SIES Indian Institute of Environment Management
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CURRENT ISSUE:

"REIMAGINING PLASTIC: SOLUTIONS FOR A CIRCULAR ECONOMY"

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About Us

Founded in 1999, the SIES Indian Institute of Environment Management (SIES IIEM) is a premier academic and research institution committed to advancing sustainable practices through innovative research, comprehensive education, and impactful training programs. Recognized by the Department of Scientific and Industrial Research (DSIR), Government of India, the institute is ISO 9001:2015 certified to provide Environment Education, Research & Development and Laboratory Testing Services.

Some of our major activities include Academics, Research & Development, Industrial Consultancy, Environmental & Green Audits, Laboratory Testing and Outreach Activities. The institute also offers a range of academic programs, including Ph.D. program in Environmental Sciences, affiliated to University of Mumbai; M.Sc. in Sustainable Development and Environment Management, affiliated to Garware Institute of Career Education & Development (GICED); and, an online Post Graduate Diploma in Sustainable Environment Management (PGDSEM) for working professionals.

Since its inception, SIES IIEM has established strong collaborations with government and non-government agencies, industries, academia and environmental consultancies. The institute is equipped with state-of-the-art laboratories and is at the forefront of pioneering solutions for sustainable environmental management. Institute's core Research Areas on Environment and Energy include, Management of Natural Resources, Water Resources, Air Quality, Solid Waste, and Radioactive Waste; , Energy Transitions, Conservation, and Management; and Global Issues of Climate Change & Global Warming; Ozone Depletion; Trade and Environmental Linkages; Forest and Biodiversity, etc.

The institute specializes in conducting comprehensive Green Audits and offering specialized environmental consultancy services. Our green audit services assist organizations in assessing their environmental impact, identifying areas for improvement, and developing strategies to reduce their ecological footprint. We help organizations achieve sustainability goals while ensuring compliance with the environmental regulations. At SIES IIEM, we continue to lead the way in sustainability education and environmental research, driving positive change and fostering a sustainable future for all.

MISSION

To harness the power of Science, Technology and Innovation in pollution control, management of natural resources and excellence in academics to promote environmental, social and institutional sustainability.

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Editorial

Plastics have become an integral part of our modern life, being lightweight, versatile, and indispensable to industries ranging from healthcare and technology to packaging and transport. Yet, the very material that has revolutionized convenience now presents one of the greatest environmental challenges of our time. As society grapples with overflowing landfills, microplastic pollution there is an urgent need to manage their lifecycle responsibly to safeguard both human progress and the health of our planet.

Globally, plastic production has soared to over 460 Mt annually, yet less than 10 per cent of this waste is effectively recycled, with the vast majority ending up in landfills, incinerators, or as pollution in oceans and ecosystems threatening marine life and disrupting food chains. The presence of microplastics in soil, water, air, and even in human bloodstreams shows that plastic pollution is no longer just an environmental issue, but also a growing public health crisis.

This edition of "Reimagining Plastic: Solutions for a Circular Economy" invites us to rethink our relationship with plastics. The concept of a circular economy urges us to keep materials in use for as long as possible, extracting maximum value before returning them safely to the system. From chemical recycling and pyrolysis to biodegradable alternatives made from algae, fungi, and agricultural waste, innovation is reshaping the future of plastics. Governments are introducing extended producer responsibility (EPR) frameworks, banning single-use items, and incentivizing sustainable packaging.

Across the world, researchers, entrepreneurs, and policymakers are working to reduce dependency on virgin plastics, developing biodegradable materials, advanced recycling technologies, and business models that focus on reuse and sustainability. These efforts remind us that building a circular economy requires more than technology; it calls for redefining growth and reimagining plastics not as disposable waste, but as a resource that continually circulates back into the economy.

Each of us has an important role in building a future where plastics are utilized responsibly, without compromising the health of our planet. Small actions such as, refusing unnecessary single-use plastics, supporting sustainable brands, or simply segregating waste at home, may seem modest, but when scaled across communities and nations, they create a ripple effect powerful enough to transform systems.

Let us reimagine plastic, not as waste, but as an opportunity to build a truly circular and sustainable world.

Dr. Sangeeta Sharma
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Reimagining Plastics: Solutions for a Circular Economy in India

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India stands at a critical juncture in its environmental journey. With over 1.4 billion people and a rapidly growing economy, the country faces a mounting challenge: plastic waste. Yet, within this challenge lies an opportunity to reimagine plastics—not as pollutants, but as resources in a circular economy that values reuse, recycling, and regeneration.

The Current Landscape of Plastic Waste in India

India generates approximately 26,000 tonnes of plastic waste every day, amounting to nearly 9.5 million tonnes annually. Despite this staggering figure, only 8% of plastic waste is recycled, with the rest ending up in landfills, incinerators, or leaking into the environment. Projections suggest that plastic consumption will rise to 70.5 million tonnes by 2035, but recycling rates may only increase to 11% if current systems persist.

This inefficiency not only harms ecosystems but also represents a lost economic opportunity. According to the National Circular Economy Roadmap, India could recycle up to two-thirds of all plastics used by 2035, reducing greenhouse gas emissions by 20–50%.

Why Recycling Plastics Is the Best Way Forward

Recycling plastics offers multiple benefits:

- Environmental Protection: Recycling reduces the need for virgin plastic production, conserving fossil fuels and minimizing pollution.
- Economic Value: Recycled plastics can be used in packaging, textiles, construction, and automotive industries, creating new markets and jobs.
- Energy Efficiency: Producing recycled plastic consumes significantly less energy than manufacturing virgin plastic.
- Waste Reduction: It diverts plastic from landfills and oceans, preserving biodiversity and public health.

India's informal sector, especially women-led cooperatives in states like Kerala, plays a vital role in plastic collection and segregation. Formalizing and supporting these workers could double the impact of recycling efforts.

The Biodegradable Packaging Dilemma

While biodegradable packaging is often seen as a sustainable alternative, scaling it in India faces several hurdles:

1. *Cost Barriers*

Biodegradable materials like bagasse, PLA, and seaweed-based polymers are 30–50% more expensive than conventional plastics. This makes adoption difficult for price-sensitive consumers.

2.Infrastructure Gaps

India lacks widespread composting and recycling infrastructure for biodegradable materials. Without proper disposal systems, these materials often end up in landfills, where they decompose slowly and may release methane.

3.Consumer Awareness

Many consumers and businesses do not understand the difference between biodegradable and compostable packaging. Misuse and mislabeling can lead to contamination and ineffective waste management.

4.Regulatory Challenges

Strict export standards (e.g., US FDA, EU EFSA) require certifications that many Indian startups struggle to obtain. Domestic regulations also lack clarity, creating confusion among manufacturers.

Despite these challenges, India's biodegradable packaging market is projected to grow from USD 3.2 billion in 2023 to USD 7.5 billion by 2030, driven by policy support and global demand.

Recycled Plastics in Food Packaging: Pros and Cons

Using recycled plastics in food packaging is a promising but complex solution.

Pros

- Environmental Benefits: Reduces landfill waste and conserves natural resources.
- Cost Efficiency: Recycled plastics are cheaper than virgin materials.
- Durability: Offers moisture resistance and strength for food preservation.
- Circularity: Encourages reuse and supports the circular economy model.

Cons

- Health Risks: Recycled plastics may contain legacy chemicals like BPA, phthalates, which can leach into food.
- Regulatory Gaps: India lacks comprehensive laws governing recycled plastics in food applications including traceability.
- Quality Control: Ensuring food-grade safety requires advanced sorting and decontamination technologies.
- Consumer Trust: Misconceptions about safety and hygiene can hinder adoption.

To mitigate risks, India must invest in certified recycling processes, enforce labeling standards, and promote consumer education.

Turning Trash into Treasure: India's Plastic Waste-to-Wealth Success Stories

India's mounting plastic waste problem has sparked a wave of innovation, with several enterprises and government initiatives transforming discarded plastics into valuable resources. These projects not only address environmental concerns but also generate employment, promote circularity, and empower communities.

Here are four standout examples of plastic waste-to-wealth success stories in India.

1. *Swachh Ratham – Andhra Pradesh's Mobile Recycling Shops*

The Swachh Ratham initiative by the Panchayat Raj Department of Andhra Pradesh is a pioneering rural waste management model. Repurposing old ration delivery vans, these mobile units collect recyclable waste—plastic, metal, paper—from villagers and offer essential commodities like pulses, soaps, and shampoos in exchange. This barter system ensures fair value for waste, eliminating exploitation by local scrap dealers.

In its pilot phase across four mandals, the project collected 6,438 kg of dry waste worth ₹1 lakh. Villagers received up to ₹15 per kg for plastic waste—nearly double the market rate. With plans to expand to 100 mandals by October 2025, Swachh Ratham is redefining rural recycling by combining transparency, dignity, and economic reward.

2. *Goenvi Technologies – Decentralized Waste-to-Fuel Systems*

Goenvi Technologies, backed by the Marico Innovation Foundation, is tackling plastic waste at its source. The startup builds decentralized pyrolysis units that convert mixed plastic waste into usable fuel using catalytic thermal decomposition. These compact systems eliminate the need for long-distance waste transport and middlemen, making recycling more efficient and locally impactful.

Goenvi's model is scalable and cost-effective, offering a practical solution for urban and semi-urban areas struggling with plastic accumulation. It exemplifies how technology can turn waste into energy while reducing carbon footprints.

3. *Luthra Group – Industrial Fuel from Plastic Waste*

The Luthra Group, India's first private waste management company, has developed EkaCoal, a patented clean fuel derived from hazardous and municipal plastic waste. Their facilities have produced over 115,000 tonnes of industrial fuel, significantly reducing landfill dependency and supporting industrial energy needs.

In addition to fuel, Luthra's CETP-ZLD plants treat industrial wastewater, converting it into reusable water. Their integrated approach to waste management demonstrates how plastic waste can be repurposed into sustainable industrial inputs, contributing to both environmental and economic goals.

4. *Ricron Panels – Building Materials from Multi-Layered Plastics*

Ricron Panels transforms hard-to-recycle multi-layered plastic packaging into durable construction materials. Their panels are moisture-proof, termite-resistant, and serve as eco-

friendly alternatives to MDF and plywood. Used in schools, hospitals, and homes, Ricron's products reduce deforestation and landfill waste simultaneously.

By converting "unrecyclable" plastics into functional building materials, Ricron is closing the loop on packaging waste and proving that sustainability can be built—literally—into our infrastructure.

Successful Indian Brands and Startups in Plastic Recycling

India's entrepreneurial ecosystem is thriving with startups that are driving circularity:

1. Ishitva Robotic Systems

Uses AI-powered machines to sort plastic waste with high accuracy, processing up to 6 tonnes per hour. This improves recycling efficiency and reduces contamination.

2. PadCare Labs

Recycles menstrual waste by separating cellulose and plastic, repurposing them into stationery and packaging materials.

3. Zerocircle

Creates biodegradable packaging from seaweed, offering a marine-safe alternative to plastic.

4.Without by Ashaya

Upcycles "unrecyclable" multi-layered plastics into high-quality consumer products like sunglasses, while integrating waste pickers into the value chain.

These startups demonstrate that circularity is not just theoretical—it's scalable, impactful, and already underway.

5. Banyan Nation

Banyan Nation is an award-winning, vertically integrated plastics recycling company that helps global brands use more recycled plastic instead of virgin plastic, leveraging mobile technology to map, integrate and train thousands of informal recyclers to produce premium quality plastics. Through their fully digitized and traceable informal supply chain, they collect discarded HDPE and PP and remove product and packaging contaminants at state-of-the-art recycling plant using their proprietary plastics cleaning technology. Banyan Nation is the only Indian startup to receive the Circulars People's Choice Award (2018) and also be recognized as a Technology Pioneer (2021) by the World Economic Forum

Building a Circular Future

India's circular economy is rooted in indigenous wisdom, policy intent, and entrepreneurial spirit. To accelerate progress, the following steps are essential:

- Enforce existing regulations consistently across states.
- Invest in infrastructure for recycling and composting.
- Create demand through public procurement and eco-labels.
- Support informal workers with training, social security, and finance.
- Promote transparency in material life cycles and recycling data.
- Leverage green finance tools like bonds and blended capital.

With the potential to unlock USD 218 billion by 2030 and USD 624 billion by 2050, India's circular economy is not just an environmental imperative—it's an economic revolution in the making.

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Waste-to-Wealth: Role of Plastic in Circular Economy

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As India accelerates toward its developmental ambitions, it faces the dual challenge of achieving economic growth while meeting its environmental goals. The performance of key industrial sectors such as power, cement, textiles, iron & steel, pharmaceuticals, and chemicals is critical to India's economic progress. However, the continued rise in industrialisation also brings with it an increasing risk of pollution.

The invention of plastics as useful materials for human existence, offering comfort and ease, has now turned into a threat in society and a pain in the neck as plastics have also become a cohabitant of the human ecosystem. Plastics were made by men, but plastics now live way longer than the men who gave them the privilege of existence. Plastics are generally cheap, which is why they are mostly abused by humans through indiscriminate use. The Benefit of Plastics is that it is lightweight, versatile, and durable. They are the material of choice when compared with alternatives such as paper, aluminum, or glass, and will play a vital role in a net-zero future through enabling new lower-carbon technologies.

Fig.1: Different plastic waste handling methods and solutions to achieve sustainability [2]

The challenge society faces is maintaining the benefits of plastics while addressing the issue of waste. Plastics are unique materials that have prominence in the global economy because of their ubiquity [1]. There are certain issues around the existence of these materials with a major concern about the impact of the plastic disposal method on the environment. In the middle of the 19th century, Bakelite, amongst other plastics, was not known until 1950, when plastic became a common sort of material on the planet.

They are also very attractive in nature which encourages their usability. Plastic is an inevitable waste because it plays a major role in most of our daily activities, such as packaging materials for daily consumables, such as PET bottles for drinks, plastic containers for edibles, and plastic bags for groceries, amongst other shopping activities [2].

A Circular Approach

Plastic waste management in a circular economy focuses on shifting from a linear "take-make-dispose" model to one where plastic is treated as a valuable resource that remains in circulation. Instead of prioritizing disposal methods like landfilling or incineration, a circular approach emphasizes innovation, efficiency, and system-wide changes to eliminate waste and keep materials in use for as long as possible. The linear model of plastics has created an unsustainable cycle. This process typically involves extracting raw materials, manufacturing products, consuming them, and then discarding them as waste. The result is an ever-growing volume of plastic that either accumulates in landfills or pollutes natural environments. One key solution is to manage plastic waste efficiently and responsibly and foster circularity in the use of plastics. Circular economy measures/models retain the added value of goods as long as possible, reducing plastic waste and keeping the value of plastics in the economy, without leakage into the natural environment.

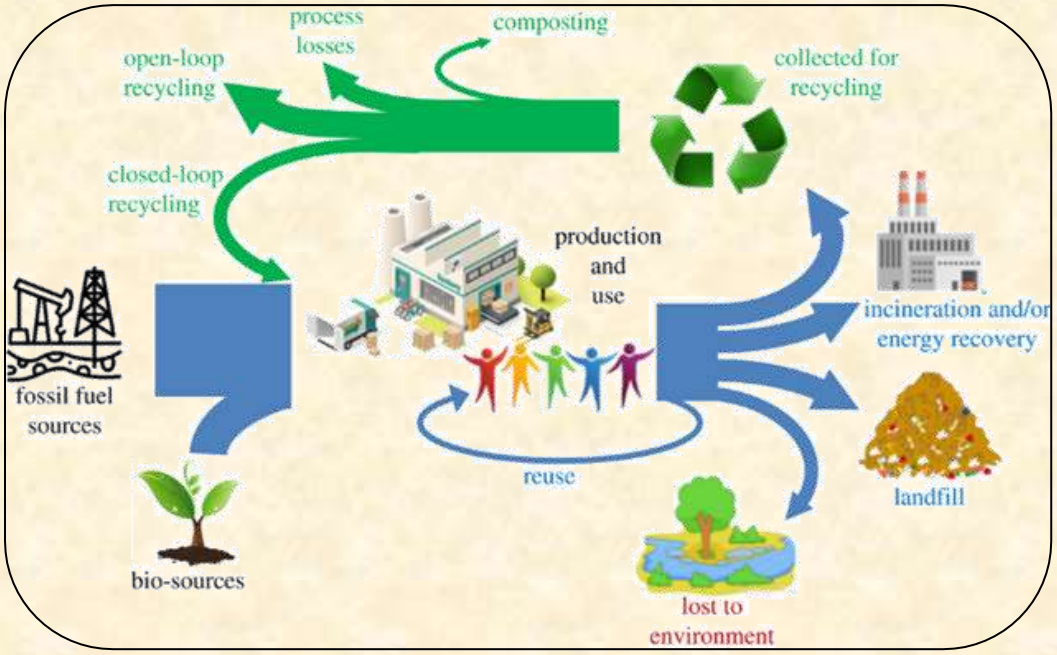

Fig 2: A generic life cycle of plastics [3]

The manner in which most of the plastic products are made, used, and disposed of at present does not capture the economic advantages of a more circular approach, and end up with drastic harm to the environment. Almost every piece of plastic begins as a fossil fuel, and greenhouse gases are released from its extraction, processing, usage, and end-of-life at each point of the plastic lifecycle.

As per the circular economy and its practice focuses on how to never make plastics become waste [3]. Even though plastics are kept away from the stream of waste and rechannelled into useful economic activities through the circular economy, plastics are still found to be a significant cause of environmental and social harm [4]. This is, however, referred to as the lubricant of globalization.

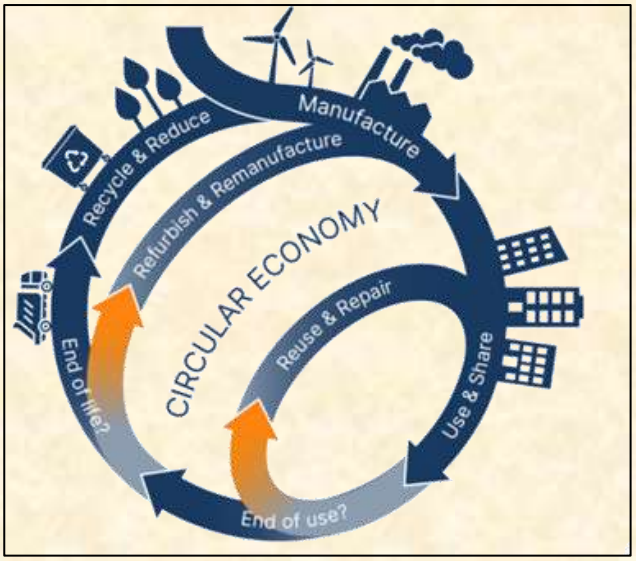

Fig 3: Implementing the Circular Economy [6]

How can recycled plastic assist the circular economy?

Recycling and other advanced recovery technologies have a critical part to play in the circular economy. Recycling supports the idea of a circular economy where the use of materials is shrinking plastic production's carbon footprint in the long run. Some researchers emphasize the significance of Waste-to-Energy (W2E) and Waste-to-Fuel (W2F) technologies, e.g., pyrolysis and gasification, for converting difficult-to-recycle plastic waste into a dense-energy source. It also recognised a critical gap in current research: the emission of CO2 during these processes. This perspective spotlights emergent CO2 capture and utilization technologies, underscoring their role as a robust turnkey solution in making W2E and W2F methods more sustainable and unleashing the huge potential of using waste plastics as a dense-energy source [5, 6]. The scientific community is urged to develop tailored solutions for reducing CO2 emissions in plastic waste conversion processes [6].

This approach promotes circular resource utilization and realizes the socio-economic and environmental advantages of plastic waste utilization technologies. On the other side, some advanced recycling technology converts plastic waste at a molecular level to produce virgin-quality raw materials. Many of these raw materials are the same as the raw materials produced during the processing of fossil-based crudes and are used to produce a wide range of valuable new products from fuels to lubricants to high-performance chemicals and plastics.

This equivalence of raw materials is important as it allows for the co-processing of plastic waste alongside fossil-derived feedstocks in the same manufacturing facilities, which results in significant efficiencies versus the alternative of establishing a new, separate system just for processing plastic waste.

Because plastic waste-derived raw materials mixed with fossil-derived raw materials in the same system, there is no way to identify which molecules in those raw materials are derived from plastic and which are derived from crude-based feedstock. The mass of plastic waste was processed through the advanced recycling process with fewer manufacturing losses.

Conclusion

The circular economy has emerged as a potential solution to make better use of resources. Positioned as a technology-focused concept that can generate economic gains while alleviating pressure on the environment, the circular economy enjoys a positive reception by organisations in public, private, and civic sectors and, increasingly, academia alike. Reimagining plastic requires a holistic and integrated approach that combines government policy, corporate innovation, and citizen engagement. By embracing circular economy principles, the plastics industry can transition towards a more sustainable model that reduces waste, conserves resources, and minimizes environmental harm. The benefits of using recycled plastics are endless with environmental, social, and economic impacts.

Recycling plastics along with their reuse into new products plays a significant role in sustainable development at the business sector and community levels. The achievement of a circular economy requires not only innovative technical developments, but also major economic investment and changes to business practice coupled with significant changes in social behaviour.

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The Future We Dare to Imagine….

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There is a paradox at the heart of plastic. Once hailed as a miracle material, it is now condemned as one of the greatest threats to our environment and health. Its very strength—its durability—has turned into its curse. A straw discarded after a single sip, a bag used for barely fifteen minutes, or a wrapper tossed aside lingers on the earth for centuries. Unlike paper that fades or food that rots, plastic does not vanish; it simply breaks down into tinier and tinier fragments, creeping invisibly into water, soil, air, and even into our own bodies.

Research published in Nature estimates that global plastic waste emissions reach a staggering 52.1 million metric tonnes every year. Of this, more than half is burned in the open, poisoning the skies, while the rest lies strewn as debris—clogging rivers, piling up in landfills, or drifting like ghostly rafts across oceans. Yet, even as we recoil from these numbers, we cannot deny that plastic is everywhere in our lives: in syringes and surgical masks, in solar panels and wind turbines, in food packaging and aircraft bodies. Plastic is not simply an enemy to be vanquished. It is a tool whose use must be reimagined.

The Many Faces of Harm

To understand the depth of the challenge, we must first look unflinchingly at the problems plastic causes. The environment bears the deepest scars. From turtles choking on bags mistaken for jellyfish to seabirds starving with stomachs full of bottle caps, plastic is a silent killer. Floating debris damages coral reefs and smothers beaches, while invasive species hitch rides across seas on drifting fragments. On land, microplastics settle into soils, altering their very properties and threatening agricultural productivity.

Humans, too, are not spared. Microplastics have been detected in drinking water, seafood, table salt, and even within human tissues. The science is still unfolding, but early evidence suggests troubling connections to inflammation, oxidative stress, and disruptions in gut health. The chemicals leaching out of plastics, bisphenols, phthalates, flame retardants—are even more sinister, interfering with hormones and associated with cancers, reproductive disorders, and developmental issues.

When plastics are burned, they release dioxins and particulates that enter our lungs, contributing to the development of respiratory and cardiovascular diseases. The economy and society also pay their share of the price. Plastics clog drains, exacerbating urban floods. Fisheries collapse when waters are choked with waste, and tourists turn away from polluted beaches. In many developing nations, informal waste pickers, often women and children—work in unsafe conditions, handling toxic waste without protection.

Thus, plastic is not just an environmental issue, but also one of justice, equity, and human dignity. And let us not forget the climate shadow. Plastic production and disposal already emit more than a gigaton of carbon dioxide equivalent every year. If current trends continue, plastics could consume a significant share of the remaining global carbon budget, making it harder to keep the planet within safe temperature limits.

Why Plastic Cannot Simply Disappear?

Given this bleak picture, it may be tempting to dream of a world entirely free of plastic. But such a vision is not yet realistic. Plastics are too deeply interwoven into modern life. In hospitals, they are the shield between life and infection. In food systems, they prevent contamination and extend shelf life, cutting down food waste, which itself is a major source of emissions.

In transport, plastics lighten vehicles and planes, making them more fuel-efficient. In renewable energy, they make solar panels and wind turbines more affordable and efficient. Alternatives like glass, metal, or paper cannot always step in. They are heavier, more costly, and often more resource-intensive to produce and transport. Bioplastics are promising, but they remain expensive, limited in scale, and not always as biodegradable as advertised. Thus, the challenge is not to banish plastic entirely, but to use our imagination to change the story we tell about it.

Imagination as a Compass

Imagination is the seed of every human breakthrough. The wheel, the steam engine, the airplane, and the internet—all were once mere visions in the minds of dreamers. In the same way, solving the plastic crisis requires us to reimagine. We must picture cities without overflowing landfills, seas free of drifting waste, and products designed from the start to return safely to nature or to industry in endless loops. This act of imagination is not fanciful; it is practical. For unless we dare to imagine, we will never create the innovations, systems, and policies to bring such a world to life.

The linear model of "take–make–dispose" has trapped us in an endless cycle of extraction and waste. To break free, we must move toward a circular economy—one that keeps materials in use for as long as possible, extracts maximum value, and designs waste out of the system altogether.

Reimagining Through Circular Solutions

1. Rethinking Design and Materials

Design lies at the root of the problem. Too many products are built to be used once and discarded. The first step is to design for durability and reuse—creating goods that are easy to repair, refill, and recycle. Harmful chemical additives must be replaced with safer alternatives. Research into bio-based plastics from starch, algae, or cellulose offers hope, but must be guided by full life-cycle assessments to ensure we are not trading one problem for another.

2. Extending Product Life and Promoting Reuse

Reimagination also means embracing systems of reuse. Refill stations for household products, deposit-return schemes for bottles, and durable containers for deliveries can drastically reduce plastic waste. Service models, where people rent or share items instead of owning them, reduce demand for new plastic production. Crucially, consumer behavior must shift—refilling, repairing, and reusing must become the cultural norm, not the exception.

3. Closing the Loop with Recycling

Recycling, though not a panacea, remains a pillar of circularity. Mechanical recy cling—collecting, sorting, and reprocessing—must be strengthened with better infrastructure and investment. At the same time, new technologies like chemical recycling, which break plastics back into their original building blocks, show promise. But they must be carefully regulated, lest they become an excuse to keep churning out virgin plastic. Above all, products must be designed with recyclability in mind—avoiding multi-layered packaging and unnecessary additives that complicate recycling.

4. Strengthening Waste Management and Policy

The circular economy cannot flourish without robust systems and policies. Extended Producer Responsibility (EPR) ensures that companies remain accountable for their products from cradle to grave. Bans and restrictions on problematic plastics, like thin bags and microbeads—can drive change. Infrastructure investment, especially in developing countries, is critical to prevent leakage into the environment.

5. Harnessing Innovation and Technology

Imagination has already begun to take form in groundbreaking initiatives. The European Union's Digital Product Passports will soon give every product a digital identity, revealing its material composition, recyclability, and repairability. The Plastic Bank, operating in countries from the Philippines to Brazil, has built a blockchain-based system where communities collect plastic waste in exchange for digital tokens redeemable for essential goods. This not only diverts plastic from the oceans but also creates livelihoods for vulnerable people.

On the creative front, Adidas' partnership with Parley for the Oceans has turned plastic collected from beaches and coastlines into high-performance shoes and apparel. Millions of pairs have been sold, proving that waste can be transformed into beauty and that consumers will embrace products born of responsibility.

Toward a Reimagined Future

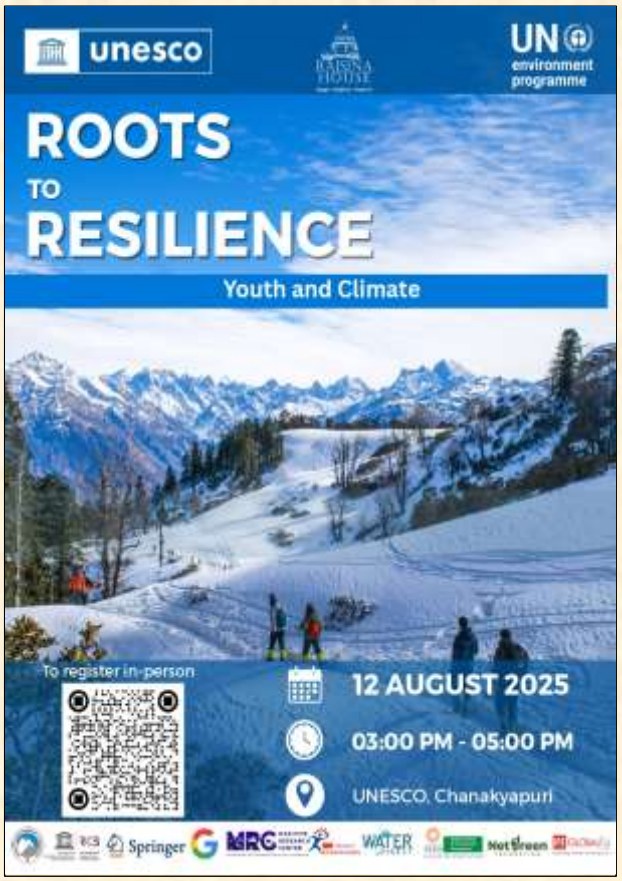
The road to a circular economy is neither straight nor simple. It requires science, policy, business, and citizens to work together. It demands courage to let go of old habits and vision to embrace new ones. Above all, it asks us to reimagine.

We must imagine design that heals instead of harms, economies that circulate instead of waste, and cultures that cherish durability over disposability. Imagination created the plastic age; reimagination can lead us out of its shadow. The story of plastic need not end in landfills and oceans. It can be rewritten into a tale of innovation, justice, and renewal—if only we dare to dream, and then act.

Activities

UNESCO - UNEP Seminar Series Partnership

SIES IIEM is one of the partners for the Seminar series titled "Roots to Resilience" being organized by UNEP & UNESCO for a period of 18 months. The third seminar was held on August 21, 2025 followed by the fourth seminar on September 12, 2025 at UNESCO House in New Delhi



Celebrations

SIES IIEM and SIES School of Packaging jointly celebrated Independence Day, 15th August, 2025 at the Activity and Research Centre with a solemn and meaningful flag-hoisting ceremony. The event honoured the sacrifices and achievements of those who fought for India's freedom, echoing the powerful message: "No barrier can limit you when you set yourself free."

Faculty Development Workshops / Conference Participation

Dr. Suman Rani and Dr. Amrita Dutta attained a workshop on "Stakeholder Consultation Workshop on Sustainable Solutions for MSMEs of Thane Belapur Chemical Cluster (Maharashtra)", organized by Thane Belapur Industrial Association (TBIA). 23rd July 2025.

UNESCO Climate Science Literacy (CSL) Sessions

SIES Institute of Environment Management (IIEM), in collaboration with the SIES OIOP Foundation, recently conducted a series of CSL sessions across Mumbai schools. These interactive sessions aimed to raise awareness about climate change, promote critical thinking on sustainability, and inspire students to take ownership of their role in building a greener future.Through engaging discussions and hands-on learning, students explored the science behind climate change, its real-world impacts, and how it connects to the United Nations Sustainable Development Goals (SDGs).

- Vivekananda English High School, Kurla - Over 275 students enthusiastically joined the session, gaining a deeper understanding of climate change and how global sustainability goals relate to their everyday lives.
- Shree Dayanand Balika Vidyalay, Matunga - Around 50 Class 8 students actively participated, asking insightful questions and offering thoughtful perspectives.
- Smt. Mehta School, Ghatkopar - Over 120 students explored the challenges of climate change, discussed actionable solutions, and connected the global SDG agenda to local, everyday choices.

Projects & Consultancy

Lake Rejuvenation Study

SIES IIEM is conducting the "Baseline Assessment & Action Plan Formulation of Five Lakes in North Mumbai," a rigorous two-phase study (Monsoon and Post-Monsoon) aligned with BMC's objective of sustainable lake rejuvenation. In August 2025, the team undertook field investigations to perform pre-monsoon sampling and biomonitoring aimed at evaluating the current ecological status of the lakes. Sampling included key physicochemical parameters such as, pH, temperature, dissolved oxygen (DO), electrical conductivity (EC), and total dissolved solids (TDS), as well as biological indicators such as phytoplankton, zooplankton, benthic macroinvertebrates, and E.coli. Additionally, sediment samples were obtained from the lakebeds to assess geochemical characteristics and potential contamination levels. The Phase I findings will be compiled and submitted in October 2025.

Erangal Talao

Khartale Talao

Sumlai Talao

Ali Talao

Dharavali Village Talao

Glimpses

APR Bharat: Enforce Recycled Plastic Mandate

The Association of PET Recyclers of Bharat (APR Bharat) on Monday urged the government to enforce the mandatory recycled content requirement under Plastic Waste Management Rules and ensure time-bound compliance by brands with regular monitoring and reporting mechanisms.

APR Bharat is a coalition of companies in India dedicated to the responsible recycling of PET materials. Its mission is to champion PET recycling, foster a circular economy, educate the public on recycling, and collaborate with businesses, among other objectives. Over two million people from the rag picker community, who form the backbone of India's post-consumer PET collection, are facing livelihood challenges. However, due to the delay in enforcement of the recycled content mandate, which was to come into effect from April 1, 2025, as per the PWM Rules, the demand for r-PET has collapsed.

Rediff Money: Sep 22, 2025, 17:12

India Plastics Pact: Accelerating Circular Solutions

About the Pact Launched by the Confederation of Indian Industry (CII) and WWF-India, the India Plastics Pact is a voluntary business initiative aimed at transforming the plastics value chain from linear to circular. It brings together stakeholders—manufacturers, retailers, recyclers, and NGOs—to redesign, reuse, and recycle plastic packaging.

Upcoming Events

- **IFAT India 2025 Conference - India's Largest Trade Fair for Water, Sewage, Solid Waste and Recycling -** October 14 -15, 2025 at Bombay Exhibition Centre, NESCO, Mumbai.
- **Plastics Recycling Show India (PRSI) 2025 – Exhibition & Conference on Innovations & technologies in plastics recycling** - November 13-15, 2025 at Bombay Exhibition Centre, NESCO, Mumbai

Indian Institute of Environment Management
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RISE WITH EDUCATION

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Articles, photos etc. are invited for next issue (October - December, 2025)

Theme:

ESG & Climate Action: Role of Innovation and Entrepreneurship

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