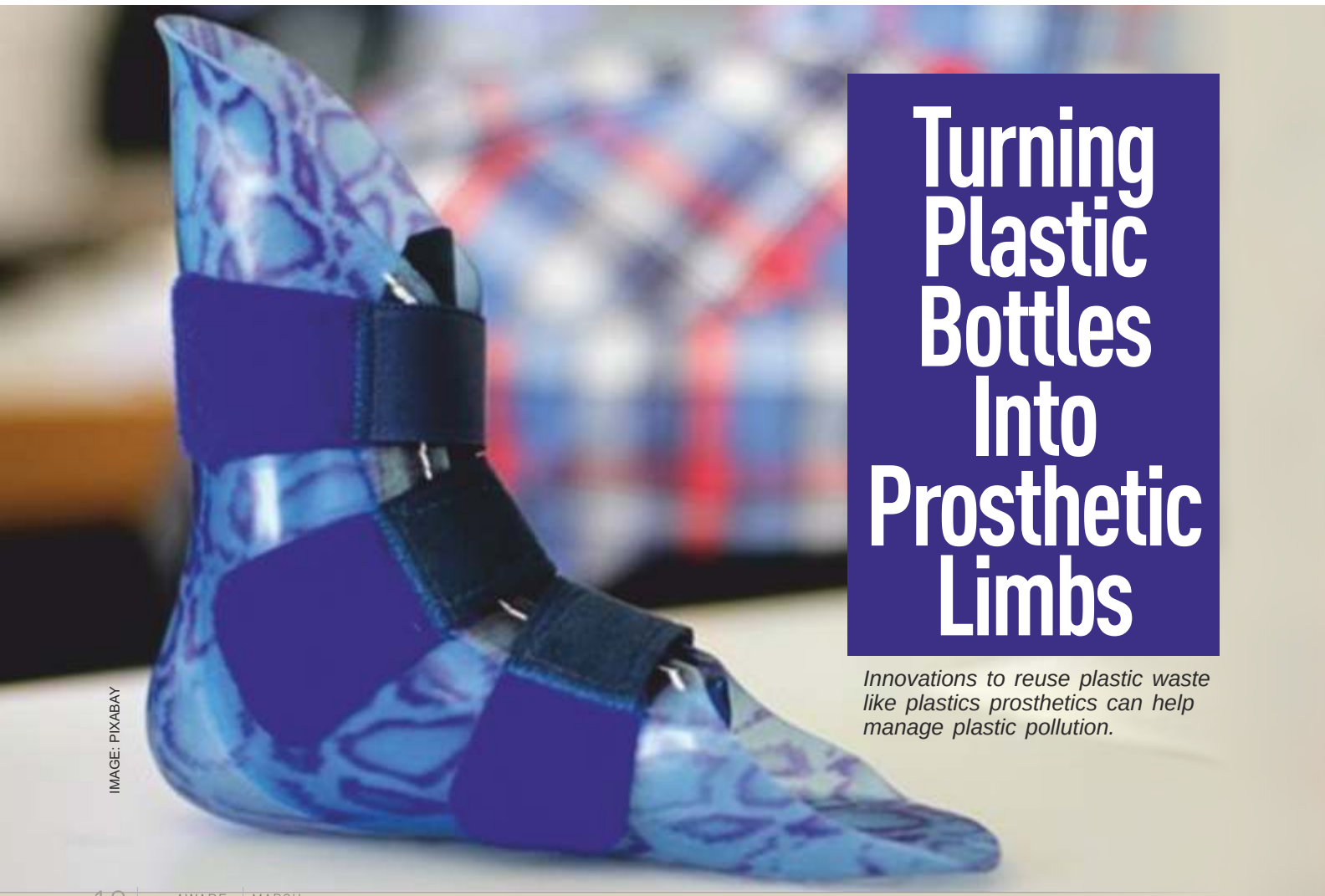


IMAGE: PIXABAY

Turning Plastic Bottles Into Prosthetic Limbs

Innovations to reuse plastic waste like plastics prosthetics can help manage plastic pollution.

- extending producer responsibility scheme
- circular economy initiatives and related industrial policies, such as subsidies and tax incentives to promote recycling as well as innovation and technology transfer in plastic substitutes, more biodegradable plastics and waste management technologies.

Going back to the Basel Convention, in May 2019, 187 countries decided to significantly restrict international trade in plastic scrap (recyclables) and waste to help address the improper disposal of plastic waste and reduce its leakage into the environment. As a result of these changes, transboundary shipments of most plastic scrap and waste will be controlled, or regulated, for the first time under a treaty called the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, effective January 1, 2021.

Moving forward, international shipments of most plastic scrap and waste will be allowed only with the prior written consent of the importing country and any transit countries. These amendments will substantially change transboundary shipments of plastic waste and the waste and recycling industries overall. Barring a permissible separate agreement, non-parties to the Convention(which includes the United States and a handful of other countries) will not be allowed to ship regulated plastic waste to Basel parties.

However, for any significant impact, the countries must work together. Currently, policies are more of a knee-jerk reaction to public outcry or as a country's measure to another country bringing in policies that impact other countries. The efforts of trade policies to help reduce plastic pollution continue to be uncoordinated and disjointed and hence, ineffectual. It would be more effective if all the 164 member countries of the WTO write multilateral trade rules to address the fundamental issues of plastic trade.

Governments across the globe must also enhance their efforts to not only regulate the production and consumption of plastics and plastic waste, but also identify non-fossil fuel plastic substitutes. The are many non-toxic, biodegradable and easily recyclable materials that can act as a substitute for plastic. These include glass, ceramics, natural fibers, paper, cardboard, rice husk, natural rubber and animal proteins. Switching to substitutes of plastic can be profitable as most are labor-intensive, and if the world changes its production and consumption patterns, it could lead to new jobs.

RECYCLE AND REUSE got a new meaning recently with some researchers creating a lightweight prosthetic limb from discarded plastic. Their innovation has the potential to save healthcare providers millions and also help tackle pollution.

To create the artificial limbs, the researchers ground down plastic bottles and spun the grains into polyester yarns which were heated to produce a light, sturdy substance that could be easily molded.

The aim of the researchers is two-forked – one is upcycling of recycled plastics and the second is offering affordable prostheses – both together address two major global issues. Created by UK academician, Dr Karthikeyan Kandan, who is a senior lecturer in mechanical engineering at De Montfort University, Leicester, UK (DMU), the prosthetics so created are not just cost-effective but also comfortable and durable for amputee patients.

This is one of the many initiatives being attempted across the globe aimed at reducing pollution from single-use plastics.

The Otherwise Bleak Situation

The fact that plastic is cheap, lightweight and durable and a highly versatile material has led to a staggering increase in single-use plastics over the past century. But this has come at a huge environmental cost and now many private and government efforts are focused on tackling the menace of plastic pollution.

UN estimates state that about 13 million tons of plastics leak into our oceans every year. Most of this plastic refuse is carried by rivers and waterways. According to the WWF, 80% of this pollution originates from land sources.

Another damning fact that only a fraction of the plastic waste generated is recycled. The rising scale of single-use plastics pollution has led to calls from organizations around the world for governments to rethink their plastic economy – how we produce, use and manage plastics. It is time to earnestly think about the future of plastics.

In this scenario, projects like recycled-plastic limbs that are based on recycling and reuse of waste plastics to extend their use are an example worth emulating.

The plastic prosthetics developed with backing from Global Challenges Research Funding, - an organization working to tackle the issues faced by developing countries - and the Academy of

Medical Sciences, an independent UK research body, were tested in India.

The team behind the limbs tied up with one of the world's biggest organizations working to provide disabled people with prosthetics, the Bhagwan Mahaveer Viklang Sahayata Samiti and experts from the Malaviya National Institute of Technology, both based in Jaipur.

It is hoped that the biggest beneficiaries will be amputees in developing nations who cannot afford quality artificial limbs, while also tackling the plastic menace in whatever small way.

Source: Secondary research & media reports

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Consumers, Beware

Health Costs Of Plastics

What is the impact of plastic on human health and wildlife? - Though there isn't a huge body of research literature on this, what we have underlines the fact that we can ill-afford to ignore the health costs of plastic pollution.

IMAGE: PIXABAY

To calculate the impact of plastic on human and wildlife health, we must adopt a life cycle approach.

THERE ARE MANY documented figures about the impact of plastic on the ecosystem and wildlife. But still, as widely acknowledged, the full extent of the actual effects is largely unknown.

What we know is that there are three key pathways by which plastic debris affects wildlife:

Entanglement: This is the entrapping, encircling or constricting of marine animals by plastic debris. The heart-rending cases of marine turtle species, seal species, whale species, and seabirds has been graphically captured and publicized. Entanglement of different species of invertebrates has also been recorded. Entanglements mostly happen because of plastic rope and netting and abandoned fishing gear. Entanglement by other plastics such as packaging is also common.

Ingestion: Ingestion of plastic mostly occurs unintentionally or indirectly through the intake of prey species containing plastic. Instances of marine species, including marine turtles, seals, whales, seabirds, fish and invertebrates, have been recorded numerous times.

Ingestion of plastics can have multiple impact on the health of the living organisms. Large volumes of plastic can greatly reduce stomach capacity, leading to poor appetite and false sense of satiation. Plastic can also obstruct or perforate the gut, cause ulcerative lesions or gastric rupture. This can ultimately lead to death.

Interaction: interaction includes collisions, obstructions abrasions or use as substrate. There are multiple scenarios where this can have an impact on organisms. Fishing gear, for example, has been known to cause abrasions and damage to coral reef ecosystems upon collision. Ecosystem structures can also be impacted by plastics following interference of substrate with plastics (impacting on light penetration, organic matter availability and oxygen exchange).

Therefore, it is clear that plastic can interact with and influence wildlife in various ways.

A key concern with regard to microplastics, that is particles smaller than 4.75 millimeter in diameter, is ingestion by animals. Ingestion of microplastics or even plastic bags is not unknown or unseen. In India, stray cattle and smaller animals, like dogs, are known to feed on and ingest plastic thrown carelessly in the many garbage dumps around the country. For many organisms, ingestion occurs through several other mechanisms, ranging from uptake by filter-feeders, swallowing plastic contaminated water from water bodies, or consumption of organisms that have previously ingested microplastics.

The potential effects of microplastics on organisms occurs at different biological levels ranging from sub-cellular to ecosystems. However, most research has focused on the impact on individual adult organisms.

Microplastic ingestion has been rarely found to cause death in any organism, as 'lethal concentration' (LC) values measured and reported for contaminants does not exist.

There is, however, increasing evidence that microplastic ingestion can affect the consumption of prey, and may lead to energy depletion, inhibited growth and lower fertility. The ingested microplastics take up space in the gut and digestive system that impacts the feeding signals. The impact of reduced food consumption has been exhibited by the ingesting organism.

However, the changes in feeding after microplastic ingestion do not apply to all living organisms. Overall, however, it's likely that for some organisms, the presence of microplastic particles in the gut (where food should be) can have a negative biological impact.

Impact of Plastics on Humans

It is ironic that though plastic is the most pervasive material on the planet, its impact on human health is poorly understood. It is hence troubling that human exposure to plastic is an ever-expanding area as it penetrates the environment and food chain with existing plastic products fragmenting into smaller particles and concentrated toxic chemicals. The health hazards will only increase, because as the production of plastic is going on rising, our exposure to it is also expanding.

If we consider the entire life cycle impacts of plastic, the message is clear: it threatens human health on a global scale.

'Plastic is a human health crisis hiding in plain sight', states a report entitled Plastic & Health: The Hidden Costs of a Plastic Planet. This report is an eyeopener on the distinct toxic risks that plastic poses to our health at every stage of the plastic life cycle - from extraction of fossil fuels to consumer use to disposal and beyond.

Research into the impacts of plastic on human health has by and large focused narrowly on specific stages in the plastic life cycle and often on how single products, processes or exposure pathways impact our health. But the actual is much more significant and complex as it occurs at every stage of the plastic life cycle: from wellhead to refinery, from store shelves to human bodies, and from waste management to ongoing impact of microplastics in the air, water and soil.

It is these gaps in knowledge about the impact of plastics and the uncertainties surrounding it that has impeded the development of effective regulation and policies. In fact, the ability of consumers, communities and policymakers to make informed decisions is severely impacted. It is vital that the full scale of the health impact throughout the life cycle of plastics are recognized and lead to a precautionary approach.

Some of the key findings of the report are:

Plastic Requires a Life cycle Approach

It is being increasingly acknowledged that the narrow approaches to assessing and addressing the impacts of plastics adopted so far are inadequate and inappropriate. To enable policy makers and other stakeholders to make informed decisions to address plastic risks requires that we adopt a full life cycle approach to understanding the complete scope of the toxic impacts of plastics on human health. To reduce the undue exposure to plastic, we will have to adopt a variety of solutions and options - in fact, a 360-degree

approach - as plastic has a complex life cycle with a diverse universe of actors.

It is also important to recognize that plastic poses distinct risks to human health at every stage of its life cycle. The risks arise from both exposure to plastic particles and also the associated chemicals. It is important that we factor in these risks as every day, people worldwide are being exposed to plastic at multiple stages of its life cycle.

During the extraction and transportation of fossil feed stocks for plastic itself, an array of toxic substances are released into the air and water. These toxins are known to cause health issues like cancer, neurotoxicity, reproductive and developmental toxicity and impairment of the immune system.

Refining and production of plastic resins and additives releases carcinogenic and other highly toxic substances into the air. This again impacts human health as it causes impairment of the nervous system, reproductive and developmental problems, cancer, leukemia and genetic impacts like low birth weight.

At the stage where plastic is used in consumer products and packaging, the dangers arise from ingestion and/or inhalation of microplastic particles and hundreds of other toxic substances.

Even the plastic waste management stage is hazardous to human health as “waste-to-energy” and other forms of incineration lead to toxic substances including heavy metals such as lead and mercury, acid gases and particulate matter being released. they can enter air, water and soil leading to both direct and indirect health risks for workers and communities living around the site.

Fragments of microplastics enter the human body directly and lead to an array of health impacts. These include inflammation, genotoxicity, oxidative stress, apoptosis and necrosis – linked to negative health outcomes ranging from cardiovascular disease to cancer and autoimmune conditions.

There is a cascading exposure as plastic degrades leading to leaching of toxic chemicals (concentrated in the plastic) into the environment and human bodies.

The ongoing environmental exposure continues as plastic contaminates and accumulates in food chains, impacting agricultural soils, terrestrial and aquatic food chains and the water supply.

For human health, the smallest particles – micro and nanoparticles that are small enough to be ingested - are the greatest concern. We can ingest plastic particles orally through water, consumption of marine products which contain microplastics, through the skin via cosmetics or inhalation of particles in the air. Though there is hardly any evidence of the harmful effects, nonetheless, exposure to micro plastics must be taken seriously.

Plastic pollution is real and its impact on both the health of humans and wildlife is huge.

Source: Secondary research & media reports

The important role of waste pickers

In many places lacking formal waste collection and management systems, waste pickers often play an important role in sorting and recycling waste. These groups can exhibit high levels of entrepreneurship, resilience and ingenuity. However, their work is informal and they face considerable challenges including unhealthy conditions, lack of social security or health insurance and social marginalisation. The work itself is also extremely hazardous. In several countries, initiatives working with waste pickers and supporting them have resulted in a dramatic expansion in waste collection as well as improving their livelihoods, workplace safety and sense of dignity. In considering the solutions to the plastic pollution crisis, it is vital that any waste management initiatives treat waste pickers as a major stakeholder, and seek to work in partnership with them.

7 Steps To Becoming A Sustainable Consumer

Adopt the 7Rs mantra to reduce both your consumption and waste of plastics.

THE THEME FOR World Consumer Rights Day 2020 had given a callout for global changes to avert environmental breakdown. The #SustainableConsumer campaign rallied over 160 members in more than 100 countries across the globe, along with Consumers International's partners such as the United Nations, to mark the day.

The need for urgent and drastic action to address the global crises of climate change and biodiversity loss has been recognized worldwide. Also, the fact that the decade of the 2020s is the last chance that humanity has to limit global warming to 1.5℃above pre-industrial levels, in line with the Paris Climate Agreement, and to reverse the current trend of wide-scale biodiversity loss.

The entire planet is reeling under the effects of climate change. Consumers can make a vital contribution to making the planet sustainable through their purchasing power – the willingness to pay more for sustainable products. Conscious consumption has seen many consumers making changes to their lifestyle – recycling, reducing food waste and avoiding unsustainable products like plastics.

Consumers are critical to the success of any transition to more sustainable consumption, but they cannot do it alone. In fact, they can make a bigger impact with support from businesses and governments. This can be in the form of information, choice and the infrastructure that consumers need to live more sustainable lives. It is heartening to find Gen Z showing the way to sustainable consumption through their lifestyle choices like slow fashion and campaigns for climate change.

Notably, Goal12 of the SDGs is 'Ensure sustainable consumption and production patterns'. The consumption and production pattern worldwide has for long rested on the use of the natural environment and resources that has led to destructive impacts on the planet. Our economic and social progress over the last century disregarded the environmental degradation that it was causing and endangered the very systems on which our future development and survival depends.

It is a shameful fact that each year, an estimated one-third of all food produced – equivalent to 1.3 billion tons and worth around $1 trillion – ends up in our dustbins or is spoilt due to poor transportation and harvesting practices. We consume electricity without a thought. If all of us worldwide switched to energy-efficient light bulbs, the world would save $120 billion annually.

The worst part is that if the global population reaches 9.6 billion by 2050, the equivalent of almost three planets will be required to provide the natural resources needed to sustain our current lifestyles.

The COVID-19 pandemic demonstrated that we can do much with little;- economies came to a grinding halt and our fast-paced mindless consumption went into a pause mode. It has clearly proved that it is very much possible for countries to make recovery plans to reverse current trends and change our consumption and production patterns towards a more sustainable future.

Tackling Plastic Pollution

This World Consumer Rights Day (15th March, 2021), consumer organizations around the world are taking the 2020 theme of Sustainable Consumer a step further by sounding the bugle calling for global change to tackle plastic pollution. In 2021, the goal is to highlight the role of consumers and consumer advocacy in tackling plastic pollution and demonstrate that consumers everywhere are demanding a change for our environment and our health. Indeed, our consumption and production of plastics, especially single-use plastics, have become unsustainable

and this has led to a global plastic pollution crisis impacting our ecosystems and our health.

Plastic has definitely become a constant element in our lives. It's everywhere –in product packaging, cosmetic ingredients, textiles, mobile phones, etc. It's even in the chewing gum we habitually chew on! The omnipresence is such that many would find the mere fact of giving it up an intensely difficult task. Reducing the consumption of plastics therefore requires not only a change in habits, but also a change of mindset.

The increased use of plastic products and packaging generated by the global COVID-19 pandemic has led to increasing plastic pollution as the use of single-use products, including plastic face masks, gloves and food packaging, has increased. In fact, apart from the obvious costs of Covid-19, there has been one silent cost – the one to the environment. The pandemic has led to a surge in plastic pollution from the rising waste of disposable products like plastic face masks, hand sanitizer bottles, PPE suits, disposable packages from food, groceries and much more as increasing number of people have started shopping online and ordering home delivery. Experts feel that effective trade rules can help limit the spread of this corona virus-related plastic waste.

It is true that the lockdowns around the globe due to the pandemic led to a dramatic 5% drop in greenhouse gas emissions, as per UNCTAD estimates. But there have also been some negative fallouts that have had a really harmful impact on the environment.

One is plastic pollution. As the streets emptied of people, they seemed to have been hit by a tidal wave of COVID-19-related waste that includes plastic face masks, gloves, hand sanitizer bottles and food packaging. Our landfills - already full to overflowing - have to now contend with more waste, as do our oceans and water bodies.

Plastic pollution which was acknowledged as one of the greatest threats to the planet before the pandemic outbreak, has now assumed alarming proportions due to the sudden increase in plastic waste generated by items that have now become a significant part of our daily life. alas, our efforts to keep corona virus at bay is making things much worse for our planet.

According to estimates, global sales of disposable face masks were expected to grow from $800 million in 2019 to $166 billion in 2020. Social distancing has added to this growing mass of plastic waste as online shopping and takeout services have become the norm - products are delivered daily to homes and most come wrapped in multiple layers of packaging – mostly plastic or plastic products.

About 75% of all this corona virus-related plastic is likely to become waste, adding to the landfill mountains and debris covering our seas. The costs of this waste will be staggering, impacting both human health and the health of the planet. In commercial terms, it is estimated that fisheries, tourism and maritime transport alone add up to an estimated loss of $40 billion each year.

Despite the rising concerns regarding plastic pollution, governments around the world have failed to clamp down on the manufacture and usage of plastics due to various pressures. Countries need to work on implementing a strong policy framework around plastics to enable a more environmentally sustainable global economy. Some efforts are visible for sure, but it is far from enough.

Systemic marketplace change is required at all levels, from governments, businesses and standard setters, to make tackling of plastic pollution and sustainable consumption the easy choice for consumers. To achieve an impact at the required scale, we need a path so that unsustainable options are no longer a viable choice. Making more sustainable alternatives available, accessible and affordable, building effective recycling infrastructure and ensuring that consumers have the information they need to make informed choices are only some of the ways that this can be achieved.

The 7Rs of Sustainability

The 2021 World Consumer Rights Day campaign will focus on the 7Rs: Rethink, Refuse, Reduce, Reuse, Recycle, Repair and Replace. These will help consumers everywhere make more sustainable life choices. They can also take action on every one of the 7Rs and demand that the governments and businesses should support them to do more.

1. Rethink

Rethink calls out to consumers to change the way they view natural resources. It is important to understand that natural resources are limited, and once we accept this, it can greatly influence the choices we make as consumers in our everyday life. When purchasing items, it is important to remember that every rupee spent or not spent goes into shaping the world we live in. Every choice we make is important to the health of the planet.

A simple way to rethink our choices is to conduct a waste audit at home. You will be surprised to find the areas in your life that lead to the most waste. Are you using single use plastic water bottles that accumulate in the house or are consigned to the dustbin after single

use? Many households have started switched to glass, stainless steel or brass water containers that can be used over and over again. A conscious choice like this does not only help you save the environment but is also cost-effective.

2. Refuse

As consumers, we are empowered to refuse to accept or support products/companies that harm the environment. We can do our bit to ensure that companies adopt sustainability by refusing items that are over-packaged or packaged in plastic. It may not be possible to refuse all plastic items, but being conscious and accepting only that which is essential can slowly help change the society we live in.

For instance, what is the point of buying each vegetable separately packed in plastic and then putting it in a cloth bag that you bring from home or buy at the counter? Isn't it just a mockery of the plastic bag ban? We can take small steps like avoiding produce wrapped in plastic, buying only package-free produce and using a reusable produce bag instead of the plastic produce bags offered the stores.

3. Reduce

Our elders belong to the frugal generation. We also need to develop the habit of reducing the number of resources that we use in our daily life. We can begin by reducing our energy and water usage. Switch off all unnecessary lights, fans and other electrical appliances, close taps and take bucket baths instead of showering daily. These are small ways in which sustainability can be achieved.

Reducing our daily garbage is the next big step. This can be done by reducing food waste, plastic wrappers, etc. We can also reduce the fuel that we consume by planning our trips or using the public transport wherever possible, using a bicycle or choosing to walk when the distance is short. Our kitchen creates the most waste and it is important to focus on reducing waste here first to make the biggest impact.

Some ways to reduce plastic are:

- Bring your own shopping bag
- Carry a reusable water bottle
- Bring your own cup
- Pack your lunch in reusable containers
- Say no to disposable straws & cutlery
- Skip the plastic produce bags
- Slow down and dine in
- Store leftovers in glass jars
- Share these tips with your friends

A very effective way to reduce is to identify items that generate a lot of waste and swap them for more environmental-friendly products. Paper napkins, tissues and towels lead to a lot of waste. We can work on making the kitchen paperless by swapping paper items like paper towels, paper napkins, paper plates, paper cups and the like for their cloth counterparts that can be washed and reused.

4. Reuse

When we buy products in a can or a jar, we pay for the packaging which is often more than the product itself. It makes economic sense to reuse this packaging. Cans and jars were reused by our parents' generation. But we dismissed it as a middle class frugality and began throwing away the packages. It is time to re-adopt these simple sustainable ways to make the most of the packaging. If we cannot reuse them, we can always share it with others who need it. This is called re-homing.

5. Repurpose/Recycle

Remember how we were taught to convert tin jars into dustbins by creatively repurposing them? It is time to once again start thinking how we can repurpose an item before disposing it. Can it be re-made and reused? Upcycling has been a big part of most of our childhood. Our mothers' upcycled their saris into dresses, blankets, curtains, mops, handkerchiefs and scarves before they lost their utility and were finally thrown away. Even these upcycled items would then be given to the needy, thus prolonging their use.

The easiest way to recycle in India is to sell your used products to the kabadiwala. From cans, paper, newspapers, cardboard, glass bottles and jars, plastic bottles, jugs, containers and food and beverage cartons to clothes, furniture, appliances and electronics, everything can be recycled. You just have to be willing to do it.

6. Repair

Repairing items is an important way to reduce the consumption of materials, natural resources and plastics. Why buy a new microwave or a mixer when the old one can be repaired? Buying electronics, white goods and even cars to upgrade your status symbol when the existing ones can be easily repaired is what unsustainable consumption is all about. We need to value the item that we have and repair it when needed. This way we are sustaining the products and reducing waste.

7. Replace

To combat plastic pollution, as consumers, we must make conscious decisions to use alternative materials to plastics and especially replace single-use plastic items with reusable products.

Rot

Though not part of the 7Rs of sustainable waste management, Rot is another way to enhance your sustainable living goals. Rot, also known as composting, is the act of turning food waste and other organics back into nutrient-rich soil. Many governments are now coming up with regulations for housing societies and individual homeowners to compost their waste. Composting is an easy and sustainable way of using your own waste to grow your garden.

Some other ways to become sustainable are:

- **Source Reduction** - Cook using fresh ingredients in small batches and install the habit of taking only as much as you are going to eat.
- **Feed Hungry People** - Donate to food banks or make your own food fridge at the gate from where the local needy can take the food.
- **Feed Animals** - Food scraps can be used to feed strays.
- **Industrial Uses** - Used cooking oil can be recycled for biofuels and biodigesters
- **Composting** - Food scraps, coffee grounds, used tea leaves, vegetable and fruit peels and seeds can all be used as compost.

Conclusion

Becoming a conscious consumer is not a tough task. All we need to do is take some mindful decisions to ensure sustainable consumption like reducing our waste, our carbon footprint and our use of plastics.

Source: Secondary research & media reports

IMPACT OF CHINA'S BAN ON PLASTIC WASTE TRADE

Post China's plastic waste trade ban, Southeast Asia has slowly emerged as the new hub for richer countries dumping their plastic waste. Most lack recycling capabilities and are lending to the rising plastic waste pollution.

IMAGE: PIXABAY

Rich countries' plastic waste lands in poor countries through plastic waste trade.

PLASTIC WASTE IS generated in countries across the world and recycled plastic waste is a product that is traded in the global commodity market. The trading of plastic across the world hence has important implications for the environment. High-income countries - despite having developed and sophisticated plastic waste management systems - export their plastic waste to emerging countries that have underdeveloped waste management systems, and thus add to their plastic burden. Most of this plastic waste finds its way to the ocean, thus aggravating the plastic problem.

It is not easy to recycle plastic, especially those that contain additives and plastic blends. Advanced economies find it more cost-effective and convenient to export their recycled plastic waste and thus avoid the complexity of managing the waste domestically. The importing countries, that are generally the poorer economies, are even more ill-equipped to handle the complexities of plastic waste. As a result, if the imported plastic doesn't meet the requirements for recycling plastic or is a blend of non-recyclable plastic, it is discarded. This plastic lands in the already overflowing landfills and eventually enters the oceans because of the poor waste management systems.

At the end of 2017, China introduced a complete ban on the imports of non-industrial plastic waste.

104M METRIC TONES

CURRENT EFFORTS TO IMPROVE WASTE MANAGEMENT CAPACITY ACROSS THE PLANET ARE INSUFFICIENT TO STOP A PREDICTED 104 MILLION METRIC TONS OF PLASTIC AT RISK OF LEAKAGE INTO NATURE IN 2030.

As per estimates,10-11 percent of China's total plastic waste was imported from around the world. Many high-income countries including Japan, USA, Germany, Belgium, Australia and Canada were the major plastic exporters to China.

The ban was not sudden. Since 2007, China had been increasing restrictions on its plastic waste imports. In 2010, it had implemented its “Green Fence” program, which was a temporary restriction for plastic imports with significantly less contamination. But, in 2017 it brought in a much stricter and permanent ban on non-industrial plastic waste imports.

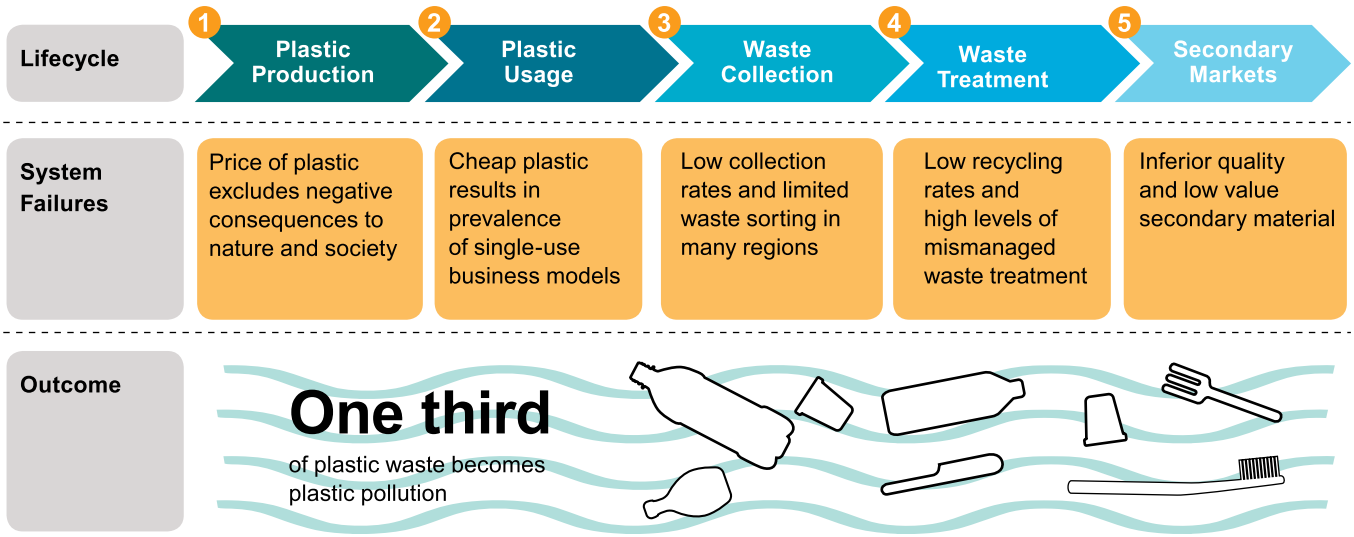
The impact of China's ban on the global plastic economy has been huge. It is estimated that by 2030, around 110 million tons of plastic will be displaced as a direct fallout of the ban. What it implies is that with this ban it became imperative for the exporting countries to either handle this plastic waste domestically or find other export destinations.

Although many countries were also forced to step up their recycling efforts, most did the latter. India became one of the countries which found its plastic waste imports increasing substantially. According to the estimates of Pandit Deendayal Upadhyay Smriti Manch (PDUSM), India's imports of plastic scraps from China, Japan, Italy and Malawi for recycling and imports of PET bottle scrap and flakes has quadrupled.

China had notified the World Trade Organisation before it implemented the ban. However, many countries such as the US and UK were unprepared to deal with their own plastic waste when the ban came into force. In 2014, the US could recycle only about 3.5 tons of the waste it produced. China was importing as much as 775 tons of plastic waste from the US before the ban.

The China ban galvanized some countries into initiating measures like subsidizing plastic recycling companies and imposing a tax on plastic to reduce usage. Despite these steps, Southeast Asia has

Summary of failures across the plastic system driving plastic pollution



gradually emerged as the new plastic recycling hub, with Malaysia becoming the leading alternative destination. As per industry estimates, between January and July 2018, the country imported 500,000 tons of plastic waste from just ten countries. The result has been mushrooming unlicensed recycling factories that use environmentally harmful methods of waste management.

According to a report, such factories recycle used plastic into pellets, which are then used in the manufacture of other plastic products. But this process of pellet manufacturing has high risks of pollution. Besides this, the plastic found unsuitable for recycling is burnt which releases harmful toxic chemicals into the atmosphere. Most of the plastic though ends up in landfills, which leads to contamination of soil and water sources.

India was the 10th largest importer of plastic scrap before China's ban. It is feared that there has been a substantial increase in the import shows of plastic waste since then despite its own ban and that India has emerged as one of the alternative destinations for recycling plastic waste.

In fact, India had banned the import of plastic waste, particularly PET bottles, in 2015, as it did not have the capability to recycle it. But reports claim that traders in plastic waste have been exploiting a legal loophole to import used PET bottles into the country, despite the ban on the import of plastic waste that the Government of India too had brought about quickly following in China's footsteps. The loophole exploited by the plastic waste traders became possible when, by a subsequent amendment in 2016, the government allowed agencies located in Special Economic Zones to import plastic waste

According to the Central Pollution Control Board's report, our import of plastic waste was 12,000 tons in the fiscal year 2016-17, growing to 48,000 tons in FY 2017-18. It also reports that 25,000 million tons (MT) were imported in the first three months of FY 2018-19 itself .

The problem of plastic waste in India is compounded by its inadequate segregation and collection capabilities. It means that most of the plastic waste does not reach the recycling centers at all.

India however recycles a higher percentage of plastic waste domestically than several richer countries. As per an estimate, India produces almost 26,000 tons of plastic waste everyday, but just over 15,500 tons is collected. According to a 2012 study, 56% of the plastic waste produced in the country is recycled. Waste collection and segregation in India, including that of plastic waste, is largely unorganized and part of its burgeoning informal sector that provides employment to many.

Despite the ban on plastic bags and the rising consciousness among consumers regarding the harmful effects of plastic, the use of plastic continues to be widespread. According to experts, while promoting recycling efforts, the government must focus on reducing its usage as a means to curb plastic pollution.

Several states have banned the use of plastic bags, however, intense lobbying, absence of viable cost-effective alternatives and the fear of damaging the livelihood of a vast population dependent on manufacturing of plastic, and its waste industry, has rendered it ineffective.

A report by the Global Alliance for Incinerator Alternatives (GAIA), only 9% of all plastic discarded since 1950 has been recycled. The rest ended in the landfills and dump sites, incinerator emissions or oceans. The saddest part is that it will remain there for millennia.

Source: Secondary research & media reports

We must save our oceans from choking on our plastic waste.

Ocean Plastic Pollution Must Be Curbed ASAP

THE WORLD'S FIRST synthetic plastic called Bakelite was produced in 1907. This marked the beginning of the global plastic industry. But it was in the 1950s that rapid growth in global plastic production started. Over the next six and a half decades, annual production of plastics increased nearly 200-fold to 381 million tons in 2015.

In 2010, global primary production of plastic was 270 million tons and global plastic waste was 275 million tons. Coastal plastic waste – generated within 50km of the coastline - was 99.5 million tonnes. Improperly managed plastic waste, which poses a significant risk of leakage to the environment, amounted to 31.9 million tons. Of this, 8 million tons or 3% of global annual plastic waste, entered the ocean (through multiple outlets, including rivers).

The actual amount of plastic in surface waters is not very well known. Reports estimate that there are more than 5 trillion plastic particles in the world's surface waters. The 'Great Pacific Garbage Patch' (GPGP) is often quoted as an example of large plastic accumulations in surface waters.

Our oceans receive plastic from both land-based and marine sources. Fishing fleets leave behind fishing nets, lines and ropes in the ocean. Abandoned vessels further add to the pollution. As per estimates, around 80 percent of ocean plastic comes from land-based sources and the remaining from marine sources. Of the 20 percent thatcomes from marine sources, around half is from fishing fleets including nets, lines and abandoned vessels. There is no exact estimate of marine sources of plastic, but it can be safely assumed that it contributes 20-30 percent of ocean plastics. The dominant source of plastic pollution in the ocean hence is land-based input at 70-80 percent.

Plastic pollution poses a huge threat to our oceans. If we do not take urgent action to minimize plastic pollution, we are severely endangering our biodiversity.

Plastic can enter the ocean environment through multiple routes. The river systems, however, are a key input source and transport plastic waste from inland to coastal areas from where it enters the ocean.

According to reports, Asia contributes maximum to river plastic and represents 86 percent of the global total, followed by Africa at 7.8 percent, and South America at 4.8 percent. Central & North America, Europe and the Australia-Pacific region collectively account for just over one percent of the world total.

The above data shows the magnitude of input of plastics in the natural environment and the world's oceans and how various elements of the plastic production, distribution and waste management chain contribute to this problem.

The Missing Plastic

In the recent decades alone, we must have released millions of tons of plastic in our oceans. But the plastic in the oceans' surface waters is several orders of magnitude lower than the annual ocean plastic inputs. This discrepancy is known as the 'missing plastic problem'.

So where is all that plastic going? It is imperative that we address this problem and understand where the missing plastic waste ends up. We also need to investigate its impact on wildlife, ecosystems and health.

What we know is that plastics persist for decades and accumulate on our shorelines. A study demonstrated that a vast majority, i.e., 82 million tons of macroplastics and 40 million tons of microplastics are washed, buried or resurfaced along the world's shorelines. Though the study found that much of the macroplastics found on the shorelines is a decade or more old, quite a large amount is older, pointing to the fact that plastic waste takes several decades to break down.

Going Ahead

The future of the oceans is indeed bleak if we continue to release more plastics into it. It is frightening to note that even if we somehow manage to stop ocean plastic waste, macroplastics will still persist in our surface waters for many decades to come. Our large legacy of plastics that is buried away or washed onto the shorelines will continue to resurface and be transported to offshore regions.

To solve the problem of ocean pollution, we need to rapidly reduce the amount of both macro and microplastics that are flushed into our oceans. For this to happen, we must stop plastic waste from entering our waterways and this must be done as soon as possible. To achieve this, we also need to improve our waste management as this is responsible for plastic waste entering our oceans. Our immediate effort should be on removing plastics accumulated in the offshore waters and on the shorelines.

Waste management actually plays a fundamental to play in preventing ocean pollution. But more importantly, we must work on reducing our usage of plastic which would bring down plastic production.

Plastic finds major use in packaging; building and construction is the second largest sector utilizing 19 percent of the total plastic. Packaging plastic has a short 'in-use' lifetime - think of all the food packages and courier parcels that we throw in the garbage bin. In contrast, plastic in building and construction lasts for 35 years. No prizes for guessing that packaging is the dominant generator of plastic waste and is responsible for almost half of the global total. The recent spurt in packaging plastic waste, as the world became dependent on online shopping and doorstep delivery, is a pointer to the immense threat posed by plastic packaging to the environment.

The safety of our oceans is in our hands.

Source: Secondary research & media reports

An Aware Consumer is a Protected Consumer

"Let's Not Fall Victims to Fraud Be Aware"

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No Time For Complacency

India's burgeoning plastic waste crisis needs stringent laws.

India must take urgent action to tackle its plastic waste.

PLASTIC WASTE IS India's - and the world's - most formidable environmental challenge today. Looking at the urgency of the crisis, Prime Minister Narendra Modi had given a call for freedom from single-use plastic in 2019 and the government had set 2022 as the deadline to achieve this. However, in 2020 the government backtracked on this deadline saying that the ban would be too disruptive for the industry and the economy.

The pandemic has now worsened the plastic waste crisis and in this scenario, the mute question is - How will India ever manage to meet its objective of evolving into a single-use plastic free country?

Global studies have established that 79 per cent of the total plastics produced in the world enter our environment as waste. To make matters worse, only 9 per cent of the total plastic waste in the world is recycled. A 2018-19 report by Central Pollution Control Board (CPCB) estimated the total annual plastic waste generation in India at 3.3 million metric tons per year. And this could be an underestimate.

Plastic waste generation is expected to increase to 31.4 million tonnes by 2031 and further to 55 million tonnes by 2041 (Statista 2019), thus showcasing an urgent need to address the concerns from the growing plastic waste in our country.

True that India's plastic waste challenge is not as frightening as that of the richer countries, but it is growing and that should ring the alarm bells. It must also be noted that more plastic waste is produced by the richer states like Goa and Delhi in India – 60 grams and 37 grams per capita per day respectively – while the national average is 8 grams per capita per day.

According to the Centre for Science and Environment (CSE), a key issue in management of plastic waste has been the lack of credible, actionable data and information. The CSE states that the first agenda for plastic waste management should be to “improve the inventory of waste and understand the material balance of plastic”. This will help us understand the what and why of our plastic waste. Only if we can decipher the composition of our plastic waste, can we hope to manage it better.

As per reports, the government's key priority areas for action against plastic waste include banning import of plastic waste, defining single-use plastics more clearly, banning certain items of single-use plastics, reviewing use of multi-layered plastics, establishment of an online platform for trading in plastic credits, among others.

The CSE also feels there is an urgent need to decode recycling and “understand the politics of recycling”. It is important to deconstruct the concept of recycling as the agenda of plastic waste management depends on a deeper understanding of this concept. We need to know what recycling is all about, who can recycle, what can be recycled, and whether recycling is actually cost-effective.

India - with nearly 26,000 tons of plastic waste generated daily - is the 15th biggest plastic polluter globally. Look at any city - discarded plastic waste littering roads, rivers and dumped on mounds of garbage dumps is a common sight. Come monsoon and the plastic waste becomes an ugly sight clogging drains and becoming a breeding ground for mosquitoes as it collects water. It's a serious health hazard for the stray animals that graze on the garbage dumps. To make matters worse, municipal bodies are unable to deal with the waste and burn it, thus releasing toxic gases in the process and adding to the air pollution.

Prime Minister Modi had urged a nationwide movement to end the plastic waste menace, asking citizens to shun single-use plastic from October 2nd, 2019, to mark the 150th birth anniversary of Mahatma Gandhi. The PM first made the appeal during his Independence Day speech and reiterated it in his Mann Ki Baat address 10 days later on August 25th, 2019.

Notably, the Lok Sabha Secretariat prohibited the use of non-reusable plastic water bottles and other plastic items within the Parliament from August 20th, 2019. A circular from the Railways on August 22ndthat year also made clear its intention to ban single-use plastic at all railway stations and on trains. It encouraged vendors and employees to use reusable bags and reduce their plastic footprint.

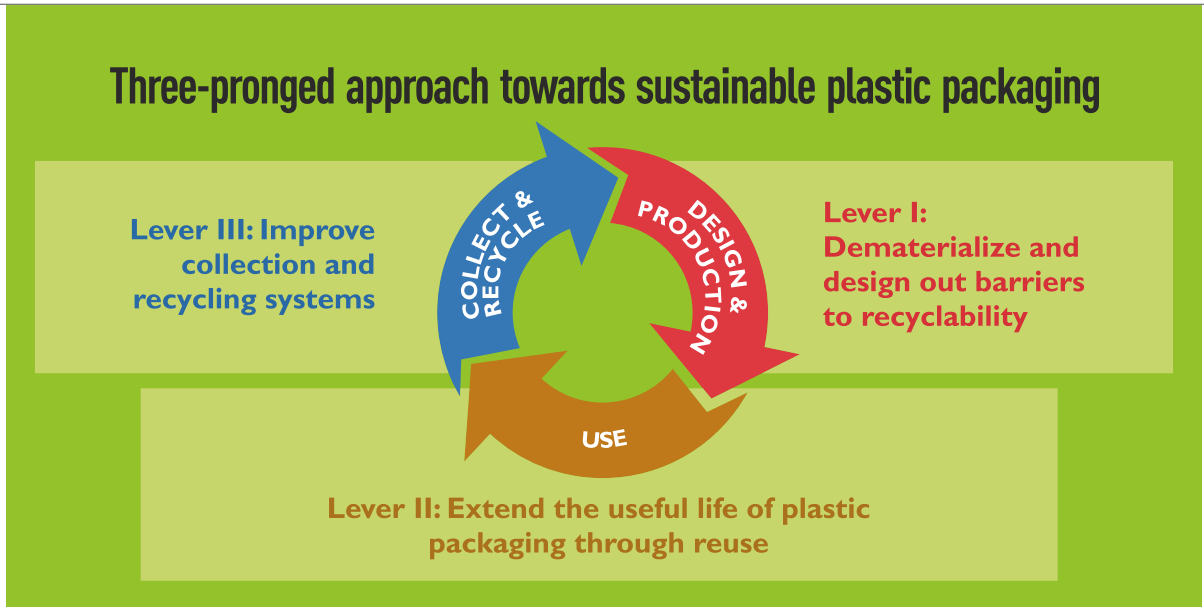
But these are baby steps compared to the magnitude of the problem of plastic waste that India faces. According to reports, plastic accounts for 8% of the total solid waste generated in India annually and Delhi leads the pack followed by Kolkata and Ahmedabad in plastic waste generation, as per a 2018 report by The Energy and Resources Institute (TERI).

According to the Central Pollution Control Board (CPCB), of the 25,940 tons of plastic waste produced in India everyday, 94% is thermoplastic, or recyclable materials such as PET (polyethylene terephthalate), and PVC (polyvinyl chloride). These materials can however be recycled a maximum of 7-9 times after which it needs to be disposed of.

This makes it imperative for us to have an advanced plastic waste management system in the country. Since this is a far-off project as of now, we need to minimize the plastic waste we generate daily till we can ensure it is properly recycled or reused.

The CSE background paper recommends a number of actions to manage our plastic waste:

- Phase out or ban the products that cannot be recycled (such as multi-layered plastics)
- Ban carrybags
- Define single-use plastics clearly, and ban items made from it
- Make the rules and guidelines for Extended Producer Responsibility (EPR) simple and enforceable
- Incentivize the business of recycling



- Segregate at source – this is where municipal agencies must be involved.

While the current laws are woefully inadequate to manage the menace, the existing onesalso fail, primarily because of the lack of people's will. Citizens must become aware about the curse of plastic and voluntarily take a pledge to avoid its use.

The 2016 plastic waste management rules made an attempt to make all stakeholders responsible for setting up a proper channel for plastic disposal. However, later, the government gave in to the pressure from businesses and relaxed the result-oriented rules.

The rules had a clause that made it mandatory for vendors who use plastic bags to register with their respective local authorities and pay a minimum monthly fee of Rs 4,000. But this and several other clauses were relaxed through amendments.

Citizens have a huge role to play in curbing the use of plastic. But unless businesses are pressurized to minimize their use of plastics, not much can be achieved. Consumers alone cannot be responsible to control plastic waste. Businesses should also innovate and provide consumers with viable alternatives.

Plastics can be replaced with banana, palm or bamboo leaves, as has been pioneered in Philippines. Since the packaging industry is the biggest user of plastic produced, it is imperative to find a replacement. The plastic packaging industry was estimated to grow to 22 million tons a year by 2020 from 13.4 million tons in 2015. Nearly half of the figure quoted is single-use plastic, according to a study by Federation of Indian Chambers of Commerce and Industry. The figure must be higher now as the pandemic gave a boost to plastic packaging with more and more people shopping online and also the use of protective gear like masks, sanitizers, gloves, etc.

Online retail and food-delivery apps are widening the use of plastic and while there is no clear data on this, a September 2018 blog by Zomato CEO, Deepinder Goyal had put the plastic waste being added by food aggregators in India at 22,000 tons per month.

In this scenario, a national policy framework on plastic management is the need of the hour and it must be implemented in both letter and spirit.

The framework must also include clear guidelines to deal with coronavirus-related biomedical waste. While pollution watchdog, Central Pollution Control Board (CPCB), has released guidelines for handling, treatment and safe disposal of biomedical waste generated during treatment, diagnosis and quarantine of patients confirmed or suspected to have the novel coronavirus disease (Covid-19), the final waste management is anybody's guess.

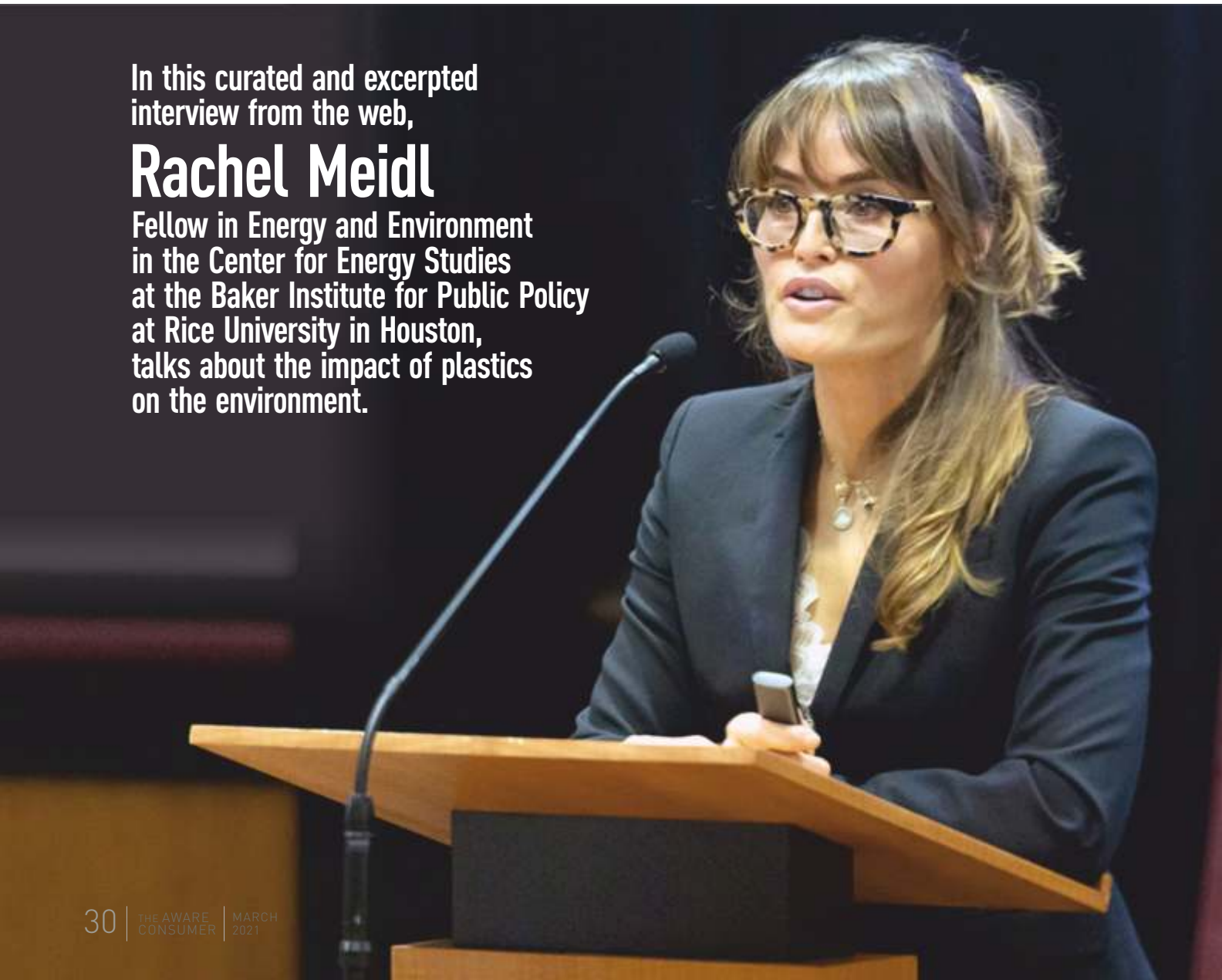
Biomedical waste, as defined in the existing biomedical waste rules, is any waste generated during the diagnosis, treatment or immunization of human beings, animals or research activities, etc. India already had Bio-Medical Waste Management Rules, 2016. The latest CPCB guidelines were released keeping the contagious and virulent nature of the new virus in view. The waste generated specifically during testing of people and treatment of Covid-19 patients has to be disposed of in a scientific manner. For isolation wards where Covid-19 patients are kept, the guidelines stressed that, in addition to rules regarding biomedical waste, as a precaution, double-layered bags (two bags) “should be used for the collection of waste to ensure adequate strength and no-leaks.”

“Collect and store biomedical waste separately prior to handing over the same (to) a Common Bio-medical Waste Treatment Facility (CBWTF). Use a dedicated collection bin labelled as Covid-19 to store Covid-19 waste and keep separately in a temporary storage room prior to handing over to the authorized staff of the CBWTF. Biomedical waste collected in such isolation wards can also be lifted directly from the ward into a CBWTF collection van,” said the guidelines while seeking a separate record of waste generated from Covid-19 isolation wards.

But has all the plastic waste been recycled? Has the recycling been leakproof? ◗

Source: Secondary research & media reports

"We know that five Asian countries account for about half the plastics that make it into the oceans"



In this curated and excerpted interview from the web,

Rachel Meidl

Fellow in Energy and Environment in the Center for Energy Studies at the Baker Institute for Public Policy at Rice University in Houston, talks about the impact of plastics on the environment.

Q As you delve deeper into the topic of plastics and the environment, what are you learning?

What I'm learning can be categorized broadly under the categories of knowledge deficiencies and data gaps. For example, we have a limited understanding of the health impacts of plastics in waterways, and of the eco-toxicology of macro- micro- and nano-plastics. There is a lack of standardized sampling, testing, measuring and analytical methodologies. There is a need to develop exposure modeling to properly assess the hazards and validated risk assessments to evaluate and understand the interaction of plastics with other stressors in the environment. Currently, it is difficult to conduct studies and draw valid, reproducible comparisons because there is no globally standardized approach. If we want to improve marine and human health, we need to create harmonized international methods. Otherwise, we cannot fully comprehend the effects of plastics on the entire ecosystem, including below the ocean's surface, or in fresh water systems.

I'm also seeing a lack of understanding of the unintended consequences and tradeoffs of plastic alternatives. This is important if we want to replace or supplement plastics with options that are better for the environment, people, and the economy and that do not further contribute to global waste and climate issues.

Q Can you give me an example of why these data and knowledge gaps matter?

Our decisions should consider impacts across the entire lifecycle. Look at the polymer polylactic acid (PLA), a common bioplastic derived from renewable biomass, such as corn or sugar cane. PLA is celebrated for its recyclability and composability. As such, many people consider it an improvement over conventional plastics, which are derived from fossil fuels. However, from a lifecycle perspective, the PLA story is much different. PLA products are typically neither recycled nor composted and often end up contaminating high-value plastic streams, affecting the overall batch recyclability that is then diverted to landfills or incinerators. Industrial composting facilities are needed to control the environmental conditions necessary for PLA degradation, but low marketability and production rates and low nutrient value do not justify the high investment costs.

Also, because of PLA's heavy reliance on agriculture, it scores poorly on environmental and social justice metrics: growing corn and sugar uses a lot of land and water. And it competes with primary food crops, contributing to food scarcity and inequality issues. At the moment, then, PLA does not solve the social, political and environmental problems associated with plastics. To find a solution requires considering all impacts, including end-of-life management. That can mean fundamentally redesigning plastics so they can be broken down into their molecular constituents and then remanufactured into new plastics of equal quality.

Q Let's talk specifically about plastics in oceans and other waterways. Please define the problem.

We know that five Asian countries account for about half of the plastics that make it into the oceans. Eighty percent of this comes from the land, and 10 river systems (eight in Asia, two in Africa) transport over 90 percent to oceans. Understanding this geographic clustering is an important revelation and is the first step to begin transforming the plastics economy. It indicates that if we want to turn the corner, the focus should be on the areas of highest risk where we can institute and improve the regulatory systems and waste infrastructure. However, we should be cognizant of the fact that the capabilities, capacity and resources in developed countries usually outpace those in developing economies. Just because a particular action is feasible in, say, Europe, does not mean it can work elsewhere.

From a policy perspective, in regions or countries that lack recycling infrastructure or advanced technologies, the most economical choice, at least in the short term, may be to manage plastics in a regulated landfill. While this may not be ideal, it could at least prevent migration of plastics into the waterways. I say this because there is a noticeable deficiency in infrastructure investment in recycling and solid waste management. I think investors have recoiled from this sector because there isn't strong evidence of financial and environmental returns. I understand there may be new investment to support improvements in Southeast Asia. Perhaps these can demonstrate success and help put this high-risk region on a more sustainable path.

Q What can and is being done?

I would advise against managing plastics as “waste” as a proposed amendment to the global Basel

Convention suggests. This kind of linear thinking is short-sighted and contradictory to a circular economy (CE) approach where the goal is to redesign, recover and remanufacture. When plastic is categorized as a waste, as the Basel Convention amendment proposes, it immediately loses its value. From a CE perspective, the point is to have plastics enter and remain in the economy as a valuable commodity or energy source. Also, as the largest exporter of hazardous waste and plastic waste, the United States, is not party to the convention. Lastly, most international agreements are not legally binding and don't have enforcement mechanisms. It's also important to keep in mind that compared to other countries with a nationally driven policy structure, the United States has a decentralized policy configuration where most solid-waste decisions are managed at the state and local levels.

Q Please discuss what companies can do to consider environmental impacts.

Overall, the corporate and government perspective of lifecycle assessments (LCA) is limited. Many entities invest in LCA, but how meaningful is it? What is the scope? It's relatively feasible to conduct a LCA at the process, program, or facility level. It becomes more challenging—but also more insightful—at the corporate level or throughout the global supply chain. LCAs should capture not only environmental impacts, but also social and economic impacts.

Q Many countries and local governments are banning plastic straws and single-use bags. Is this a good idea?

For perspective, it's important to know that it is not necessarily the countries with the highest plastic waste generation that have the most mismanaged waste. High-income countries generate a lot of waste, but typically have capable waste-management systems and regulatory frameworks where the loss to the environment is relatively low. What that means is that if we were to eliminate single-use plastics in high-income countries, global mismanagement of plastics would decline less than 5 percent. That will do little to move the needle on plastic pollution. A targeted and integrated approach in the areas of highest risk would be more effective. It's not that I don't necessarily agree with bans; they demonstrate public engagement and awareness of environmental issues. But I do believe bans should be informed, methodical and practical.

Before instituting a ban, it's critical to identify the problem being addressed. Is it marine health? Climate change? Phasing out fossil fuels as feedstocks in plastic production? Each has a distinct policy path. If it's climate change, then we should lead with data and science to inform our decisions and look to LCAs. Several LCA assessments indicate that replacing conventional plastics with currently available alternatives can actually create greater environmental impacts. For those considering a ban, alternatives should only be endorsed if they are deemed recyclable or recoverable. In addition, a study on the policy's effectiveness should be commissioned because you cannot improve what you don't measure.

Read the interview in full here: https://www.mckinsey.com/business-functions/sustainability/our-insights/sustainability-blog/what-to-do-about-plastics-an-interview-with-rachel-meidl

"What we all need to do is 'Think Ocean' with every action"

In this curated and excerpted interview from the web,

Dr Imogen Napper

a marine scientist at the forefront of the plastic pollution epidemic, talks about the impact of plastic pollution on our oceans.

Q You've built your life around the ocean. What drew you to it in the first place?

My earliest memory of thinking about marine litter was actually when I was in primary school. There was a charity balloon release where parents and friends could sponsor a balloon; the winning balloon was the one that travelled the furthest! I went to quite a small school, only 60 children in total and so there were 60 balloons to sponsor. Each balloon had information about our school, and we asked anyone who found one to return it back stating where it was found.

I remember watching all the balloons float off into the distance and then 2 weeks later we went into my village hall to hear the results. Out of 60 balloons, only 5 got returned and 1 even made its way to France. I remember thinking what happened to the other 55 balloons, especially if they dropped into the sea!

Q Your research focuses on plastic pollution; could you describe what products you find them in?

Someone described me once as a plastic detective, which hits the nail on the head for my research!

My first research project looked at plastic microbeads in facial scrubs. We found that over 3 million could be in 1 bottle – over 10,000 for a squirt on your hand. These get washed down the drain and then potentially into the ocean. The best feeling was that this research influenced international legislation making microbeads banned in many countries including, the U.K. and U.S.A.

I have also completed some research looking at how much we are potentially polluting the ocean from washing our clothes. Most of our clothes are made out of plastic, so when we wash them, tiny microfibers come off and go into the wastewater. Our research found that 700,000 microfibers could come off our clothes in a typical clothes wash. We have just completed some research looking at the success of different inventions, which aim to capture the microfibers in the washing cycle, so watch this space for the results!

Q What kinds of plastics do you find and what are the solutions?

All sorts!

When I think of plastic, I automatically think of a plastic bag or a water bottle, but for me the small bits (microplastics) are the most problematic. A plastic bag could break down into thousands of tiny bits, and how do we effectively remove that from the ocean?

What we all need to do is 'Think Ocean' with every action. How is what I am about to do potentially going to impact the ocean? There are so many small steps we can do to be more environmentally conscious, such as buying second-hand clothes and minimizing how much single use plastic we take. All little steps help. It begins with the industry giving us affordable choices, government enforcing legislation and us (the public) being more environmentally conscious!

Q How do you think plastic is affecting the marine environment?

So much plastic is entering the environment every day. It is predicted to be a rubbish truck every minute!

What concerns me the most is that plastic is still quite a new material. It was only invented 100 years ago. Can you even imagine what it could be like in another 100 years? We are at such an important moment in time where we can make a difference.

Read the interview in full here: https://www.womeninoceanscience.com/blog/2020/7/2/investigating-plastic-pollution-an-interview-with-dr-imogen-napper

Pyush Misra
Director,
Consumer Online Foundation

It's Time For A Change

There is no best option to manage plastic pollution. The only way is to cut down on plastic production and use.

Drowning in plastic waste.

OVER TIME, WE have become addicted to single-use or disposable plastic. Much of this happened because there was not must awareness regarding the severe environmental consequences of the indiscriminate use of plastics. We would reach for a plastic straw when served a drink, when we are perfectly capable of drinking from the glass. We began buying bottled water and storing water in plastic bottles in the refrigerator in our home. According to estimates, one million plastic drinking bottles are purchased every minute around the world and up to 5 trillion single-use plastic bags are used globally every year. Unfortunately, half of all the plastic produced is designed to be used only once — and then thrown away.

Scientists suggest that the plastic waste that has infiltrated the entire planet could serve as a geological indicator of the Anthropocene era. This is not funny at all and calls for stringent and immediate action.

To arrive at our current load of plastic waste, according to reports, more than 8.3 billion tons of plastic has been produced since the early 1950s and about 60% of that plastic has landed either in landfills or the environment. What is even more alarming is the fact that since the 1950s, the rate of plastic production has grown faster than that of any other material. To make matters worse, we have shifted away from the production of durable plastic and towards the production of single-use plastic.

If this were not shocking enough, the fact that more than 99% of plastics are produced from chemicals derived from oil, natural gas and coal – dirty, non-renewable resources – should be an immediate wakeup call. Experts fear that if the current trends continue, by 2050, the plastic industry could account for 20% of the world's total oil consumption.

Elsewhere, we have mentioned that the pressing need is to slow down the flow of plastic at its source and also improve plastic waste management to ensure that minimum ends up in the environment. According to an estimate, just 9% of the global plastic waste ever produced has been recycled; about 12% has been incinerated, and the remaining 79% has landed in landfills, dumps or the natural environment.

To give you an idea as to how everyday use items add to this plastic waste – cigarette butts are the most common plastic waste found in the environment. The butt filters contain tiny plastic fibers. Other common plastic waste items include bottles, bottle caps, food wrappers, grocery bags, drink lids, straws and stirrers.

With rivers transporting plastic waste from deep inland to the sea, plastic waste is today the major contributor to ocean pollution, with a gigantic 8 million tons of plastic ending up in the world's oceans annually.

It is ironic that the same properties that make plastics so useful — they are durable and resist degradation — also make them nearly indestructible by the natural process. As a result, plastic waste everywhere, be it in a river, an ocean, or on land, persists in the environment for centuries.

We should be ready for our oceans to host more plastic than fish by 2050. As per a report, about half of all of the plastic waste that ends up in the oceans comes from just five countries: China, Indonesia, the Philippines, Thailand and Vietnam.

What Is The Way Out?

We have three ways to handle our plastic waste: recycling, incineration or disposal in landfills. The question is which option is most planet-friendly?

The answer is neither simple nor easy. Experts differ on the methods as each depends on what particular environmental, health or economic issues are under consideration. The impact of different methods has to be assessed across multiple factors that include energy use, pollution, cost of processing and greenhouse gas emissions.

However, recycling which exhibited the lowest global warming potential and energy use across various studies, from an environmental perspective, is generally found to be the best option. But there are caveats:

- The assumption is based on the condition that recycled material is a one-for-one displacement of primary plastic production. It means that each ton of recycled material prevents one ton of primary material from being produced. But this is not always true. Recycling processes often lead to products of lower quality and economic value, called 'down cycling', and hence it cannot be taken for granted that this substitution for primary production is one-to-one.
- A plastic product can be recycled once or twice, after which it ends up in landfills or is incinerated. Recycling hence, while being the better of the three options, is not a perfect solution as it can only delay and not prevent disposal in landfills or incineration.
- While being environmentally beneficial, recycling is not always economically the best option. Since the relative profitability between recycling and the production of new plastic is dependent on oil prices(for example, when oil prices are low, it can be cheaper to make raw plastics than to recycle) it may not make economic sense.

Despite the shortcomings, recycling is yet the best of the three options for managing plastic waste.

But all plastic cannot be recycled. So, what happens to the plastic that is not recyclable? Is sending it to the landfill the correct thing to do or should it be incinerated? There is no clear answer to this. Again, the choice of the method depends on the context, plastic type and conditions, and its level of impact on greenhouse gas emissions or energy use. Both these options pose potential environmental risks and need to be managed and regulated. The best choice again is local context-specific.

Incineration can be more positive on greenhouse gas emissions if burned efficiently and utilized in a fossil fuel-dominant energy mix. Hence, countries with low incineration efficiency should opt for landfills. Incineration can be adopted in countries that have fossil fuels as dominant, have limited landfill space or are unable to manage it, among other reasons.

Stringent action is called for - like introducing levies or banning certain products outright to manage our plastic pollution burden..

Source: Secondary research & media reports

Recycling, Landfill Or Incineration?

What is the best way to manage plastic waste? Let us find out in this article.

IMAGE: PIXABAY

Plastic waste management: No best option.

THERE ARE THREE broad options to manage our plastic waste – recycling, landfill and incineration. When looking at landfill as an option, it's important to distinguish between the quality/effectiveness of landfills.

A landfill is broadly defined as a disposal site for materials through burial. In high-income advanced economies, landfills are well-managed and effectively regulated. But this is not generally true across countries as it is mostly poorly-managed with the waste being dumped in open landfills, pits or dumps. When disposal facilities are like this, it is can lead to plastic pollution and the plastic waste can also pose a risk to the oceans.

In well-managed landfill facilities, the waste is gathered and safely stored. It may be covered or buried with soils or other materials. However, even such landfills have negative environmental impacts. Landfills generate greenhouse gases. This happens when organic matter decomposes to produce methane (CH4) and carbon dioxide (CO2) — both are known as greenhouse gases and contribute to climate change. Some highly regulated landfill sites capture methane gas where it is 'flared' (burned) for energy production. But plastic waste also contains hard to break down components that degrade over long timescales.

Leachate is produced by decomposing material which can either produce nutrient-rich or polluted waters. If this water is not properly contained, it can leach to the surrounding environment and potentially enter waterways and soils. To prevent this, landfills are required to have a protective lining surrounding it that will prevent the water from seeping into the environment. Since this is not the casein poor countries, local pollution cannot be ruled out.

What are the Environmental Impacts of Incineration?

Plastic has to be burnt at very high temperatures and has negative environmental impacts. The incineration of plastic waste produces greenhouse gases. Carbon dioxide (CO2) is a byproduct of the incineration process and a primary cause of global climate change. In many countries, the incineration process is being integrated as a 'Waste to Energy' (WtE) solution by which energy from the burning plastics is stored and utilized for energy.

So, does that mean incineration has a more positive impact on greenhouse gas emissions?

Experts say it depends as the relative gains from energy recovery can vary depending on how efficient the incineration process is and also the mix of energy sources it is replacing. In countries where the energy mix is dominated by fossil fuels, incineration energy recovery can reduce emissions.

The deteriorating air quality around the world has also been a cause for concern. The incineration process releases toxic emissions to the surrounding environment and adds to the air pollution. When we burn plastics, it can produce several toxic gases like carbon monoxide (CO) and noxious emissions among others. These gases are extremely dangerous for both human and ecosystem health.

Incinerator facilities in rich countries - just like waste management - are highly regulated. Emissions and potential leaks to the surrounding environment are monitored. But in poorer countries, burning of plastic waste is largely unregulated, incinerator technologies and standards are not implemented and environmental regulations are lax. Therefore, unsafe and open burning of municipal waste is common.

Can all Types of Plastic be Recycled?

A wide range of polymers are used in common plastics and have different properties making them suitable for different uses. The recyclability of plastics is affected by the structure of the polymers. Some types of polymers do not break down under mechanical or thermal stress; this affects their ability to be recycled. For this reason, plastic caps/tops from water or soft drink bottles are difficult to recycle.

How Many Times Can Plastic Be Recycled?

The misconception that most plastics can be recycled many times over has led to the high usage of single-use plastics. The truth is that most plastics are unrecyclable and end up as waste in landfills.

Also, most recyclable plastics can be recycled once or twice maximum and after that have to be sent to the landfill or incineration facility. Recycling should be viewed as only delaying rather than avoiding final disposal. Recycling can be deemed to be effective only if it reduces future plastic waste generation by displacing primary plastic production. But this is a myth and hard to establish.

Repeated mechanical recycling degrades the quality of material and the mixing or contamination of plastic polymer types makes secondary plastics of low economic or practical value. As the plastic is reduced in quality following recycling, this is termed 'downcycling'. Further, the costs of sorting and reprocessing often make recycling unviable.

Prof R Vasudevan invented 'plastone' in 2012. A plastone block is made from a mixture of waste plastic and stone. It has been found to withstand more pressure and it resists water percolation. Plastone can be used for flooring, especially outdoors. It can be a cheap and strong substitute for cement blocks.

Rajagopalan Vasudevan, the 72-year old college Dean and Head of the Chemistry Department is known, in India and the world over, as 'The Plastic Man'. In 2002, he implemented the use of plastic waste on a road constructed inside the premises of his college. 'To date, this stretch of road is still going strong,' he says.

There has however been a promising development of polymer materials which can be chemically recycled back to their initial raw materials for the production of virgin plastic, and brings new hope for recycling plastics.

It Takes Decades for Plastics to Break Down

Many plastics are non-degradable and fail to decompose. These are broken down into smaller and smaller particles. To get an estimate of the time taken for break down, let us look at the example of fishing lines and plastic bottles. The former takes around 600 years to break down, while the latter take 450 years.

Paper water bottle:
an alternative to plastic bottles

Globally, 80 billion plastic bottles are produced annually, of which 80 per cent end up in oceans and landfills.

Is Biodegradable Plastic an Option?

Biodegradable plastic, as per definition, breaks down at faster rates than standard plastics. But experts are divided on what constitutes biodegradable plastics. Biodegradability can mean accelerated break down without necessitating fast degradation. But this is wrong.

However, this vagueness around biodegradability has meant that several plastics that break down faster under specific environmental conditions - which may not reflect the normal environment but are not degradable under natural conditions - have been labelled biodegradable. Such labels of 'biodegradable', 'bio-based' and 'compostable', are merely marketing gimmicks that play on the lack of awareness of consumers regarding what these definitions mean in practice.

Biodegradable plastics also require specific waste management methods which are not always available. It must be separated from other materials for recycling and this can be an expensive and difficult process. They also need specific compostable facilities. The cost of recycling biodegradable plastics is hence higher.

Experts therefore feel that the adoption of biodegradable plastics may not bring about a significant decrease in plastic pollution and waste.

Plastic Alternatives for Better Environment?

Absolutely eschewing plastics from our life is impractical and impossible. The value of plastic is undeniable as being lightweight, resilient, usually non-reactive, waterproof, cheap, economical and practical to use. We may try to minimize plastic from our life but cutting it out completely is not achievable.

The importance of plastic in food packaging is an example of the reason why we just cannot stop using it. Packaging helps prevent food losses, wastage and contamination. It plays a crucial role in ensuring the quality of food, right from storage to final consumption. Plastic packaging from retail to home is being reduced gradually, however, we all know how impossible it is to keep the food for any length of time after it is delivered in paper packaging. Plastic packaging helps protect foods from pests and disease and increases shelf life by maintaining food safety.

While importance of plastic in packaging cannot be denied, we can try to curb over-packaging.

Research suggests that the impact of plastic production and handling is lower than the impacts that would result from food waste without packaging. Therefore, the focus must be on reducing packaging when used in excess. We cannot abandon packaging completely without seriously compromising our food security and safety which would ultimately lead to a large increase in the environment impact of food.

Experts are at odds on what are the 'best' or 'worst' materials for packaging. The reason being that some materials that may release fewer greenhouse gas emissions are more water or fertilizer guzzlers, and hence have a negative impact on the environment.

The choice of packaging is hence dependent on the environmental impacts that are of maximum concern. Most experts view plastic as a lesser evil as it tends to be cheap and has significantly lower greenhouse gas emissions, energy, water and fertilizer inputs than alternatives such as paper, aluminum, cotton or glass.

Conclusion

It is impossible to totally ban plastic from our life given its myriad benefits. However, we must try to minimize its use and understand all its impacts to shape our choices.

Source: Secondary research and media reports

Time We Managed Our E-waste

Our e-waste will also explode if stringent regulations are not implemented to make both producers and consumers responsible for its recycling. E-waste has a large component of plastic waste too, and it is important that the toxic content, including plastics, do not find their way into our environment.

IN SIMPLE TERMS, e-waste is any item with a plug, battery or cord that as a consumer you no longer use because it is not functioning or simply because it has lost its utility for you. Your e-waste includes a vast range of items. It can be small appliances like irons, toasters, hairdryers; large appliances like refrigerators, washing machines, microwaves; IT, telecommunications and TV equipment like computers, laptops, printers, mobile phones, televisions; lighting equipment like fluorescent lamps, compact fluorescent lamps, LEDs; electrical and electronic tools including batteries, sewing machines, lawn mowers; and toys, leisure and sports equipment like electric trains and racing cars, hand-held video games, consoles, amplifiers, etc.

As we can see from this partial list, we are generating e-waste in every aspect of our life, be it personal or professional.

Impact of Human Health – *open burning of printed wiring boards increases the concentration of dioxins and these toxins cause an increased risk of cancer if inhaled by workers and local residents.*

But to answer a query like what do you do with your e-waste, most of us would be left fumbling. In most homes, we will find a whole load of e-junk piling up in store rooms, lofts and basements. The bigger equipment like fridges and microwaves are generally disposed off via exchange offers, but this is limited. In offices too, most of the old monitors, consoles, computers and discs are piled up in stores. The lack of disposal avenues for e-waste is worrying because we are quickly reaching up to the brim with it.

Consumers discard 44 million tons worth of electronics each year but only 20 percent is recycled sustainably, according to a 2019 United Nations report, titled 'A New Circular Vision for Electronics, Time for a Global Reboot'.

As per the Global E-Waste Monitor 2020, consumers discarded 53.6 million tons worth of electronics in 2019 globally, up 20 percent in the last 5 years.

As regards India, we generated 3.2 million tons of e-waste, ranking third after China (10.1 million tons) and the United States (6.9 million tons). If the current growth rate of e-waste continues, an ASSOCHAM-EY joint report, titled 'Electronic Waste Management in India' estimates that India will generate 5 million tons of e-waste by 2021. India's e-waste will further be comprised of computer equipment and mobile phones as the principal waste generators.

People became more dependent on electronic devices as COVID-19 struck and more devices were purchased per family to enable everyone to log in to the internet. However, in the absence of proper disposal, the e-waste is likely to be over 100 million tons by 2050.

Why We Must Recycle E-Waste

The global e-waste is expected to increase to 52.2 million tons in 2021, or around 8% every year. It is hence imperative that we reduce the amount of waste we send to landfills and recycle it instead because:

- It is better for the environment
- It contains valuable materials

Our e-waste ends up in garbage dumps from where it either goes to landfills or is sent to unregulated markets. This poses considerable hazards. For example, a circuit board from a mobile or laptop contains around 16 metals. The informal recyclers can at the most manage to retrieve one or two metals and the rest then proceeds to the landfill. To extract metals, hazardous chemicals like mercury are used that leach into the soil, damaging it forever. E-waste like batteries, tube lights, CFL bulbs, etc., make the soil barren on which they have been dumped. Metals can leach into everything around the dump, and even find its way into food which are consumed by stray cattle and animals like dogs. From dumps, they can be carried via our river ways to oceans and end up contaminating water with gaseous or liquid toxins. A study conducted by SRM University, Tamil Nadu, revealed that soil from informal electronic recycling sites had high levels of contamination across Mumbai, Delhi, Kolkata and Chennai.

Recyclers extract metals and plastic from e-waste that is then used in the manufacture of electronics. But extracting metals is difficult. The UN report cited above states that the total recovery rates for cobalt is only 30 percent, whereas we have technology that can recycle up to 95 percent. The extracted metals are used in laptops, smartphones and electric car batteries. Experts say that recycled metals are two to ten times more energy-efficient than metals smelted from virgin ore.

Recycling, therefore, is important to build a sustainable chain in manufacturing and recycling. It is also important because the key elements used in most electronics - known as rare earth metals - though not rare, are hard to obtain. According to reports, the global worth of e-waste is around $62.5 billion annually – more than the GDP of most countries. It is also worth three times the output of all the world's silver mines.

Laws Around E-Waste Management

In 2011, India put laws in place to manage e-waste and is the only country in Southern Asia with e-waste legislation.

The laws mandate that only authorized dismantlers and recyclers can collect e-wastehas and we have 312 authorized e-waste recyclers.

The E-waste (Management) Rules, 2016 (effective from October 2016) mandate collection targets and transfer responsibilities to the producers – Extended Producer Responsibility (EPR). This effectively puts the onus on the brands to ensure that they buy back their waste. However, these targets were relaxed in 2018.

Most e-waste recyclers work with the informal sector waste collectors and aggregators to ensure the e-waste from dumps and landfills is appropriately recycled. But these efforts are a drop in the ocean as the conversations around e-waste are yet to become targeted and goal-oriented. E-waste fills up 70 percent of our landfills, but unfortunately gets little attention, especially from the manufacturing brands.

The idea behind the government coming up with the e-waste management rules was to ensure waste is collected and recycled responsibly and more importantly, that manufacturers begin incorporating sustainable methods. However, this has not been possible as the manufacturing chain is scattered not only across the country but the world, with different parts being manufactured in different countries and assembly being done in still other countries. This makes collection and extraction complicated with a financial cost attached to it. The refund scheme is also not mandatory. Since electronics is a price-sensitive market, it does not work for the manufacturing products to factor in the refund cost.

While brands promote buying products aggressively and launch new models every year making older versions redundant, not many of them are advertising to also remind consumers to be mindful of the imminent e-waste global crisis.

Some brands however, avail of the deposit refund scheme, but keep consumers in the dark. So, the discount you got in the exchange offer may actually be your money they are refunding.

To tackle e-waste effectively, we need to create a circular economy of electronics, according to a report from the World Economic Forum. What this implies is that companies will need to create products that can be reused, are durable, and safe for recycling. Also, the producers should have buy-back or return offer for old equipment and schemes to incentivize consumers. A system of 'urban mining' should be encouraged by strengthening the extended producer responsibility provision, says the report.

How Should Consumers Handle Their E-Waste

The 4Rs of recycling e-waste must be diligently adopted. These are:

Reuse: Extend the use of your gadgets. The upgrade that you are hankering after, do ask yourself if you really need it. If it is just to add to your style quotient, pause. Also, using second-hand electronics is a good way to extend the life of electronics.

Repair: Brands must provide repair policies and as a consumer you must ask if such a provision is there before making that purchase.

Recycle: As a consumer you have the right to know. So, ask questions. It is the most effective long-term solution. Ask the brands about their practices and policies. If many consumers seek these answers, the brands will be forced to communicate about their return/recycle policy and sustainable manufacturing practices.

Research: This is again very important. Research the product you are buying. Find out if it is biodegradable or biocompostable. Check for e-waste instructions.

It is consumer duty to recycle your e-waste to:

- reduce landfill
- protect the air and waterways from harmful materials
- minimize consumption of raw materials to produce electronic products
- reduce greenhouse gases created in the production of new materials

But ultimately, brands will have to accept the onus of supporting customers through this.

Till we have established strong structures for e-waste management, in the meantime, consumers should give e-waste their attention. A shift in mind-set might be the start of a circular vision.

What Happens After Recycling

Recycling ensures that the useful and/or valuable materials in e-waste such as gold, silver, copper, aluminum, platinum and cobalt are extracted and either used in the next technological products or recycled elsewhere.

E-waste recycling varies between recyclers, but in general, mercury, plastics, printed circuit boards, ferrous metals and aluminum are separated from e-waste for recycling.

Once a consumer drops off an old gadget at an e-waste recycling facility, it generally follows the following steps:

Disassembly

Manual disassembly is done, but this usually depends on the type of gadget. If it is is a mobile device, the battery and casing are removed. For hard drives, steel casings are detached, cartridges and toners are separated from printers, and glass from TVs and monitors. All this is done carefully to avoid releasing any toxic lead or mercury.

Shredding

The next step after initial disassembly is shredding. In this stage, the remaining items and components are shredded in a mechanical process to reduce the size of the components to between 1cm and 10cm. Data destruction is also done at this stage.

Sorting

Sorting is again often a manual process. Some recyclers also use automated machines for sorting. Several processes are used to sort different materials. For example, magnets to remove ferrous metals like steel and copper, eddy currents to separate non-ferrous metals such as aluminum, infrared beams, lasers or X-rays and bursts of compressed air to identify various plastics and other metals, water to separate plastics from glass, among others. Contaminants are also treated and removed at this stage.

Repurposed

After sorting the materials into their raw form, they are resold to suppliers to make new products.

Conclusion

Thus, recycling ensures that all the different components in our e-waste are back in the supply chain and can be reused to make new products.

Source: Secondary research & media reports

Learning The 10Rs Of Eco Living

The 3Rs of sustainability are inadequate to tackle the mounting threats to our planet including plastic waste. We must actively adopt the principle of eco living and incorporate the 10Rs in our lives.

IMAGE: PIXABAY

We must adopt the principles of eco living to make lives sustainable.

UNMINDFUL HUMAN ACTIVITY over the centuries has led to the global temperatures rising to such a level that it is unsustainable for the environment to be able to survive today.

Climate change is a global emergency now. A UN survey covering over half a million youngsters in the 14 to 18 years age group found that the majority of them want policy decisions around renewable power and sustainable jobs.

But everything cannot be left to the government. As consumers we need to look at practicing sustainability in our day-to-day activities. It can be something as simple as taking your own cloth bag to the grocery store to carrying your steel flask of water instead of buying bottled water when traveling.

There is a lot of buzz around sustainable living, eco living, slow fashion, mindful fashion and the like. What all these exotic phrases boil down to is lifestyle choice. They require adopting a minimal lifestyle where you cut out needless purchases.

A sustainable lifestyle calls for consuming less in general and only essentials in principle. If you want to adopt sustainable fashion, you should buy a new piece of clothing only if another one needs replacing. It may sound impossible, but in India, many families still live by this frugal lifestyle.

Remember the days when we carried a handkerchief before tissue boxes made it obsolete? Eco living would means bringing reusable items back as these prevent the build-up of trash. Ditching the face wipes and using hand towels, using an oil-based cleanser to wipe make-up at the end of the day, cotton nappy or biodegradable wipes, are some of the varied choices that can help the environment.

A trend that is catching up today with the votaries of ecoliving is 'vintage clothing'. In simple terms, it calls for shopping for second-hand and used clothes that may be vintage. Just not shopping at all, is actually an even better way of becoming sustainable. Wear what you already own and what's in your wardrobe instead of buying more and more just to dump it in your closet.

Sustainable living also calls for wearing natural fibers. Learning to hand-sew, darn and stitch up a hole, up-cycling clothes - for example a pair of jeans into shorts - can extend the life of your clothes.

The principle of eco-living also extends to your food habits. A plant-based diet, locally grown food, seasonal fruits and vegetables are all choices that make our lifestyles sustainable. Exotic and out of season food guzzles resources and adds to our carbon footprint as it has to be transported across continents and leads to waste. Buying local also means less packaging and plastics. Buying unpackaged fruits and vegetables or opting for cans and cardboard that are recyclable (instead of plastic packaging) can help lessen plastic waste.

Taking a train instead of flying, the metro or the bus in place of a personal car and cycling or walking are eco-friendly choices. Reduce your plastic trash when traveling by packing as minimally as possible.

Practice the 10Rs

Reduce, Reuse & Recycle are the 3Rs we can practice in one way or another. But these are not enough to save the Earth. The amount of waste that we have generated, increased carbon emissions, pollution of water, air, soil and extreme climate change as a result of global warming, are all too present and real dangers today.

We need to be more considerate towards the environment and go beyond the 3Rs. This demands that we work on our mindset and attitude and develop proactive behavior.

For true eco living we must adopt the 10Rs – Responsibility, Resist, Reduce, Return, Repair, Reuse, Recycle, Restore, Respect and Reach Out.

The amount of waste that we have generated, increased carbon emissions, pollution of water, air, soil and extreme climate change as a result of global warming, are all too present and real dangers today.

Responsibility

The responsibility for the safety and sustainability of the planet lies with each one of us. If we adopt the right attitude towards nature, animals, birds, plants and people who depend on the environment for livelihood, in short become more sensitive, things will become very different. Responsibility means not waiting for someone else to fix the mistakes we have made towards our planet. It requires taking up the cudgels to fix the problems ourselves, in our own small way.

Each one of us can be responsible for our actions, for example, not littering the roads, segregating our waste, reducing packaging, banning plastic bags, etc.

When we decorate our homes with lights, festoons and balloons, do we bother about how we will dispose the plastic and rubber items later on? Balloons end up as rubber that poses a danger to birds and turtles who can swallow them. Furthermore, used batteries, cigarette stubs, plastic bags, etc., all add to the burgeoning plastic and e-waste.

If we can take responsibility for the waste we generate and make eco-friendly purchase decisions - buy organic products, LED lamps, green utility, recycled paper, water-based paint, holiday in home stays or wildlife camps –these small decisions show our sense of responsibility and help the environment.

Resist

Special offers, deals and discounts are all meant to increase consumerism, commercialism and irresponsible production. Before giving in to temptation, ask if you really need that thing.

You can reject plastic packaging and products that are non-biodegradable, refuse plastic bags, cups, straws or other plastic products like toys. Colorful plastic bits are eaten by wildlife and, as per reports, a million seabirds, 100,000 whales, dolphins and seals die of plastic ingestion. Nearly half of the seabird species, all sea turtle species and 22 species of marine mammals are harmed or killed by plastic waste, either from ingestion, entanglement or strangulation before the debris has been broken into tiny fragments, says another report. As per a Greenpeace report at least 267 different species are known to have suffered from entanglement or ingestion of marine debris including seabirds, turtles, seals, sea lions, whales and fish.

It is time we picked up our rubbish and resisted the urge to add to it.

One way to overcome temptation isto defer the purchase, think about the chain of production and carbon emissions and if you still want it, then try to get a secondhand item that is energy efficient and of recyclable quality.

It is important to also resist the temptation to buy cheap as organic products, clean energy adoption and energy-saving appliances are all more expensive than the cheaper but more harmful alternatives.

Reduce

Possessions add to clutter - the more you have the more space you need, and more maintenance is required. You also spend more money. Eco living demands that you learn to live with less. From clothes, shoes to food, everything can be trimmed. Reducing meat in the diet means less meat production which is a carbon intensive industry.

Buy organic products, LED lamps, green utility, recycled paper, water-based paint, holiday in home stays or wildlife camps

Return

Keeping track of all your things means nothing goes missing. You will find less need to replace them with new purchases that stimulate new demands and consume resources, thus taxing the earth's dwindling supply of natural resources. Return everything to their original place to keep track.

Return also to your roots and learn to appreciate their sustainable lifestyles.

Some of the many ways you can return are- return what you have borrowed, books and tools to friends, bags and packaging at stores, egg containers and styrofoam packaging to supermarkets, excess plastic bags to retail stores, among others.

Repair

When a device develops a snag, get it repaired, instead of buying a new one just because it has failed to perform at the optimal level. If the equipment is not energy efficient, then consider getting a replacement but ensure the older one is sent to proper scrap or recycling. Instead of buying a new sofa, refurbish it, get appliances repaired and clothes repaired or upcycled. Computers, printers, televisions and fridges can all be fixed.

A UN survey covering over half a million youngsters in the 14 to 18 years age group found that the majority of them want policy decisions around renewable power and sustainable jobs.

Reuse & Recycle

Reuse is not the same as recycle. When you reuse, you are using an item more than once without changing it. For example - reusing jars and cans as plant holders. Recycling involves physical or material change. By reusing, we extend the life span of a product beyond its initial use, widening its scope and prospect as a useful product.

When a product is recycled, it is broken into raw materials that can be used to make new objects. This involves processing and production, and lots of energy.

Hence, reusing is more eco-friendly as it helps save energy. By reusing a plastic bottle, we save it from landing up in the landfill. Reusing wine bottles as candle holders or drinking water/juice containers, coconut shell or plastic water barrels as flowerpots, fresh food leftovers fed to strays, etc. are all examples of prudent reuse.

Restore

People have begun realizing the value of heritage. Instead of demolishing old buildings, preserve them. It is heritage conservation and by restoring it we can give it a new purpose. Restoration involves preservation and change at the same time. Restoring also creates new forms of economic benefits and enhances asset value.

Restoration can involve natural environments, built environments and socio-economic environments. In the marine environment, eroding shores and destroyed coral reefs can be restored to their natural environments with the help of deployed steel structures powered by low voltage electric charge, called Biorock. Havelis can be restored and made into museums or hotels. We can even restore land and put it to economical use, among others.

Respect

Every living thing has its purpose in this universe, and we have to give it space to exist. Humans are just a small part of an elaborate ecosystem that nature designed in perfect balance and harmony. In the race for development, we have mercilessly destroyed our flora, fauna, forests and the indigenous people. We must respect all cultures, traditions, heritage, dialects and lifestyles, because they are our roots and tell us where we came from and how our ancestors struggled to get us where we are today.

Respect the rights of minorities, tribes, forest dwellers and island dwellers. We cannot deny them the right to live in the lands that they grew up in. We should not displace them to make way for development and industrial greed. Let's not take away their right to clean water, air and nutritional food. We must protect them from the ill effects of our destruction of the planet – rising sea water levels, acid rain and raised temperature, among others.

Taking a vacation to discover rural tourism, cultural tourism or community-based tourism and showing our children these ancient cultures, developing the tolerance to live alongside others even if they have different lifestyles, is all a part of respect.

Reach Out

Reaching out to others with our experiences, knowledge and insights, discussing issues, seeking clarifications and truths are all a part of reaching out and building trust. As consumers we are empowered to reach out to businesses with suggestions on incorporating greener practices. We can reach out to environment agencies and work with them to spread the credo of sustainable living. We can advise our grocers and retailers to stop giving plastic bags and ask people to bring their own bags. We can reach out with our own experiences and knowledge to explain to everyone we meet why plastics are bad news for the planet. We can reach out to our neighbors, our housing society administration, our office administration and all those who touch our lives with the message of minimizing plastic waste and adopting ways to control plastic pollution.

In short, we can reach out to others with the message to embrace the 10Rs of true eco living – Responsibility, Resist, Reduce, Return, Repair, Reuse, Recycle, Restore, Respect and Reach Out.

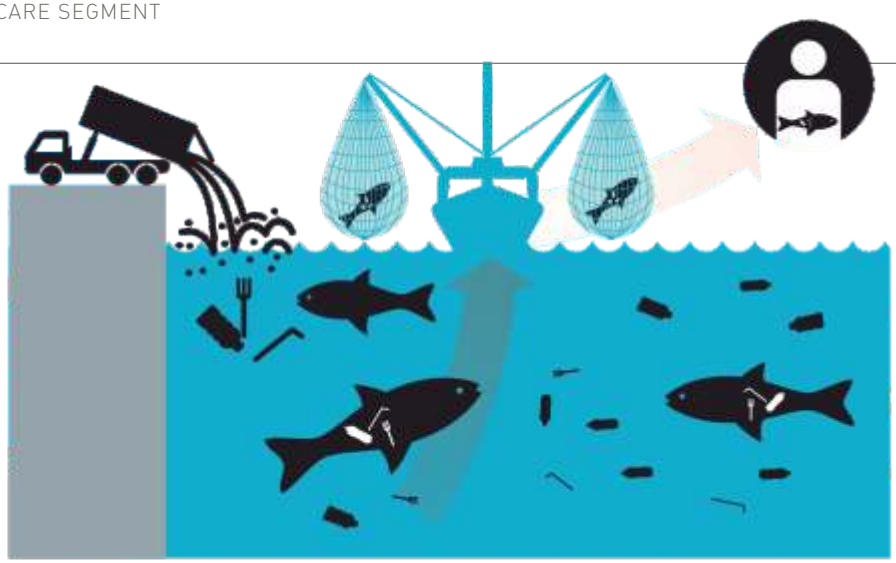
Source: Secondary research & media reports

Our marine ecosystem is being strangled by plastics.

Save Our Oceans From Plastic Pollution

If we want to reduce or stop the amount of plastic entering the oceans, we need to take urgent and collaborative steps now.

IMAGE: PIXABAY



WHY SHOULD WE save our oceans from plastic pollution? After all, many of us are not living on the shores. Many of us have never been near an ocean. So, are we also contributing to its pollution? If we are, then what can we do to stop our plastic waste from landing in the oceans? If you are struggling to find answers to such questions, know that there are multiple levels at which we can take steps – as individuals, innovators, corporations, policymakers and financiers – to tackle plastic pollution. Let us start at the individual level.

What Consumers Can Do

The first step is to cut out all non-essential plastics wherever possible. Plastic, as we have discussed elsewhere, has a crucial role in many aspects of human life – it helps preserve food quality, safety and shelf-life and prevents food wastage. We cannot cut out plastics completely from our life without negative environmental consequences elsewhere, but we can reduce plastic usage in areas where we have other environment-friendly substitutes.

Can we replace single-use plastics with long-term, sustainable alternatives? If the answer to this is yes, then we must substitute. But even this substitute must be used continually over time to minimize its environmental impact and make it worthwhile across environmental metrics like energy use, water use, and greenhouse gas emissions. Just purchasing alternatives to single-use plastic bags will only go on to increase the environmental impact in other ways.

Recycling plastic is a better option than incineration or landfills. It is important to remember this and recycle whenever possible. But as we have learnt elsewhere, recycling is not the ultimate solution to plastic pollution. As only some plastics can be recycled, that too only a limited number of times before they too end up in a landfill or incineration facility. It is a wrong notion that recycled plastic has no adverse impact and can therefore be used indefinitely.

It is important to learn about the recycling guidelines and find out if there are any plastic recyclers or collectors in the area. In many cities in India, waste segregation has been made mandatory and households are expected to segregate plastic wastes before handing it to the garbage collector.

The absence of good waste management in the country and also lack of basic civic sense means plastic is littered everywhere and is at risk of entering the ocean. Littering has been banned, yet garbage is dumped in the open and plastic waste can be found choking drains, waterways and posing a health hazard to animals. Through collective action, zero tolerance for such action can become the norm.

As individuals it is our duty to limit the magnitude of our impact. If we can change our habits, we can contribute our best. But bigger and concerted action is required looking at the magnitude of the problem. Governments must take global action to cut out plastic use as much as possible. This would drastically reduce the globally mismanaged plastic. As consumers, we must drive urgent and large-scale change, and for this we need to put pressure on the governments and policymakers to collaborate globally on plastic pollution.

What Can Governments and Policymakers Do

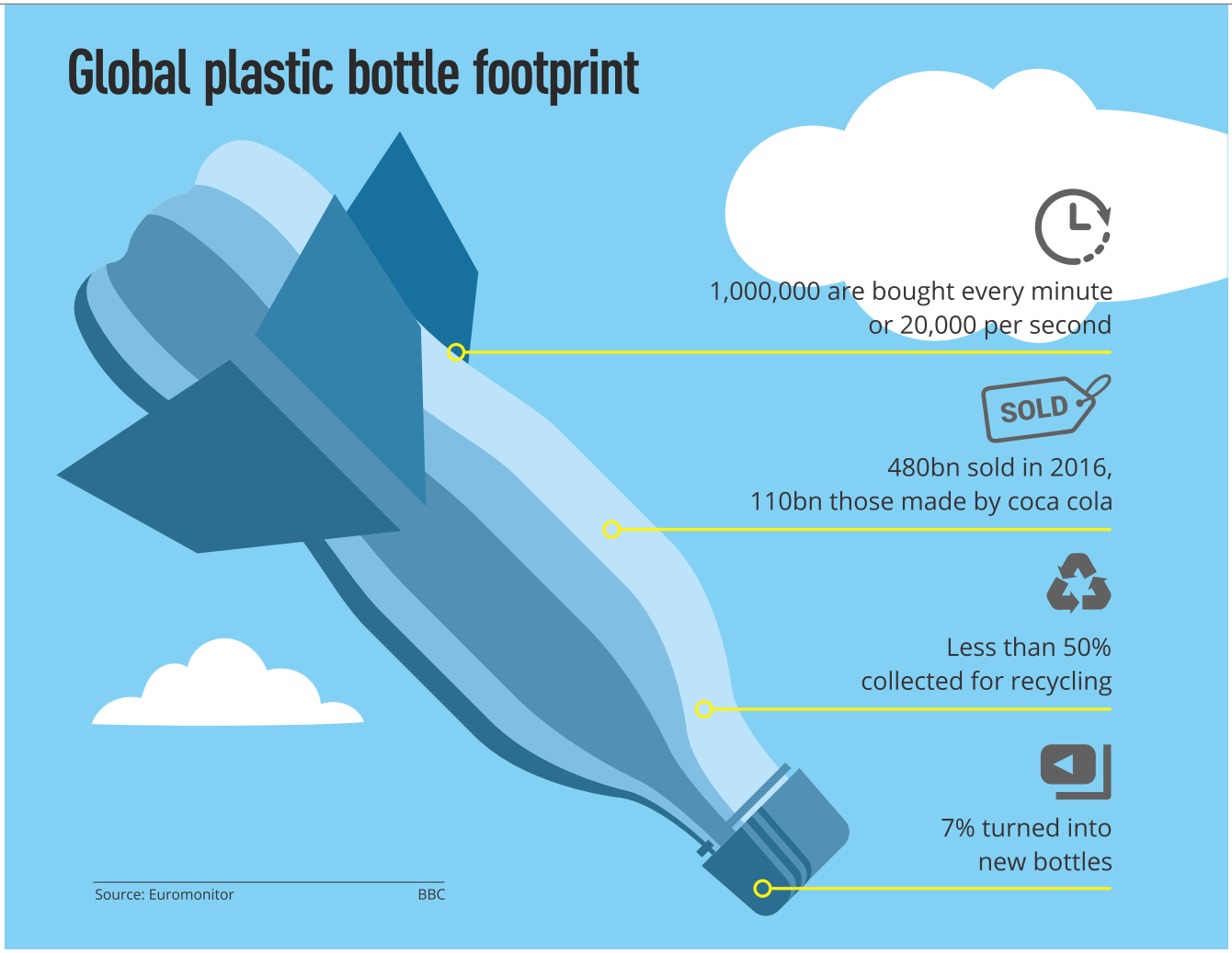
The historic trend of high-income countries exporting their own plastic garbage to mid- and low-income countries with poor waste management infrastructure has been instrumental in increasing the levels of mismanaged waste. The exported waste poses a major risk to the ocean. It must be mandated that developed economies manage all their waste themselves and stop shipping their garbage to poorer countries with higher risk of poor waste management.

Experts suggest that the importing countries levy a tax for accepting the plastic waste of richer countries and invest this money into expanding and improving their waste management infrastructure.

Since an estimated 20 percent of the ocean plastic pollution comes from the fishing industry, experts call for implementation and monitoring of strict regulations to prevent waste from fishing activity entering the oceans. This can be achieved through regional and global cooperation.

Plastic enters the ocean because our inadequate waste management, open landfills and dumps fail to prevent plastics from entering the environment. It is hence imperative to improve the waste management infrastructure. It is critical and urgent if we want to prevent and reduce plastic pollution of the ocean. As per an estimate, if all countries invest in upgrading and strengthening their waste management infrastructure, global plastics at risk of entering the ocean could decline by more than 80 percent.

Plastic waste pollution control cannot be achieved by individual countries in isolation. It requires global cooperation to upscale waste management. In a global system, we are collectively responsible for the harms we do to our



environment and must work together to find solutions to it.

True that low-income and middle-income countries with poor and flawed plastic waste management systems play a big role and responsibility, but high-income countries too must come forward and accept their responsibility in the ocean plastic issue. They can invest in the improvement of waste management infrastructure practices across the world and provide technical cooperation to reduce the quantity of plastic entering the ocean. The plastic waste menace has become so huge that to even stabilize it requires large-impact solutions.

What Role Does Innovation and Industry Play?

The primary step needed to combat plastic pollution is effective management of waste produced. It is an urgent demand if we want to prevent plastic from entering the ocean. It is not that the solution does not exist. In fact, many countries have low levels of mismanaged waste. But these solutions must be implemented across the world now.

Then again, only managing plastic waste will not be effective unless we also reduce demand for new plastic production. Recycled plastic is not a long-term solution as most recycled plastics end up in landfills or incineration after one or two cycles. We need to find innovative solutions that allow for continuous recycling. This would then make recycling sustainable over the long-term.

It is heartening to note the progress in recent years in the development of polymer materials which can be chemically recycled back to their initial raw materials. But till they become cost-effective and favorable in terms of energy inputs, polymers are not a viable alternative to plastics.

For any recyclable materials to become acceptable for large-scale use, the economic viability and environmental trade-offs will need to be taken into account. The reason why plastic is ubiquitous is because it is cheap, versatile and requires relatively little energy, water and land to produce. For plastic alternatives to become commonly used across the globe, they will have to prove to be economically competitive.

The industry must focus on developing innovative and functional substitutes to plastic that are price competitive and scalable. Then and only then can we hope to tackle the plague of ocean plastic pollution effectively.

Source: Secondary research & media reports

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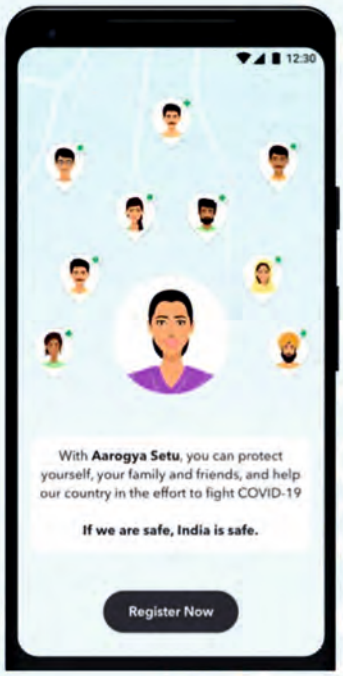

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PLASTIC EMERGENCY

The pandemic has added to our plastic pollution. We must tackle it urgently by making it part of the 'green recovery'. We present here, for our readers, curated opinions from the web on dealing with plastic waste.

– By Kristin Hughes

IMAGE: PIXABAY

Addressing plastic pollution should be the key to rebuilding the post COVID-19 world.

IN THIS MOMENT of unimaginable difficulty(thrown up by the unprecedented pandemic), many are already seeing hope in a green recovery: a “more protective ... more inclusive” economic model that would “contribute to building more resilient societies.” In this new approach, governments have the opportunity — and the responsibility — to transform sustainability commitments into action, both in the short and the long term.

Addressing plastic pollution should be a key piece of this rebuilding effort, and governments can help keep everyone on track.

More than ever, governments need to create an enabling environment for building sustainable plastics ecosystems. Plastics are, on the one hand, undeniably essential — versatile and affordable, they have long been the bedrock of medical equipment and protective gear, keeping our hospitals running and frontline workers safe.

But we have also seen a worrying trend: demand for disposable plastic products, driven by the fear of viral transmission, is skyrocketing. The capacity to safely deal with these materials after use, however, is not.

Around the world, from New York to the U.K., governments have lifted or delayed restrictions on single-use plastics, particularly disposable bags at supermarkets. These new orders were issued on the assumption that plastic materials are less likely to carry the corona virus, but research actually suggests the opposite: a study in April found that the virus can live up to 24 hours on paper, cardboard and fabrics, compared with up to 72 hours on plastics and other hard, shiny surfaces.

By taking these actions in the short term, governments can begin to create an enabling environment for a more sustainable approach to managing plastics, generating positive outcomes for people and the planet that will last far beyond the scope of this pandemic.

Upstream interventions are key to stopping the endless tides of plastic waste. The circular transition will be a vital part of the economic recovery agenda.

Consider the average life cycle of a plastic takeout container. It is designed, produced and sold by a restaurant, purchased by a consumer, and disposed off after use. From there, several outcomes are possible. The discarded container could sit in a landfill; it could be incinerated; it could be exported to a foreign nation; or it could very well make its way into the sea, bringing us one step closer to a not-so-distant future in which plastics in the ocean outweigh fish. These had been the most likely scenarios under a linear, business-as-usual model.

The popularization of the circular economy for plastics has permanently changed the game. The e-commerce organization, Loop Alliance, for example, has brought together logistics company UPS and some of the world's biggest consumer goods brands to deliver products to customers' doors in reusable boxes, which are then collected, cleaned, and reused up to 100 times.

Read this article in full here: https://www.devex.com/news/opinion-addressing-plastic-pollution-must-be-a-part-of-the-green-recovery-97364

The effort to control plastic pollution begins with self.

IMAGE: PIXABAY

The Problem Of Plastic Pollution And What You & I Can Do About It

– By Arabella Seebaluck

THE WORLD ENVIRONMENT Day this year will focus on the thorny plastic pollution issue. Social media feeds every day offer users with something or other that plastic is destroying or polluting. Long gone are the days where everyone would applaud the benefits of the cheap petrochemical byproduct. Plastic is on the wanted list, it's like a weapon of mass destruction… only one that every single one of us uses on a daily basis.

The horror stories abound media in its entirety. The most recent example is the tragic end of a whale in Thailand because she ate 80 plastic bags. The contents of her stomach were even beamed on every screen to show the public how real, how lethal, plastic garbage is. We read about how this material clogs rivers, pollutes oceans and beaches, kills fauna and flora. Many magazine covers have with a single photo expressed the urgency of the situation: whether the plastic bag-cum-iceberg or the seagull caught within a plastic bag, standing helplessly. Basically, we've heard about the harm plastic does to all living entities — be it humans, animals or plants — and have been shown all of its negative effects. We subscribe to environmental events, pledges, online petitions and other trendy initiatives to "beat plastic pollution". But what is our own, personal, individual contribution to it? What do we do in our daily lives to reverse harmful plastic proliferation? Truth be told, for most of us, absolutely nothing. Zilch. Nada.

Ironically, this is the best place to start: I, me, the individual… that one single person. To understand better the power of the individual, a good place to understand how this dynamic works is the other end of the spectrum. What caused the pollution in the first place? How did it begin? It began with one person. One person thought it was OK to throw away a plastic bottle on the ground. One person thought it was OK to dispose of plastic bags in the nearby river. One person was watched by another person, then another, then another… and the result is the heaps and mountains of plastic we encounter everyday… whether we're driving to work or trying to walk on a sidewalk to the ATM or the market. There is plastic litter along every step of the way… at least in India's metropolitan cities.

Read this article in full here:
https://www.wionews.com/india-news/opinion-plastic-pollution-and-what-you--i-can-do-about-it-142460

Time To Adopt A Circular Economy

Moving out of our linear economy into a circular one that is sustainable for our planet is no longer a matter of choice. We must do it fast if we want to save the planet from the centuries of piles of plastic waste.

IMAGE: PIXABAY

We need to establish a restorative and regenerative model of economy.

ANY DISCUSSION ON waste, pollution and sustainable planet will be incomplete without talking about circular economy. Circular economy is a systemic approach to economic development designed to benefit businesses, society and the environment. Currently, we live in a 'take-make-waste' linear model, which is burying the planet under waste, plastic and others. A circular economy, by contrast, is regenerative by design and the aim here is to slowly decouple growth from the consumption of finite resources.

A circular economy can be defined as one that is both restorative and regenerative by design. In such an economy, economic activity builds and rebuilds overall system health. It is important for the economy to work effectively at all scales – for big and small businesses, for organizations and individuals, globally and locally.

The three principles of circular economy are:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

Let us imagine a world where waste and pollution are never created. Impossible you may say. But a circular economy, by designing out the negative impacts of economic activity that cause damage to human health and natural systems, does just that. From greenhouse gases and hazardous substances, air, land, and water pollution to structural waste such as traffic congestion, a circular economy by design eliminates all.

In a circular economy, activities that preserve value in the form of energy, labor and materials are favored. It means the designing is done with the goals of durability, reuse, remanufacturing and recycling in mind so as to keep products, components and materials circulating in the economy. The focus is on effective use of bio-based materials. This is done by encouraging many different uses for them as they cycle between the economy and natural systems.

How about going beyond protection to actively improving the environment? A circular economy helps achieve that by avoiding the use of non-renewable resources. It preserves or enhances renewable ones. One example of how this can be achieved is by returning valuable nutrients to the soil to support regeneration, or by using renewable energy, like solar energy, instead of relying on fossil fuels.

A circular economy distinguishes between consumers and users. Only biological materials can be thought of as consumable, while technical materials are used in it. We don't consume our electronics and cars as we consume food. In a circular economy there is a distinction in how consumers' relationship to materials is viewed.

It also questions the need to own products in the traditional sense. Owning every piece of product is not what we need, when it is the access to the service a product provides that is important. Our consumption must shift from owning products to seeking its service. If we can ensure this shift in mindset, we will lay the foundation for shifting our economy from linear to circular.

Circular economy has caught the imagination of governments and businesses around the world. Their imagination is captured by the opportunity to gradually decouple economic growth from virgin resource inputs. It can encourage innovation, increase growth, and create more robust employment. Transitioning to a circular economy will be beneficial across society.

What makes a circular economy even more attractive is its potential to make a positive impact on the natural environment. It can be a powerful contribution to achieving our global climate goals by designing out waste and pollution, keeping products and materials in use, and regenerating rather than degrading natural systems.

The benefits of circular economy spill beyond businesses, the environment and the economy at large, to the individual. It will bring increased disposable income, improved living conditions and have positive health impacts. Thus, the benefits for consumers in a circular economy are significant.

Circular economy is an idea whose time has come. It is not a new concept but has deep historical and philosophical roots. The current advances in digital technology have made the idea current as now we have the power to support our transition to a circular economy by radically increasing virtualization, de-materialization, transparency, and feedback-driven intelligence.

Our current system favors the linear model of production and consumption. However, there is a favorable alignment of economic, technological and social factors that can accelerate the transition to a circular economy. Circularity is already making inroads into the linear economy. It is now up to us how we move beyond the proof of concept to mainstream it and bring it to scale.

We can achieve this by following the principles of the 7Rs of circular economy.

Rethink

It is time to re-think business models and solutions at every level and become mindful of our resource use and waste production. We now have the sharing economy which is a proof that our desire for ownership of materials is dropping. Shared office spaces of the gig economy and renting business models are examples of this.

As consumers, we need to rethink our consumption and before purchasing anything evaluate if it is really needed. We must be able to refuse to consume what is not needed.

Reduce

We have been a consumerist society for long. It is time to reduce consumption of everything, from energy and materials to food. Lean design principles and manufacturing products that have lasting value are ways to achieve this.

As consumers, we can reduce our consumption of

FIVE REASONS TO REFUSE PLASTIC BAGS FOR CIRCULARITY

1. They fill up the landfills

You may be reusing plastic bags beyond their single use, but eventually they will end up in the landfill. Plastic bags will remain in landfills for around a thousand years, taking up space, because they aren't biodegradable.

2. They are made from non-renewable resources

Plastic bags are made of polyurethane that is a composite created from non-renewable components such as natural gas and crude oil.

3. They harm animals

The plastic bag that goes in our garbage goes out into the environment where they can cause harm to whatever ecosystem they end up in. Both land and marine animals can consume the plastic and suffer from starvation, strangulation, choking and entanglement.

4. They can be harmful to people

Plastic bags must be kept away from children because they pose a hazard for choking and suffocation.

5. Low recycling

The unfortunate truth is that only about 1 percent of plastic bags are recycled worldwide. The rest clog our lands, waterways and in general, harm the planet.

energy and adopt a “need-only” basis for any consumption. Investing in quality clothing, that can be passed down the generations, made of ethically sourced materials is an example.

Reuse

Reusing products can be achieved in two ways. You can either transfer the products you no longer need to another user who can use it or use it yourself for another purpose. Used goods or seconds and pre-loved goods is a growing segment on online platforms.

Consumers can sell products no longer needed on these platforms or to the local flea market. Also consider purchasing second-hand products instead of new. Old products can be put to new use with a little bit of imagination and innovation.

Repair

Repairing components and parts so that the life of the products is elongated, slowing-down of throw-away consumption and as consumers investing in products that last and can be repaired is a good way to promote circularity.

Refurbish

Businesses should look into recovering and refurbishing old products that can be sold again or transformed into new products in order to achieve circularity. Consumers must adopt upcycling of old products by giving them new life: recovering old furniture and giving thema new lease of life with a fresh coat of paint and repair, reusing old pieces of clothing by transforming them into updated models, among others.

Recover

Recover embedded energy from non-recyclable waste material where feasible, as a principle. Non-recyclable waste can be converted into energy through waste-to-energy processes such as combustion and gasification.

Recycle

Another important way to achieve circularity is by recycling materials or resources and by disassembling components and separating parts. Consumers canseparate and recycle whatever they can before dumping a product in the garbage bin that will only go to fill up the already overflowing landfills.

Conclusion

The 7Rs of a circular economy, sustainable living and waste management overlap. If we can adopt a few of them, as consumers, we can proudly claim to have begun our journey to save the planet.

Source: Secondary research & media reports

Where can consumers have their say about policies and legislation, about their needs and requirements, about products and services, about genuine and fraud companies? We provide you the platform to share with our readers your experiences.
Write to us: bejonmisra@consumerconexion.org

'Single-Use' – Let's Remove This Term From The World's Vocabulary

'Single-use' was named word of the year in 2018 by the Collins Dictionary because of the four-fold increase in single-use plastic since 2013. Yet, in 2021, the scourge of plastic waste continues.

IN 2018, COLLINS Dictionary named "single-use" as their word of the year. The reason for this decision was the four-fold increase in usage in single-use plastic since 2013. The term means "made to be used once only" and refers to "items whose unchecked proliferation are blamed for damaging the environment and affecting the food chain".

Research has established single-use plastic as the biggest cause of the plastic pollution crisis. Around 40 percent of all plastic produced is for packaging and much of it is used only once and thrown away. The efforts to curb the plastic litter crisis are aimed at single-use plastics. Governments and experts are working on the goal of encouraging more durable, reusable items.

I am disappointed that the Government of India is not doing more to ban single-use plastic. They should begin with banning single-use water bottles. Let's remove this term from our vocabulary.

– Mahesh Maharathi, Pune

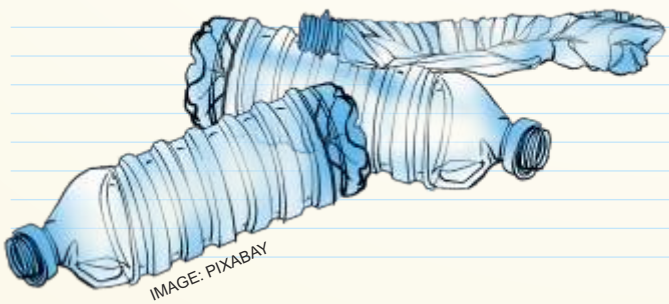


IMAGE: PIXABAY

IMAGE: PIXABAY

PRIME MINISTER NARENDRA Modi had expressed his desire to pursue an ambitious project to phase out single-use plastics by 2022. The consumption per person of is 11kg. This is much lower compared to the US, which has the world's highest consumption per person at 109kg, according to the Federation of Indian Chambers of Commerce and Industry (FICCI) 2017 data. The world's average is about 28kg.

Plastic consumption in India is projected to grow to 20kg by 2022. As the second-most populous country in the world, we are generating around 5.6 million tons of plastic waste annually, as per estimates. The PM wants to limit the use of single-use plastic such as bags, cutlery and straws. With half of the plastics in India being used for packaging, much of it single-use, it is urgent that the government does not dilute its ambitious target. Plastic is rapidly infiltrating our tier 2 and 3 cities as well as villages that lack proper waste management system, thanks to the rapidly expanding e-commerce network. Banning single-use plastic in every form is urgent.

– Chikki Sinha, Patna

IMAGE: PIXABAY

PLASTIC CARRY BAGS have been banned in several states in India. But the lax enforcement has made it ineffective. Following the ban, retailers began using paper bags or cloth bags. But this comes at a price that you have to pay at the counter. The government must penalize businesses for charging extra for non-plastic bags; else this is an additional cost for consumers.

– Rajesh Chaddha, Delhi

STATISTICS STATE THAT plastic makes up about eight percent of the total solid waste in India. Most of this waste makes its way to our rivers. The impact of plastic waste is visible in two major river systems flowing through the country – the Indus (164,332 tons) and Meghna-Brahmaputra-Ganges (72,845 tons). This is among the world's highest amounts of plastic debris being carried to the oceans. Waste segregation is not done at the time of collection and vast amounts of plastic litter public spaces as well as water bodies.

The country has an informal segregation and recycling system. While about 60 percent of plastic waste in India is recycled, according to estimates, just nine percent of all plastic waste ever produced globally has been recycled, says the United Nations. We have a gargantuan plastic burden. Government must make segregation of waste at the collection point, i.e., homes mandatory. Also, waste from homes must be given to collectors in biodegradable bags instead of plastic bags. But to make this voluntary and effective, the government must first make plastic substitute bags affordable and cost-effective for the consumer.

– Latika Mishra, Delhi

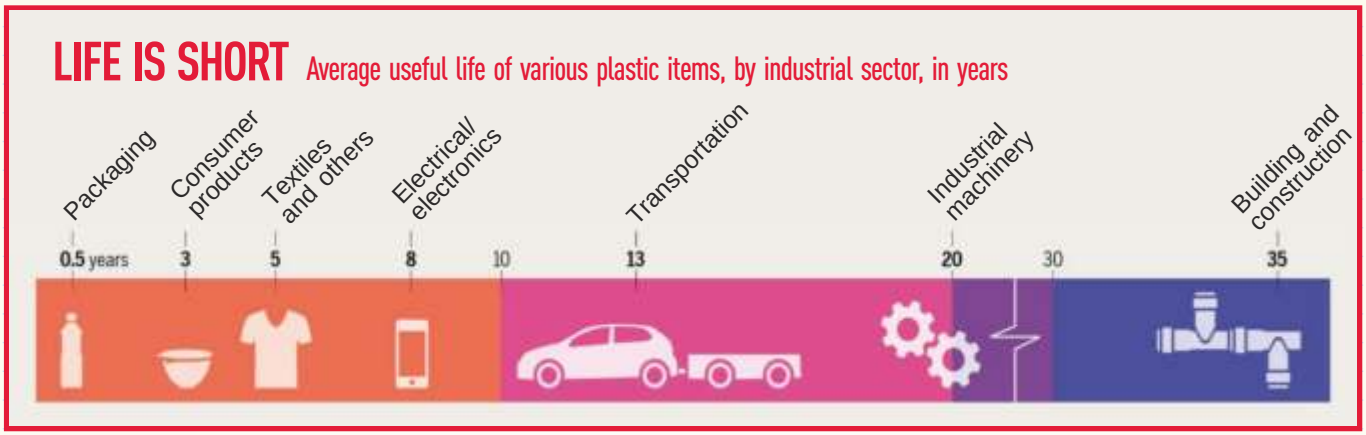
IMAGE: PIXABAY

IMAGE: PIXABAY

ONE OF THE most significant factors increasing the use of plastics is the growing Fast-Moving Consumer Goods (FMCG) sector. The increased use of plastic in the FMCG sector has indirectly resulted in the challenge of plastic waste management. Plastic is durable, strong and displays inert behavior. It is low cost as well and has emerged as one of the most reliable packaging materials for the industries. As an outcome, the demand for plastic has increased and added to the challenge of plastic waste management. India generates more than 25,000 tons of plastic waste every day, 40 per cent of which remains uncollected and littered in the environment. It is high time the government came up with regulations to minimize the use of plastic in the industries. However, it must be ensured that the cost of environment friendly packaging is not passed on to the consumers.

– Ritika Khattar, Faridabad

PLASTIC MENACE IS now no longer confined to the cities. You can find single use plastics such as water bottles, snack packets, plastic bags, etc., littered beside highways, in remote pristine tourism destinations and even protected parks and forests, thanks to the increasing domestic tourism. The government must ban littering and impose hefty fines on tourists caught doing it. In fact, single-use plastic must be banned at all important tourism destinations. Let's take inspiration from Peru that,by a decreein 2019, banned visitors from carrying single-use plastics into its 76 natural and cultural protected areas. The ban included Machu Picchu, Manu, Huascarán, and other national museums. The decree stated the goal is replacing single-use plastics with "reusable, biodegradable plastic or others whose



Source: Appenzeller/Hecher/Sack

IMAGE: PIXABAY

IMAGE: PIXABAY

degradation does not generate contamination by micro-plastics or dangerous substances." The decision was forced by the mounting plastic garbage. For example, at world-famous Machu Picchu, tourists were generating an average of 14 tons of solid waste per day, much of it plastic bottles and other single-use packaging.

– Lariat Kumar, Shimla

IN 2018, 250 organizations that are responsible for 20 percent of the plastic packaging produced around the world had committed to reducing waste and pollution. The initiative - called the New Plastics Economy Global Commitment - includes a diverse group of businesses like the city of Austin, clothing company H&M, Unilever, PespsiCo, L'Oreal, Nestle and Coca-Cola. The initiative has a number of partnerships including the United Nations, Ellen MacArthur Foundation, World Wide Fund for Nature, the World Economic Forum, the Consumer Goods Forum, and 40 academic institutions. Governments too are a part of the commitment and have pledged to create policies that help support a circular economy. India must step up and show its global leadership in the area of plastic pollution control.

– Rameshwar Oraon, Ranchi

Source: Secondary research & mediareports

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NABH
is a constituent board of Quality Council of India (QCI).
It is playing a pivotal role at the National level in propagation, adoption and adherence to healthcare quality standards in AYUSH healthcare delivery systems.

With an objective to bring more light to AYUSH related treatments, the Government of India in 2014, formed the Ministry of AYUSH and consequently brought in the National Accreditation Board for Hospitals & Healthcare Providers (NABH) to start implementing quality healthcare standards for hospitals providing AYUSH treatments as well.

In the recent years, there has been a paradigm shift from allopathy system to traditional healthcare. To support this trend, health insurers have started offering AYUSH treatment covers as part of their health insurance policies. NABH Ayush Entry Level Certification Standards provide an objective system of empanelment by insurance and other third parties. These standards also address the need for quality control and quality monitoring in AYUSH healthcare as required by the Pradhan Mantri Jan Arogya Yojana (PM-JAY) under the Ayushman Bharat Scheme.

NABH AYUSH Entry Level Certification standards are easily downloadable from NABH website.

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