



WORLD ENVIRONMENT DAY



"ENDING PLASTIC POLLUTION"



*In this newsletter
you can expect:*

Statutory Initiatives

Stories of Impact

Volunteer Spotlight

Next Gen Views

Plastic Times



**#Ending Plastic
Pollution**





Message from Chairperson

Rajasthan State Pollution Control Board (RSPCB) is a Regulatory Authority entrusted to implement various Environmental laws and rules within the jurisdiction of the State of Rajasthan and its endeavor are aligned to support its commitment to Environmental Protection and Sustainability.

The State Board also undertakes several activities to raise awareness among the stakeholders to mark the celebration of World Environmental Day which is celebrated worldwide on 5th June. The theme of World Environmental Day 2025 is "Ending Plastic Pollution."

The World Environment Day, 2025 calls for collaborative action globally to tackle plastic pollution. The solutions will be based on nature-based inspirations, collective actions by the individuals, organizations, industries and governments to adopt sustainable alternative practices to drive systemic change.

In the Global Endeavor of # Ending Plastic Pollution, RSPCB has initiated several activities like Stakeholder workshops, distribution of Cloth bags etc.

We are delighted to share the special edition of our newsletter dedicated to the theme of World Environment Day, 2025 and to Nationwide mass mobilization Campaign "One Nation, One Mission: End Plastic Pollution". The special edition of State Board newsletter includes collection of articles/success stories/start-up/ video clips dedicated to the theme.

Let us use this opportunity to reflect on our relationship with the environment and recommit ourselves to being responsible stewards of the Earth. This newsletter throws a glimpse of light on thoughts, initiative and literary aptitude of the stakeholders of environment.

Aparna Arora
IAS



Message from Member Secretary

The State Board is a Statutory Agency for regulating industries, processes, projects, healthcare establishments and for addressing various environmental issues. The State Board also works to raise awareness amongst Stakeholders.

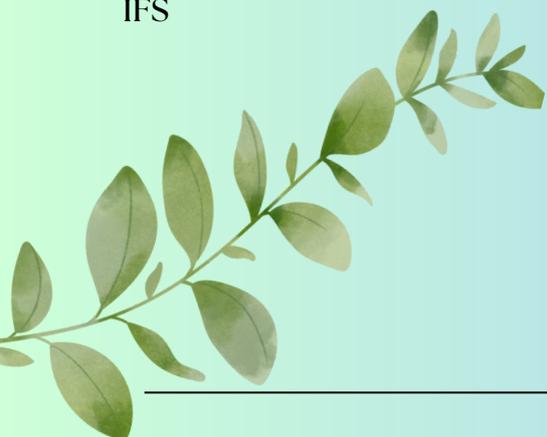
Today a need is felt worldwide to end the plastic pollution and restore the environment for the coming generations. The State Board has taken several policy decisions and initiatives to combat plastic pollution in the State.

In this regard, on World Environment Day, 2025 the State Board has taken an initiative to publish a special edition of its newsletter dedicated to the concept "Ending Plastic Pollution."

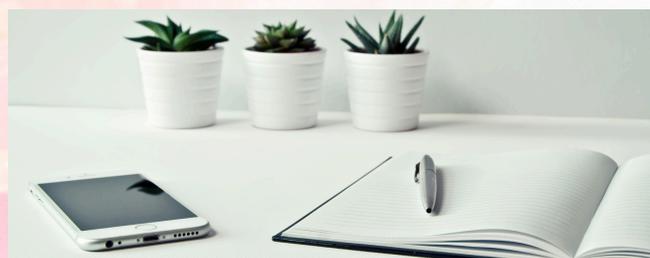
This edition includes collection of articles/success stories/start-ups/video clips dedicated to the theme received from different strata of the society including Citizens, Industries, Employees of various organizations including State Board and Students.

As we celebrate World Environment Day, let's draw inspiration from these articles/success stories/start-ups/video clips & take a pledge to work together for combating plastic pollution for a cleaner, greener and more sustainable future for all.

Sharda Pratap Singh
IFS



From the desk of Newsletter Committee



The World Environment Day is not just a day; rather it has become an imperative tradition worldwide to showcase and strengthen the commitment for the protection of Environment. It is celebrated by millions of people in 150+ Countries. It is the largest global platform for public outreach.

The theme of World Environment Day, 2025 is “Ending Plastic Pollution” globally. Our home -Mother Earth should be ridden of plastic waste and there is an urgent need to seek solutions, frame policies and stigmatic shift to alternatives. These steps will be an important contributory factor in achieving Sustainable Development Goals including climate action, sustainable production and consumption, protection of seas & oceans and repairing ecosystems and retaining biodiversity.

Plastic pollution has become ubiquitous with its menace permeating to even unidentified corners of the planet even in our bodies in the form of micro-plastics. The World Environment Day, 2025 is a paving road for Countries worldwide for undertaking negotiations regarding Global Treaty to Ending Plastic Pollution.

In the global movement of #EndingPlasticPollution movement, the RSPCB has also embarked an initiative to publish the Special Edition of its Newsletter. This newsletter is an awareness step which is showcasing the works such as articles, success story/initiative, start-up & video clip of various custodians of the environment including students, citizens, industrialists, employees of the State Board etc. on the theme of World Environment Day, 2025.

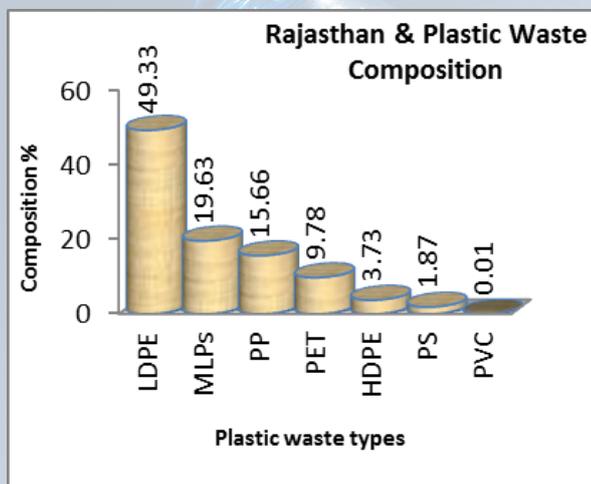
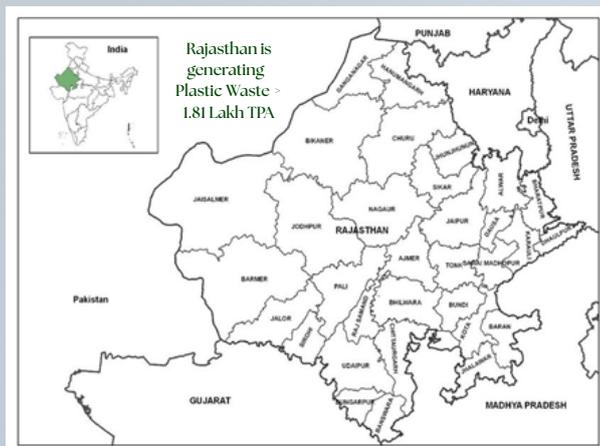
The Newsletter Committee humbly extends its request amongst all the custodians and Stakeholders of the Mother Earth to join hands for the movement #EndingPlasticPollution and take the pledge for individual/collective steps for ending plastic pollution.

Let's embark on a journey where every action, no matter how small, contributes to establishing the resilience and vitality of the environment.

With gratitude for your continued support and dedication.

Newsletter Committee

Plastic Waste Management Scenario of Rajasthan



Rajasthan is generating >1.8 lakh TPA of plastic waste with major share of LDPE type of plastic.



Rajasthan is collecting > 86 thousands TPA of plastic waste (48% of the total generation).



Rajasthan is recycling or upcycling the > 9 thousands TPA of plastic waste



Rajasthan is co-processing the > 11 thousands TPA of plastic waste in cement manufacturing units.



Rajasthan is using >23 hundred TPA of plastic waste in road construction.

Plastic Waste Inventorization for Rajasthan State has been completed by Rajasthan State Pollution Control Board in collaboration with Centre for Environment Education (CEE). The CEE carried out Plastic Waste Inventorisation Study of Rajasthan and submitted the report.

Key Suggestion of the report:-

1. The scientific system needs to be adopted for the management of non hazardous waste in industrial areas.
2. Setting up of Bio-gas/Bio-CNG plants inside mandi premises needs to be encouraged.
3. Incentivizing SUP alternate manufactures.
4. Creating awareness amongst Stakeholders & Citizens.
5. Ensuring compliance of provisions of the Rules by the Urban Local Bodies w.r.t. Material Recovery Facility (MRF) sites, Waste Management Agencies, Littering hotspots, waste pickers, scrap dealers, Non-Governmental Organizations, Community Based Organizations, Self Help Groups and Citizens.

The recommendations and action plans of the report will help the State Board, ULBs, Other Government agencies, policy makers and waste management agencies in updating themselves with latest data on waste generation, recycling and management status along with challenges to deal with plastic waste and further pave the way in the collective journey towards sustainability and circular economy practices.

The complete report of the Plastic Waste Inventorisation Study of the Rajasthan State carried out by Rajasthan State Pollution Control Board in collaboration with Centre for Environment Education (CEE) & the complete report summary are available for free download at:

https://environment.rajasthan.gov.in/content/dam/environment/RPCB/WasteManagement/PlasticWasteManagement_Plastic%20Waste%20Inventorisation%20Study%20of%20the%20Rajasthan%20State%20Final_Report.pdf

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Ending Plastic Pollution

RSPCB's Initiative towards a Sustainable Rajasthan

Plastic pollution, particularly from single-use plastics (SUP), poses serious threats to our environment, health, and wildlife. The Rajasthan State Pollution Control Board (RSPCB) is leading the charge with Innovative, Community-driven and Regulatory strategies to eliminate plastic pollution.

Awareness & Capacity Building :-

- RSPCB is continuously organizing meetings/workshops/training programs for creating awareness regarding ban on SUP items & its alternatives amongst stakeholders of various associations.
- Various programs/activities like Run for Environment rally, Nukkad Natak, exhibitions of alternate of SUP items, distribution of Jute bags, quiz competition, drawing competition in Schools, Cycle rally etc. for creation of awareness regarding adopting good practices to reduce SUPs is being carried out on World Environment Day every year.
- State Board in association with Central Institute of Petrochemicals Engineering & Technology (CIPET) regularly organize training programmes for various industries/academia/hospitality industries/stakeholders to create, innovate and promote use of alternatives of SUP.

Promotion of Eco-Friendly Alternatives :-

- 42 units manufacturing alternatives of SUP items (Compostable/Bio-degradable plastic items) such as jute bags, wooden cutlery, compostable carry bags etc. have been identified. State Board regularly carries out exhibitions of alternatives of SUP items on World Environment Day almost every year.
- The State Board has issued reward schemes for citizens to provide information of banned plastic items manufacturing units vide office order dated 26.04.2023 with financial reward of Rs. 5000/- and for citizens providing information regarding Storage, Transport and Sale of banned plastic items vide office order dated 27.06.2024 with financial reward upto Rs. 10,000/- (Rs. 1000/- per quintal) and till date 9 informants have been incentivized under reward scheme dated 26.04.2023.
- Approximately 1.30 Lac Cloth bags have been distributed by State Board since last World Environment Day 2024.

Technological Interventions :-

- Implementation of principle of RRR (Reduce, Reuse, Recycle) at the level of State Board.
- Directions regarding co-processing of seized plastic carry bags in cement kilns have been issued vide letter dated 01/04/2019 to Cement plants. Quantity of plastic waste co-processed in cement plants is 11729.58 Ton during FY 2023-24.
- As per information received from PWD, 10661.34 MT plastic waste has been used for road construction till April, 2024.
- State Board has taken a step forward to reduce plastic waste due to the use of plastic bottles by installing I.O.T enabled 50 plastic bottle flaking machines at various locations with significant inflow of tourist.



Legal Action Enforcement :-

- 217 producers, 372 importers, 32 brand-owners and 128 recycles and 14 co-processors of the State have been registered on centralized EPR portal developed by CPCB.
- State Board regularly identifies plastic carry bags/SUP items manufacturing units through regular inspections/survey. Necessary actions are being taken for revocation/modification of consent/closure of these units.
- The Sub-Divisional Magistrate has also been authorized to file complaints through amendment dated 10/11/2010 in the notification dated April 19, 1987 issued by the Ministry of Environment and Forests of the Government of India.
- Sub-Divisional Magistrate/Chief Executive Officer /Commissioner /Municipal Corporation /Municipal Council/Municipality Executive Officer and Tehsildars have been authorized to take action related to inspection/raid/seizure vide State Board's office order dated 08.07.2011.
- The responsibility for preventing the use of plastic carry-bags imported from other states by transporting them across the state border is vested with the Commercial Tax Department and the Transport Department.

Innovations of State Board



उद्योगों को सुविधा प्रदान करने हेतु बोर्ड द्वारा 2 नए क्षेत्रीय कार्यालय एवं 11 नई क्षेत्रीय प्रयोगशालाओं की स्थापना।



Special Dispensation Scheme के अंतर्गत दिनांक 01.12.2024 से 31.03.2025 के दौरान पहली बार सम्मति आवेदन प्रस्तुत करने वाले उद्योगों का पूर्व अवधि शुल्क माफ।



जल एवं वायु प्रदूषण मानकों की अनुपालक इकाइयों के संचालन हेतु सम्मति आवेदनों का Auto Renewal प्रणाली से त्वरित निष्पादन।



Circular Economy हेतु रोड मैप तैयार करने एवं Waste Management नियमों के अनुरूप Extended Producer Responsibility के प्रभावी क्रियान्वयन के उद्देश्य से टास्क फोर्स का गठन।



बोर्ड के प्रयासों से राज्य सरकार की 'एक पेड़ माँ के नाम' योजना के तहत 14 लाख 55 हजार पौधों का रोपण।

Innovations of State Board



केंद्रीय प्रयोगशाला को ISO/IEC 17025:2017 की मान्यता का नवीनीकरण 265 पैरामीटर के साथ हुआ, जिसमें मोबाइल वैन CAAQMS को भी 21 पैरामीटर के साथ सम्मिलित किया जो कि देश में एक नवीन पहल है।

NABL
ISO / IEC 17025
Accredited

राज्य मण्डल की 8 क्षेत्रीय प्रयोगशालाएं भी अंतरराष्ट्रीय मानकों (ISO/IEC 17025:2017) के अनुरूप NABL से प्रमाणित।



पर्यावरणीय अनुपालना हेतु 650 से अधिक उद्योगों की OCEMS के माध्यम से रियल टाइम ऑनलाइन निगरानी।

राजस्थान राज्य
प्रदूषण नियंत्रण मंडल



राज्य में वायु गुणवत्ता सुधार एवं निगरानी के लिए 103 स्थाई वायु गुणवत्ता निगरानी स्टेशन (NAMP+CAAQMS) तथा 2 मोबाइल वैन सतत वायु गुणवत्ता निगरानी स्टेशन (CAAQMS) कार्यरत है। इसके अतिरिक्त 15 नए सतत वायु गुणवत्ता निगरानी स्टेशन (CAAQMS) की स्थापना प्रक्रियाधीन है।



199 भूजल और सतही जल स्टेशनों पर जल गुणवत्ता की निगरानी।
136 सीवेज ट्रीटमेंट प्लांट और 14 कॉमन एफ्लुएंट ट्रीटमेंट प्लांट की मासिक मॉनिटरिंग।

Development of Eco-Friendly Plastic Bricks Using Recycled Plastic Bottle Waste - A New Sustainability



Plastic is a non-bio-degradable substance which takes thousands of years to decompose that creates land as well as water pollution to the environment. The quantity of plastic waste in Municipal Solid Waste (MSW) is expanding rapidly. It is estimated that the rate of usage is double for every 10 years. The Plastic usage is large in consumption and one of the largest plastic bottle wastes are polyethylene (PE) and polyethylene terephthalate (PET). The disposal of large quantities of plastic bottle waste, primarily composed of HDPE, PET, and PP, poses a significant environmental hazard due to its non-biodegradable nature. The utilization of earth based clay material resulted in resource depletion and environmental degradation. As amount of clay required for brick is huge, in this project these waste plastics are effectively utilized in order to reduce the land space required to dump these wastes. This creates the prevention from various harmful diseases. Plastic waste bottles are cleaned and added with fine aggregate at various ratios to obtain high strength bricks that possess thermal and sound insulation properties. This is one of the best ways to avoid the accumulation of plastic waste. It also helps to conserve energy, reduce the overall cost of construction and hence in this project work, attempts made to manufacture the plastic crushed stone bricks by utilizing the waste plastics. Building materials like bricks, concrete block, tiles, etc. are popularly used in construction. However, these materials are expensive and hence common people find it difficult to easily afford them. Moreover, these building materials require certain specific compositions to obtain desired properties.

Plastic is one of the recent engineering materials which have appeared in the market all over the world. It is a material consisting of a wide range of synthetic or semi-synthetic organic compounds that are malleable and can be molded into solid objects. By definition, plastics can be made to different shapes when they are heated. It exists in the different forms such as cups, furniture, basins, plastic bags, food and drinking containers and they become waste material. Accumulation of such wastes can result into hazardous effects to both human and plant life. Therefore, need for proper disposal and if possible, use of these wastes in their recycled forms arises.

Nowadays, human apply all of its potentiality to consume more. The result of this high consumption is nothing unless reducing the initial resources and increasing the landfill. In recent times, human from the one hand is always seeking broader sources with lower price and from the other hand is following the way to get rid of the wastes. The waste today can be produced wherever humans footprints be existed and remind him that they have not chosen the appropriate method for exploitation of the nature. The growing global challenge of plastic waste management, particularly from plastic bottles made of HDPE, PET and PP has necessitated innovative, sustainable and scalable solutions. The present study is focused on addressing this pressing issue by exploring a novel and practical approach to the development of eco-friendly plastic bricks that utilize recycled plastic waste as a primary raw material. The fundamental objective of this research is to create a sustainable alternative to conventional clay bricks by integrating crushed stone and plastic bottle waste to manufacture durable, cost-effective and environmentally beneficial plastic bricks suitable for construction purposes.

This project presents a novel approach to recycling plastic waste by fabricating eco-friendly bricks using recycled plastic bottles combined with crushed stone aggregates (5–9 mm). Various compositions were tested to assess their structural and environmental performance. Results revealed that bricks with a recycled plastic to crushed stone exhibited superior compressive strength compared to conventional clay bricks and demonstrated improved water absorption characteristics. This research highlights the potential of utilizing plastic waste as a sustainable construction material, contributing to environmental conservation and promoting the circular economy. The use of recycled plastic waste bottles in brick production can address the challenges of plastic waste management. Consolidating plastic waste in block creation can work on the properties of the blocks and decrease the natural effect of waste plastics. The quality and consistency of the plastic waste must be ensured and the cost-effectiveness of using plastic waste in brick production needs to be evaluated. These bricks absorb very less water as compared to conventional bricks that is also very significant with the view of environmental sustainability. Collaboration between governments, industries and communities is necessary to develop policies and initiatives that support the circular economy and sustainable development goals. Utilizing plastic waste bottles in the manufacturing of bricks offers a promising solution to address the environmental and economic challenges associated with plastic waste management and sustainable construction practices. Recycled Plastic bricks can help to reduce the environmental pollution thereby making the environment clean and healthy.



Dr. T. Senthil
CIPET, Jaipur



प्लास्टिक कारित प्रदूषण के निराकरण की अब तो करें सार्थक पहल

वर्तमान में हवा पानी व मिट्टी के प्रदूषण के मुख्य स्रोतों में से एक सिंगल यूज प्लास्टिक का अधिकाधिक उपयोग होना है जो कि पारिस्थितिकी तंत्र को प्रभावित कर वन्यजीवों के हेबिटेट, जलवायु परिवर्तन, ग्रीन हाउस, हानिकारक गैस उत्सर्जन व यहाँ तक मानव एवं जीवों के स्वास्थ्य पर हानिकारक प्रभाव डाल रहा है। प्लास्टिक में प्रयुक्त होने वाले रसायनों के खाने के साथ प्रयोग में आने से कैंसर जैसी बीमारियों के जोखिम को बढ़ा रहा है। प्लास्टिक के अविघटनीय होने से इसके सूक्ष्म कणों के रूप में सर्वव्यापक रूप से हवा में उपलब्ध है। प्लास्टिक को जलाने से निकलने वाले जहरीले धुएँ से अस्थमा व अन्य श्वास संबन्धित व्याधियाँ बढ़ रही है। प्लास्टिक के उपयोग से शहरों के साथ-साथ ग्रामीण क्षेत्रों में भी इसके दुष्परिणाम सामने आ रहे हैं। पालतू पशु, वन्यजीवों के द्वारा प्लास्टिक को खाद्य पदार्थों के साथ खाने से गंभीर आंत्र संबन्धित रोग हो रहे हैं। ग्रामीण क्षेत्र में यहाँ तक कि यह उपजाऊ कृषि भूमि में मिलकर मिट्टी का क्षरण कर, उत्पादकता व उर्वरता को कम कर रहा है। वर्षा ऋतु में शहरी क्षेत्रों में नालियाँ व पाईपों के अवरुद्ध होने से जल भराव जैसी स्थितियाँ उत्पन्न हो रही हैं। यदि प्लास्टिक कारित प्रदूषण के निराकरण की अब भी व्यवस्था नहीं की गयी तो आने वाले समय में मानव जीवन की गुणवत्ता, स्वास्थ्य इत्यादि की गंभीर समस्याएँ उत्पन्न होने की संभावनाओं से इन्कार नहीं किया जा सकता।

ओम प्रकाश शर्मा
सेवानिवृत्त आई.एफ.एस.



Deposit Refund Scheme (DRS) - A digital initiative for Plastic waste collection



Plastic waste segregation is a pressing environmental issue, exacerbated by rapid urbanization and population growth. The major sources of plastic pollution are Single Use Plastic (SUP), micro-plastics & improper collection, segregation and disposal of plastic waste. Many researchers said that the implications of plastic pollution extend beyond agricultural lands and soil. The chemicals like BPA pose a harmful impact on human health. These toxic chemicals are also harming human bodies when these disposable plastics are used at high temperatures for long durations.

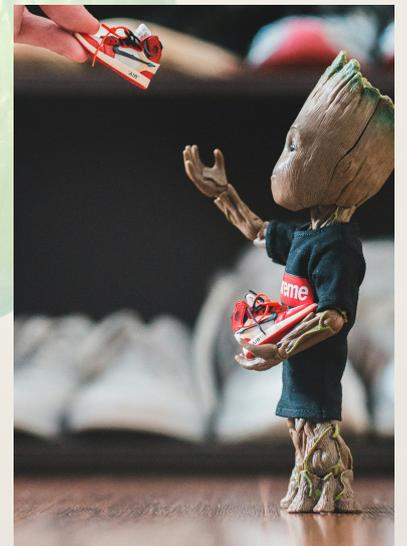
A huge quantum of plastic waste is being generated each day and only a small fraction of this is being recycled. Littering and inadequate waste management systems contribute to plastic entering the environment. The major challenge is leading to rising pollution and poor living and working conditions for the informal waste workers. We must step up to solve leakage issues of plastic waste towards the informal sector.

The Deposit Refund System (DRS) is a recyclable waste recovery program that incentivises consumers to return their post-consumption packaging waste like water bottle, tetra packs, glass bottles and multi-layered plastic wrappers. The deposit refund system was originally designed by the beverage industry to ensure the return of bottles. In DRS, consumer deposits a small amount upfront, to be reimbursed to them when they bring waste to authorized collection points. Over 60 countries worldwide have successfully implemented the scheme to increase recycling rates.

Digital deposit refund scheme (DDRS) is a technology and AI-based version of DRS. DDRS is being implemented successfully in Uttarakhand and Goa. DDRS uses a Unique Serialized Identification (USI) code/QR Code to manage the deposit and refund process. In this system, a USI code is printed on the packaging of every eligible container and collection points scan the code to initiate the deposit and refund process. The material brought by the redeemers to authorized collection points is checked for any defects and then the refund is initiated directly to the customer's account upon approval. USI labelling enables traceability of material flow and prevents leakage of waste towards the informal sector.

DDRS is a self-sustaining system with no cost to the government and works on a polluter pays principle. If the consumer chooses not to return the containers back into the system, it adds to unredeemed deposits. These serve as a source of revenue for the government which can be utilised to improve the waste management infrastructure in the state.

Abhishek Sharma
Supdt. Scientific Officer
RSPCB





A Comparative Study on Waste Pyrolytic Oil produced from Waste Plastics

Plastic materials are profusely used as the packaging materials as a result, substantial amounts of plastic waste get generated and found in the main stream of municipal solid waste. Disposal of such a massive amount of plastic waste has become a serious environmental concern due to its poor biodegradability. In this context, conversion of waste plastics into valuable fuel through pyrolysis offers a promising solution for waste management and energy production. This study focuses on the conversion and investigation of the properties of pyrolytic oils (POs) produced from various plastic materials, such as virgin polypropylene (VPP) and mix polypropylene waste (MPPW) through pyrolysis. The oil yield of 80% and 75% were found from 2.5 kg of VPP and MPPW at a temperature of about 500°C, respectively. The physical properties of produced POs such as cloud point, pour point, viscosity, density, flash point and fire point, carbon residue were analysed as per the ASTM standards. Analytical techniques such as Gas Chromatography Mass Spectroscopy (GC-MS), and Fourier-Transform Infrared Spectroscopy (FTIR) results confirm the presence of alkenes, alkane, mono-aromatics and some oxygenated hydrocarbon compounds in the POs, which is further compared with commercial diesel. The POs contain a wide range of carbon compounds, varying from C₈ to C₃₀. This study would certainly promote the researchers and practitioners to utilize the waste to produce viable energy source in order to achieve the circular-economy goal.

Monalisa Satapathy
CIPET, Jaipur



Fixing the Plastic Problem: The Circular Economy Approach



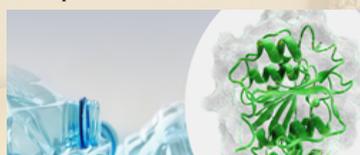
Plastic, while convenient, has created a global crisis, polluting our oceans and land, harming wildlife and wasting valuable resources. Our current "take, make, dispose" model, where plastic is used once and thrown away, is unsustainable. The solution lies in embracing a circular economy for plastics.

This innovative approach focuses on keeping plastic in use for as long as possible. It involves designing products for durability, reuse and easy recycling from the outset. We need to prioritize reusing items like shopping bags and water bottles and businesses can facilitate this by offering refill options. Expanding and improving recycling infrastructure is also crucial with new technologies capable of transforming old plastic into high-quality new material. Exploring naturally degrading materials for certain applications is another avenue, provided we manage them properly.

The circular economy requires a collaborative effort from manufacturers, consumers, waste management companies and governments. While challenges exist, such as the cost of recycled plastic, inadequate recycling systems and changing consumer habits, the benefits are substantial. A successful transition promises less pollution, conservation of resources, creation of new jobs and a healthier planet.

Innovative examples of the circular economy in action include:

- **Chemical Recycling:** Breaking down plastics to their basic components to create new, high-quality plastic, even from difficult-to-recycle types.
- **Plastic-to-Roads/Construction Materials:** Utilizing non-recyclable plastics in asphalt for roads or to make building materials, diverting waste from landfills and creating durable products.



- **Smart Sorting with Digital Watermarks and AI:** Using invisible codes and AI-powered cameras to precisely sort different plastic types, improving recycling efficiency and material quality.
- **"Waste-to-Value" for Ocean-Bound Plastics:** Processing ocean plastic into high-value products, turning environmental clean-up into an economic opportunity.
- **Biotechnology and Enzyme-Based Recycling:** Employing specialized enzymes to efficiently break down plastics like PET into their original building blocks for new production.

Real-world applications further demonstrate the circular economy's potential:

- **Refillable Bottles and Containers:** Shifting from single-use to reusable and refillable systems for everyday products.
- **Closed-Loop Recycling:** Turning old plastic bottles back into new bottles of the same quality.
- **Products Built to Last & Be Fixed:** Designing products for easy repair and longevity, reducing premature disposal.
- **High-Value Products from Waste:** Transforming ocean or landfill plastic into desirable new items like shoes and skateboards.
- **Industrial Waste Loop:** Factories recycling their own plastic scraps back into their production processes.

Transitioning to a circular economy for plastic is not a quick fix, but a necessary step towards a sustainable future where plastic remains a valuable resource rather than a harmful pollutant.

Jaya Panchal
Jr. Scientific Officer, RSPCB



Plastic Pollution and Micro plastic's Escalating Threat

Plastic, a material that revolutionized human life in the 20th century, has today transformed into a pervasive global environmental crisis. Its excessive production, improper disposal, and slow degradation have created a daunting challenge known as "plastic pollution. The most insidious and pervasive form of this pollution is micro-plastic pollution, which has now infiltrated every corner of our planet. This microscopic menace is increasingly being identified as a potential originator of many severe illnesses in the future, particularly various types of cancer.

The Spread of Plastic Pollution and the Rise of Micro-plastics- Situation in India: Massive plastic waste generation, inadequate waste management, open dumping, and burning. Micro-plastics are Plastic particles typically less than 5 millimeters in size.

Ubiquitous Spread of Micro-plastics: Situation in India: Confirmation of high concentrations of micro-plastics in the Ganga, Yamuna, other Indian rivers/lakes, coastal areas, and even Indian table salt.

Micro-plastics to Cancer (Based on Scientific Research): Chemical Leaching: Plastics contain numerous harmful chemical additives like Bisphenol A (BPA) and Phthalates which can interfere with the body's hormonal balance. Hormonal imbalances are strongly linked to the development of certain cancers, including breast, prostate, and testicular cancers.

Carrier of Other Pollutants: Micro-plastics can act as vectors, adsorbing and transporting other harmful environmental pollutants (e.g., PCBs, DDT, heavy metals). **Physical Damage and Chronic Inflammation, Oxidative Stress and DNA Damage, Disruption of Cellular Pathways, Immune System Dysfunction:**

* **Global Efforts and Strategies Towards the "Cure" (Preventative and Remedial Measures)** There is no single quick "cure" for micro plastic pollution; rather, a comprehensive and multi-faceted strategy is required, encompassing prevention, management, and research.

1. Prevention:

- Reduce Plastic Production and Consumption:
- Improve Waste Management:
- Strict Source Segregation:
- Control Microfiber Emissions:
- Ban Harmful Chemicals:
- Improve Tire Design: Research and develop tires that shed fewer micro-plastic particles.

2. Remediation/Removal:

- Upgrade Wastewater Treatment Plants (WWTPs): Invest in advanced filtration technologies (e.g., membrane bioreactors) to effectively remove microfibers and other micro-plastics from sewage.
- Innovative Removal Technologies (Currently in R&D):
- Magnetic particles for micro-plastic binding.
- Development of specific bacteria, fungi, or enzymes for plastic biodegradation.
- Using natural substances for micro-plastic coagulation/flocculation.
- Ocean and Beach Cleanups: While primarily targeting larger plastics, these efforts indirectly reduce the source of secondary micro-plastics.

3. Public Awareness and Behavioral Change:

- Large-scale educational campaigns on plastic pollution and its health risks.
- Promotion of waste segregation and responsible consumption practices.
- Adoption of the Reduce, Reuse, Recycle (3R) principles.

4. Research and Development:

- Intensive research on the long-term health impacts of micro-plastics, particularly their link to cancer.
- Development of improved methods for detecting and quantifying micro-plastics and nano-plastics in environmental and biological samples.
- Investment in truly biodegradable, non-toxic, and circular material alternatives.
- Innovation in more efficient and economically viable recycling technologies for all types of plastics.

Conclusion:

- Micro-plastic pollution is not merely a distant threat but a rapidly growing concern, poised to become a potential originator of numerous severe diseases, including cancer, in the future. Tackling this invisible enemy requires a comprehensive and multi-faceted approach. It goes far beyond simple "clean-up drives"; it demands a fundamental global paradigm shift in how we produce, consume, and dispose of plastic. Only through collective and coordinated "treatment" at individual, community, and international levels can we mitigate this escalating threat and ensure a healthier future for all.

Video Link

<https://drive.google.com/open?id=IkYMXVrq7WgmyQGLht9kQMp2MRIfjNT>

Dr. Ajita Sharma
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Plastic Pollution: A Major Environmental Threat

Plastic pollution is the increase of plastic bottles and much more in the Earth's environment that adversely affects wildlife, wildlife habitat, and humans. Plastics that act as pollutants are categorized into micro, meso, or macro debris, based on size. Plastics are inexpensive and durable, and as a result levels of plastic production by humans are high. However, the chemical structure of most plastics renders them resistant to many natural processes of degradation and as a result they are slow to degrade. Together, these two factors have led to a high prominence of plastic pollution in the environment. Plastic is a polymeric material—that is, a material whose molecules are very large, often resembling long chains made up of a seemingly endless series of interconnected links. Natural polymers such as rubber and silk exist in abundance, but nature's plastics have not been implicated in environmental pollution, because they do not persist in the environment. Today, however, the average consumer comes into daily contact with all kinds of plastic materials that have been developed specifically to defeat natural decay processes—materials derived mainly from petroleum that can be molded, cast, spun, or applied as a coating. **Keywords:** degradation, prominence, durable

Govind Singh Chauhan
PWD, Chittorgarh





Zero Plastic Waste

The central idea of Zero Plastic Waste is reducing plastic waste generation. It talks of preventive actions/alternatives of plastic. Globally 400 MT of plastic waste is generated each year (UNEP). Less than 10% of it gets recycled, rest is lost in the environment (UNEP). It chokes our cities, and affects the marine life in most adverse manner.

Having an environment conscious lifestyle is key to achieving Zero Plastic Waste or any other waste. This brings up the example of Lauren Singer who reduced her non-recyclable waste to a tiny jar with change in lifestyle which included:

- 1.Reducing the use of plastic
- 2.Using alternatives to plastic
- 3.Keeping a record of waste generated at individual level
- 4.Minimizing the unnecessary needs and wants

The way forward to realize the goal of Zero Plastic Waste lies in the individual behavioral change. Thus, let us adopt lifestyle for environment (LiFE).

Sarthak Tiwari
Jr. Scientific Officer, RSPCB



Let's choose the planet

University of Newcastle, Australia study reveals that an average person might ingest up to 5 grams of plastic each week—roughly the weight of a credit card.

Another study highlights that a single litre of packaged drinking water contains about 240,000 plastic particles, 90% of which are nanoparticles, invisible to the naked eye.

Shockingly, microplastics have been discovered even in Antarctica, the most remote and pristine part of our planet—proving that no corner of Earth is untouched by plastic pollution.

The truth is stark: we eat plastic, drink plastic, and breathe plastic.

The time for awareness has passed. Combating plastic pollution now demands action. Even something as simple as refusing single-use plastic bags for your apples is a meaningful step.

Preventing plastic pollution today is far less costly than cleaning it up tomorrow.

Let's choose prevention, let's choose the planet.

Rajat Soni
Jr. Environmental Engineer, RSPCB



Sustainable Solutions for Marine Micro-plastic Pollution

Globally, plastic pollution is acknowledged as a major issue for marine ecosystems. Due to ineffective management techniques, the amount of plastic trash (i.e., macro-, micro-, and nano-plastics) being disposed of in the marine environment is steadily rising in a harmful way. After being discharged into the environment, macro-plastics degrade into microscopic fragments known as micro-plastics (size less than 5 mm).

Marine micro-plastic mitigation strategies include beach cleaning programs, chemical treatments that use advanced filtration techniques like membrane bioreactors, using biosensors for detection and adsorbent-based removal, improving wastewater treatment facilities with methods like membrane filtration or coagulation-flocculation. Reduction in single-use plastic consumption, promotion of bio-based and biodegradable plastic materials (which have lower carbon footprint) are crucial steps towards sustainability. Beyond technological solutions, increasing public awareness about micro-plastic pollution, 3Rs strategy (Reduce-Recycle-Reuse), and encouraging the use of biodegradable alternatives are crucial for preventing further contamination.

Dr. Deepa Kumari
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The Plastic Pandemic:

How Pollution Threatens Human and Planetary Health

Plastic pollution has become one of the most urgent environmental challenges of our time. What began as a solution for convenience has now escalated into a global crisis that endangers both human health and the planet's ecosystems.

Each year, over 400 million tons of plastic are produced worldwide, and about half of it is intended for single-use purposes. While plastics are incredibly durable, that durability means they persist in the environment for hundreds of years. Landfills overflow with plastic waste, oceans are clogged with discarded bottles and bags, and even remote areas show traces of plastic debris.

One of the most alarming aspects of this crisis is the rise of micro plastics—tiny fragments formed when larger plastics break down. These particles have been found in drinking water, food, and even in human blood and lungs. Scientists warn that micro plastics may disrupt hormones, carry toxic chemicals, and cause long-term damage to human health. Though research is ongoing, the potential health risks are deeply concerning.

The environmental impact is equally severe. Marine animals, such as sea turtles, whales, and seabirds, often ingest plastic mistaking it for food. On land, plastic waste chokes rivers, pollutes soil, and endangers wildlife and livestock.

Plastic also contributes to climate change. Since most plastics are made from fossil fuels, their production and incineration release significant greenhouse gases. This adds pressure to a planet already grappling with a warming climate.

Despite the bleak picture, solutions exist. Countries around the world are implementing bans on single-use plastics, improving recycling systems, and encouraging sustainable alternatives. Companies are beginning to explore biodegradable materials and reusable packaging. On an individual level, reducing plastic use by switching to cloth bags, reusable bottles, and avoiding packaged goods can make a difference.

The plastic pandemic isn't just about pollution—it's about the future of human and planetary health. Tackling it requires collective effort, innovation, and commitment from all levels of society. If we act now, we can break our dependence on plastic and build a cleaner, healthier world.

Manju Bairwa
Principal, Govt. Sr. Sec. School
Neemla, Rajgarh (Alwar)



Ending Plastic Pollution with the Aero-Zero Model: A Path to Zero Plastic Waste

Plastic pollution poses a global threat to ecosystems, health, and sustainable development. The Aero-Zero Model offers a transformative solution by combining AI 4.0, community-driven initiatives, and circular economy principles to achieve zero plastic waste. This model encourages converting collected plastic into functional resources like eco-building materials or digital plastic currency for incentives. Through real-time tracking, data analysis, and inclusive participation, it empowers citizens, industries, and policymakers to act collaboratively. Educational outreach and reward systems boost awareness and behavioral change. By integrating bottom-to-top engagement, the Aero-Zero Model ensures no community is left behind. Its actionable, scalable approach makes it ideal for both urban and rural settings. With consistent R&D, global partnerships, and local empowerment, we can turn plastic waste into opportunity—making ending plastic pollution not just a goal, but a shared achievement within our reach.

Deepika Balichwal
Teacher, Kota



A Second Life for Plastic Reuse, Recycle, and Refurbish in Simple Ways

Plastic is everywhere — from the bottles we drink out of to the bags we carry groceries in. But once we're done with it, what happens next? Often, it ends up in landfills, oceans, or streets. The good news? We can give plastic a second life through reusing, recycling, and refurbishing.

REUSE: Don't Toss It, Transform It

- Old plastic bottles? Turn them into plant pots, bird feeders, or even pencil holders.
- Plastic bags? Use them for lining bins, packing items, or as stuffing for pillows or soft toys.
- Food containers? Clean them out and reuse them to store small tools, buttons, or leftover food.

RECYCLE: The Smart Loop

- Step 1: Rinse out your plastic containers.
- Step 2: Check the recycling symbol (usually a number inside a triangle). Not all plastics are recyclable everywhere.
- Step 3: Organize the items and dispose of them in the appropriate bin.

REFURBISH: Fix It Up and Use Again

- Mending cracked plastic items with glue or tape.
- Repainting or decorating old plastic furniture to give it a new look.
- Using broken pieces to make art, jewelry, or home décor.

Why It Matters

- Keep streets and oceans cleaner
- Protect animals from plastic harm
- Save natural resources
- Create a greener, brighter future

A Simple Challenge for You

Look around your home. Can you find plastic items you'd normally throw away? Now think: Can you reuse, recycle, or refurbish them instead? Small steps like this, when done by many, create big change.

Mona Kumawat
School Intern, Asti Kalan
Jaipur



“पर्यावरण संरक्षण में मिलेगी मदद, सिंगल यूज प्लास्टिक का बेहतर विकल्प”

कुचामन के बरगद संरक्षण फाउंडेशन के साथ मिलकर नवाचार करते हुए सिंगल यूज प्लास्टिक की जगह कोको जूट वेस्ट मटेरियल से बीजारोपण बैग का निर्माण मार्च 2025 से शुरू किया है। इस बैग का नाम “कोको जूट रूट” दिया गया है।

- मंदिर के बेकार नारियल को इकट्ठा करके पाउडर बनाया और जूट की बेकार पुरानी बोरियों को इकट्ठा करके बैग बनाए। इन बैग में नारियल का पाउडर और मिट्टी को मिलाकर डाला गया और उसमें बीजारोपण किया गया।
- इस मुहिम में जो भी वेस्ट मटेरियल काम लिया गया है जैसे मंदिर के बेकार नारियल व फैक्ट्री की फटी पुरानी बेकार बोरियां अक्सर लोग जलाते हैं तथा जिनसे वायु प्रदूषण होता है
- वेस्ट मटेरियल आसानी से हर जगह उपलब्ध होने के कारण यह बिना किसी विशेष लागत के बनाए जा सकते हैं। वेस्ट मटेरियल में फाइबर होने की वजह से पौधे को पानी की आवश्यकता बहुत ही कम रहती है
- यह नवाचार शत -प्रतिशत सस्टेनेबिलिटी के साथ ही सर्कुलर इकोनामी के सिद्धांत पर आधारित होने के साथ ही सिंगल यूज प्लास्टिक का बेहतर विकल्प है।
- इसमें प्रदूषण रोकथाम के साथ पौधों की सर्वाइवल रेट में वृद्धि शामिल है। इसके अलावा, जल की बचत, पोरसिटी, और भूमि की गुणवत्ता में सुधार भी होता है।

राजेश कुमावत
सी.जी.एस.टी. एवं एक्साइज् विभाग
किशनगढ़



Plastic-Free Pathways Youth Leading the Change

In 2024, a group of university students in Pune, India, launched Plastic-Free Pathways, a youth-led initiative aimed at reducing plastic pollution in urban neighborhoods. Frustrated by the sight of clogged drains and littered parks, they began organizing weekly clean-up drives, focusing on areas around schools, riversides, and marketplaces.

Over six months, the group expanded to include more than 800 volunteers, including students, shopkeepers, and local residents. Together, they collected over 15,000 kilograms of plastic waste, which was then sent to recycling centers through a tie-up with local waste management services.

What made the initiative stand out was its focus on education and alternatives. Volunteers conducted workshops in schools and communities to raise awareness about the dangers of single-use plastics and distributed free cloth bags and refillable bottles to encourage eco-friendly habits.

Local vendors were also trained to shift to paper packaging, and a mobile app was launched to report plastic dumping sites, which the team responded to within 48 hours.

By early 2025, major areas of Pune saw a noticeable reduction in plastic litter, and the city's municipal authorities adopted elements of the program into their official waste management plans.

Plastic-Free Pathways showcases how passion, consistency, and youth power can spark a larger movement, proving that even small steps can lead to meaningful change in the fight against plastic pollution.



Divya Sharma
Teacher, Dausa



प्लास्टिक से दूरी: जीवन रक्षा जरूरी

सौझ दीया- बाती का समय था। प्रकृति- प्रेमी हरितेश हरियाली से घिरी प्राकृतिक सौंदर्य की खूबसूरती को अपलक दृष्टि से निहारते अपने आशियाने की ओर आ रहे थे। तभी सड़क पर एक तड़पती गाय को देखा जहां पास में ही प्लास्टिक की थैलियों का ढेर जमा था। उन्होंने शीघ्र ही चिराग, प्रियांश, श्रेयांश, वल्लरी, मंजरी आदि के सहयोग से आरंभिक उपचार और गाय के खाने-पीने की व्यवस्था की गई। किंतु पशु चिकित्सकों ने शीघ्र ही गाय के आपरेशन की बात कही। हरितेश ने बिना देरी किए उसका उपचार करवाया। चिकित्सकों ने गाय के पेट से प्लास्टिक की थैलियों से बनी एक मोटी गांठ निकाली। गाय अब स्वस्थ हो चुकी थी। पर तड़पती गाय के हृदय विदारक दृश्य ने हरितेश को झकझोर दिया था।

जैसे ही पशु चिकित्सालय से गाय को लेकर हरितेश अपने घर की ओर रवाना होते हैं तभी एक ग्रामीण सिर पर पगड़ी पहने पास ही चाय की दुकान से प्लास्टिक की थैली में चाय बनवाकर ढेर सारी सब्जियों को एक बड़ी सी गाड़ी में प्लास्टिक की असंख्य थैलियों में सब्जियां भर कर बेचने के लिए सूदूर इलाकों में जा रहा था। हरितेश ने उन्हें रोककर मौहल्ले में घूमती एक गाय की प्लास्टिक के चलते हुई दशा के बारे में उन्हें अवगत कराया और कहा, हे लोगों को सब्जी वितरण करने वाले नौजवान ! आपने अपने काम का जो तरीका अपनाया है वह न जाने कितने ही लोगों की जिंदगियां छीन सकता है। वह प्लास्टिक के प्रदूषण से बेखबर ग्रामीण बोला- पर मैंने क्या किया है? तभी पर्यावरण प्रहरी हरितेश ने कहा – “ जिस प्लास्टिक की थैली में आप गर्म चाय लेकर जा रहे हैं उस चाय में प्लास्टिक के असंख्य विषैले कण आपके शरीर में जाकर कैंसर , पक्षाघात, उदर और त्वचा सम्बन्धी न जाने कितनी ही बीमारियों को न्यौता देते हैं। तभी वह ग्रामीण भविष्य में प्लास्टिक की थैलियों में चाय न पीने और प्लास्टिक का उपयोग न करने का संकल्प लेता है।

हरितेश ने कहा – जहां आप इन बड़ी बड़ी प्लास्टिक की थैलियों में सब्जियां भर – भर कर ले जाते हैं। मैं उस जगह को देखना चाहता हूं। क्या मेरी मदद कर सकते हैं?

उसने दृढनिश्चय कर लिया कि इस क्षेत्र में वो इन निरपराध और बेजुबान जीवों को संकट में डालने के मूल कारण प्लास्टिक का उपयोग बंद करवा के ही दम लेंगे।

तभी उन्होंने वहां आस-पास के लोगों और स्कूली छात्र-छात्राओं को पर्यावरण हितैषी लोगों के सहयोग से सब के हाथों में कॉटन और जूट से निर्मित बैग वितरित कर कहा – देखो आपके क्षेत्र में कितने जीवों की अकाल मृत्यु प्लास्टिक के कारण होती है। इन जीवों की मृत्यु का मुख्य कारण प्लास्टिक की वे थैलियां और प्लास्टिक कण जिम्मेदार हैं। इसलिए आज से हम सभी यह संकल्प लेंगे कि हम प्लास्टिक की थैलियों का भूलकर भी उपयोग नहीं करेंगे। पशु-पक्षियों को रोटी या खाद्य सामग्री थैलियों में नहीं देंगे। नदी या सागर में विचरण करने वाले जलीय जीव – जन्तुओं की सुरक्षा को देखते हुए प्लास्टिक से बनी कोई भी सामग्री तालाबों या नदियों में नहीं फेंकेंगे। प्लास्टिक थैलियों को कभी नहीं जलायेंगे बल्कि कूड़ेदान में डालेंगे। दैनिक उपयोग के लिए सूती कपड़े से बने बैग, जूट के बैग या बांस का उपयोग करेंगे। प्लास्टिक की थैलियों में बंद भोजन, सब्जी या अन्य किसी भी प्रकार की खाद्य या पेय सामग्री का उपयोग नहीं करेंगे। प्लास्टिक पर्यावरण – प्रदूषण का सबसे प्रमुख कारण है जो न केवल मानव स्वास्थ्य के लिए ही बल्कि समस्त जीवों के लिए घातक है। तभी सभी स्कूली बच्चों ने प्लास्टिक से दूरी बनाएं की तख्तियां लिए शहर में लोगों को जागरूक करने के लिए निकल पड़े थे। हरितेश ने कहा – देखो बच्चों, हमारे देशभर में पर्यावरण संरक्षण से जुड़े संस्थान व देशभर में फैले सरकार के प्रदूषण नियंत्रण बोर्ड तो इस लोक हितैषी उपक्रम में लगकर हमें सजग कर ही रहे हैं किन्तु इस सेवा के लिए हम सब को मिलकर प्लास्टिक मुक्त भारत बनाना है। सब लोग पास में बहती नदी की जल धाराओं से ही प्लास्टिक का कचरा हटाना आरंभ कर दिए थे और बच्चे भी अपने – अपने घरों में प्लास्टिक को प्रतिबंधित करवा चुके थे। कुछ समय बाद ही वह स्थान सुरम्य प्रकृति नगर बन चुका था और वहां भांति – भांति के पक्षियों की मनमोहक कलरव हर किसी को सुकून और शांति का अहसास करा रही थी। तभी “प्लास्टिक हटाओगे: खुशहाल हो जाओगे” की धुन गाते – गाते बाबा प्रकृतिनाथ वहां उपस्थित होकर बोले- हमारा जीवन ईश्वर ने लोक कल्याण के लिए ही दिया है। आज हरियाली की चादर ओढ़े यह नगर हरितेश के अथक प्रयासों से ही पशु-पक्षियों से अभयारण्य रूपी सुरम्य नगर बना है। बाबा प्रकृतिनाथ ने गाय के प्राणों को बचाने के लिए नायक हरितेश के प्रमुख सहयोगियों चिराग, प्रियांश, लतिका आदि को पुरस्कृत कर सब लोगों को उनसे जीवों की रक्षा करने और प्लास्टिक को कभी उपयोग न करने की शपथ दिलाई।



शंकरलाल शास्त्री
लेखक एवं साहित्यकार
राजस्थान ग्रामोत्थान एवं संस्कृत अनुसंधान संस्थान
शाहपुरा (जयपुर)



India at the Crossroads: Ending Plastic Pollution Through Circular Innovation

India stands at a critical crossroads in its battle against plastic pollution. From choked city drains to rivers burdened with discarded packaging, plastic waste has become a defining environmental crisis for the nation. Generating nearly 5% of the world's plastic waste, India is now among the top contributors to mismanaged plastic globally.

But a potential game-changer is gaining momentum: the circular economy. It emphasizes the reuse, remanufacture, and recycling of materials to minimize environmental impact.

A growing body of research—most notably the 2023 report by Jenny To (IDOS) and UNEP's Turning Off the Tap initiative suggests that India can drastically reduce its plastic pollution through circular business models. These strategies call for a radical shift: rethinking how plastic is produced, consumed, and ultimately re-integrated into the economy.

For decades, the global economy has operated on a linear model: take, make, dispose. But with plastic production projected to triple by 2060 (OECD, 2022), this approach is no longer sustainable. UNEP warns that if left unchecked, plastics could account for 19% of the allowable global greenhouse gas emissions by 2040 under a 1.5°C scenario.

India generates about 26,000 tonnes of plastic waste every day. Only 60% of that is collected, and far less is effectively recycled (MoEFCC, 2022). Plastic packaging—especially multilayer laminates and sachets—accounts for a significant share of this low-value, non-recyclable waste.

Despite strong national policies like the Plastic Waste Management Rules (2016, amended 2022), the 2022 ban on single-use plastics, and Extended Producer Responsibility (EPR) mandates, enforcement remains patchy and local infrastructure often lags behind.

UNEP's roadmap proposes a systems overhaul that could cut global plastic pollution by 80% by 2040. Three core interventions—especially relevant to India—stand out:

- Reuse (-30%): Encouraging reusable packaging in food delivery, retail, and consumer goods.
- Recycling (-20%): Modernizing the country's informal and fragmented recycling infrastructure.
- Reorient and Diversify (-17%): Investing in compostable alternatives made from materials like jute, banana stems, and sugarcane bagasse.
- By 2040, this shift could unlock:
 - USD 1.3 trillion in direct savings
 - USD 3.3 trillion in avoided environmental and social costs
 - USD 4.5 trillion in total net benefits
- India, as a rapidly industrializing nation, stands to benefit substantially from these gains.

India, as a rapidly industrializing nation, stands to benefit substantially from these gains.

Experts emphasize that real progress requires alignment between global treaties and national laws. India's active participation in the UN Global Plastic Treaty negotiations positions it as a potential leader for the Global South.

Domestically, next steps include strengthening micro- and meso-level policies: public awareness campaigns, green innovation grants, and incentives for circular startups. States and municipalities must also enforce plastic bans, strengthen EPR implementation, and improve reverse logistics systems.

With its population projected to reach 1.6 billion by 2047—and per capita plastic consumption still climbing—India faces an urgent challenge. But the circular economy doesn't just offer a solution to pollution; it provides a new development model, aligned with the Sustainable Development Goals and the Paris Agreement.

"The transition must be fast, fair, and inclusive," writes To (2023). "Circularity is not just an environmental imperative—it's a national opportunity."

As UNEP coordinator Llorenç Milà i Canals puts it:

"With systems change, we can reduce plastic pollution by 80% by 2040—and transform the plastics economy for good."



Kuldeep Meena

Junior Environmental Engineer
RSPCB

The Role of Individual, Govt. & Corporations in Ending Plastic Pollution

World Environment Day, observed annually on June 5th, is a worldwide initiative that encourages individuals and communities to take meaningful action toward safeguarding the environment. The 2025 theme, "Ending Plastic Pollution," highlights one of the most urgent environmental threats facing humanity today. Plastic waste clogs oceans, poisons wildlife, and infiltrates our food chain—and solving this crisis demands united action from individuals, governments, and corporations.

Individuals are the first line of defence. Small, daily decisions—like choosing reusable bags, avoiding single-use plastics, and properly recycling—can collectively make a significant impact. Citizens also have the power to drive change by supporting sustainable brands and holding leaders accountable through advocacy and voting.

Governments play a central role in shaping the systems that can eliminate plastic pollution. Strong legislation, such as banning single-use plastics, setting targets for waste reduction, and enforcing extended producer responsibility (EPR) laws, is essential. Governments must also invest in modern waste management infrastructure and lead public education campaigns to promote sustainable living.

Corporations, as the largest producers and users of plastic, must take responsibility by rethinking their product design and packaging. Moving toward biodegradable alternatives, reducing plastic use, and adopting circular economy practices are vital. Transparency in sustainability goals and collaboration with policymakers and environmental groups can accelerate progress.

Satish Sharma

Freelancer Journalist
Alwar





Plastic Waste Management



Co-processing of plastic waste is considered to be the most environmentally sound manner of disposal. Local municipal authorities should tie-up with various Cement plants for its disposal. Municipal authorities should provide incinerable plastic waste at door step of Cement plants. Most of the cement plants have co-processing facilities at their sites and to further increase the effective utilization of various types of hazardous waste & non-hazardous waste government can provide incentives to develop and formalize the waste management system.

Cement companies are committed towards creating Clean and Green Environment. Accordingly, Birla Corporation Ltd. has established co-processing facilities at its operations and successfully utilizing various types of alternative waste materials and plastic waste. Company has also partnered with waste supplying agencies for cleaning waste of the nation and is contributing to overall Circular Economy.

We established Pre-processing & Co-processing Unit of 25 tons per hour capacity.

- Co-processed 9836 tons of Plastic waste during FY 2024-25.
- Invested Rs. 47.25 Cr. for establishing pre-processing & co-processing facility of waste utilization.
- Fulfilled & complied EPR liability of 14,052 tons during FY 2024-25.



Vinod Paliwal

AVP, Sustainable Development
Birla Corp. Ltd, Chanderiya



Keep Plastic in Use, Not in Environment

Plastic Pollution has now become one of the most pressing environmental challenges, not to a single or group of countries but for the whole world. It is now suffocating our sources of water, contaminating our food and air day by day also, plastic waste flows into our rivers which clogs our coastline causing entangling and choking of animals. This waste needs to be treated under specific conditions as burning this waste generates harmful emissions and also left micro-plastics on the land. Now days micro plastics (fragments less than 5mm) can be found everywhere from the bloodstream of human beings to the breastmilk of a mother, inducing harmful health effects leading to severe health complication in the ecosystem. PLASTICS: A wonder material which is lightweight, cheap, durable, and endlessly adaptable but their resistance to degradation for hundreds of years and its misuse in huge amount has created these issues. Single use plastics like bags, bottles, packaging contribute to waste significantly and ending up in landfills and oceans without proper decomposition or recycling. This improper decomposition is also a major reason for generation of plastic pollution. If we dive into this problem at micro level in the country itself, it has been found that there is no proper segregation of waste done by localites before disposal even after regulations and actions issued by the government, according to the United Nations Environment Programme (UNEP), only 9% of plastic waste is recycled globally while the rest being incinerated, dumped, or left in nature. The production of plastic in industries is essential as plastic material has immense applications now-a-day, on the other hand, there is also unnecessary production of plastics which increases the contribution towards plastic pollution. Efforts around the globe are being taken towards ending plastic pollution. Governments are implementing bans on single-use plastics, promoting recycling and encouraging the development of biodegradable alternatives. International agreements like the Global Plastic Treaty is currently under negotiation which aims to create legally binding commitments to reduce plastic pollution. National Amendments like Extended Producers Responsibility, Swachh Bharat Mission and India Plastics Pact by CII and WWF India are aimed of end plastic pollution and making production sustainable. For example, in Rajasthan Zero Plastic Waste Campaigns (Jhunjhunu) & FINILOOP (Jaipur) working towards a cleaner and pollution free environment.

For ending plastic pollution, looking plastic as a villain should not be the extricate but to use it wisely - "Plastic's Cool, Littering is Not!". Both government and the citizens have to work together however it is significant that making policies are not enough to deal with this global challenge, private sectors must be responsible and innovative towards sustainable packaging and circular economies.

Every individual can play a crucial role in ending plastic pollution. Simple actions like carrying reusable bags and bottles, avoiding products with excessive plastic packaging, participating in cleanliness drives, pre-segregation of garbage from source, proper littering, spreading awareness can collectively make a significant impact. Also, biodegradable and compostable plastics could be used and advanced recycling techniques such as mechanical recycling, chemical recycling needed to be implemented. Engineers and scientists can collectively implement waste to energy (Pyrolysis) techniques along with development of plastic-eating enzymes and microbes that can easily breakdown non-recyclable plastics. Awareness among both urban and rural areas needs to be spread about the recycling codes for better segregation from source. Ending plastic pollution is achievable through a combination of regulatory actions, technological progress, corporate responsibility and individual commitment. This challenge is an immediate necessity not a future task. This is now the time to act for preventing our Mother Earth before plastic permanently pollutes the future and to give our upcoming generations a clean and healthier environment by making the purpose of world environment day successful.

Shreya Kulshreshth
CIPET, Jaipur





Trash to Treasure: A Journey Toward Sustainability and Environmental Responsibility

At Kanoria PG Mahila Mahavidyalaya, sustainability is not just an ideal—it is a practice woven into the fabric of campus life. The college's distinctive environmental initiative, "Trash to Treasure," is a shining example of this commitment. Launched under the collaborative leadership of the Internal Quality Assurance Cell (IQAC) and the National Service Scheme (NSS) units, and in partnership with Bisleri India Ltd., this campaign reflects a strong institutional focus on environmental conservation and responsible plastic waste management.

The primary goal of the "Trash to Treasure" program is to raise awareness about the importance of recycling plastic waste, promote sustainable practices, and create an organized and efficient system through which clean, used plastic can be collected and sent for professional recycling. The initiative emphasizes the concept of a circular economy, where waste is transformed into valuable resources rather than being discarded.

In a short span of just six months, the college has achieved a remarkable accomplishment—collecting 411 kilograms of clean plastic waste through its dedicated Plastic Waste Collection Center. This plastic was carefully sorted and handed over to Bisleri India Ltd. for proper recycling and reprocessing, ensuring that it is reintroduced into the manufacturing cycle rather than polluting the environment.

One of the most striking outcomes of this initiative has been the transformation of collected plastic waste into functional, meaningful infrastructure on campus. A bookshelf crafted from recycled plastic has been proudly installed in the college library, symbolizing both innovation and the sustainable use of resources. Additionally, two dustbins, also made from recycled plastic, have been placed in the canteen and hostel areas, encouraging better waste management habits among students and staff.

More than just a waste collection drive, "Trash to Treasure" has become a catalyst for cultural change at campus. It challenges the conventional view of plastic as mere waste and redefines it as a reusable, recyclable material that holds untapped potential. Through awareness campaigns, student engagement programs, and hands-on involvement in waste management processes, the initiative has inspired a deep sense of environmental consciousness within the college community.

Looking to the future, the institution is committed to expanding the reach and impact of the "Trash to Treasure" initiative. Plans include collaborating with more eco-conscious organizations, integrating sustainability topics into the academic curriculum, and becoming a leading voice in the regional and national movement for green education. The college aims to set an example for other institutions to follow—proving that impactful environmental change begins at the grassroots level.

In essence, "Trash to Treasure" is not just a program—it is a movement that embodies the values of innovation, responsibility, and hope. Through collective action and a shared vision for a cleaner, greener world, Kanoria PG Mahila Mahavidyalaya continues to lead the way in shaping a sustainable future—one plastic bottle at a time.

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Charul Sharma
Assistant Professor
Kanoria PG Mahila Mahavidyalaya
Jaipur



काना राम चाय वाला



काना राम चाय वाला
घर घर से प्लास्टिक
लाए और 20रु.
प्रति किलो पाए
सुखा
प्लास्टिक
संग्रहण केन्द्र
बिसलपुर



Video Link

https://drive.google.com/open?id=1dY48aoPFoSbYR_kjdie-AemIV_nJ8oYe

Greenfield Agro Tech



"Greenfield Agro Tech" offer 100% 'Bio Compostable' packaging products which are extremely eco-friendly and completely degradable in nature. Our Compostable product range includes - Carry Bags, Grocery Bags, Garment Bags, Garbage bags, bin liners etc.

We are committed to offer only 'nature - friendly' packaging products, which are beneficial for our Mother Earth, and we continuously thrive to build up a greener and safer tomorrow for our present and upcoming generations.

Prithvi Raj Singh & Deepa Rathore
Jaipur

MERAKIPACK



आज सिंगल यूज़ प्लास्टिक का उत्पादन एवं बिक्री पूरे भारत में प्रतिबंधित है और राजस्थान राज्य प्रदूषण नियंत्रण मण्डल के निरंतर प्रोत्साहन द्वारा, विकल्प के तौर पर कई नवीन उत्पाद बाज़ार में आ रहे हैं, ऐसा ही एक उत्पाद है मेराकी जो कि किशनगढ़ राजस्थान के किशनगढ़ शहर में बनाया जा रहा है।

मेराकी के पत्तल, एक से अधिक खाने वाली ट्रेज़ एवं दोने इत्यादि का निर्माण पूर्ण रूप से प्लास्टिक रहित होता है, यहाँ तक की कोई पन्नी भी नहीं होती है ना ही कोई मिश्रण। यह गन्ने की खोई से बनाया जाता है, इसके लिए पेड़ भी नहीं काटे जाते और मिट्टी में डाल देने पर यह खाद का रूप ले लेता है। यह उत्पाद किसी भी जीव जंतु को किसी प्रकार का नुकसान नहीं पहुंचाता है। यही नहीं, जहाँ प्लास्टिक में खाना खाना कैंसर जैसे कई रोगों का कारक है, मेराकी के उत्पाद आपके लिए एकदम सुरक्षित हैं।

यह उत्पाद गर्म और ठंडे दोनों खाने को सहन करने की श्रमता रखते हैं और इन्हें माइक्रोवेव भी किया जा सकता है। हाल ही में खाने की डिलीवरी के लिए नए उत्पाद भी शामिल किए गए हैं जो कि आज सिंगल यूज़ प्लास्टिक का एक बहुत बड़ा स्रोत है।

समझदार बनें, स्वस्थ चुनें क्योंकि बदलाव की शुरुआत स्वयं से होती है।

Eco Health Care, LLP
Kishangarh



प्लास्टिक कचरे से पावर टूल्स और हार्डवेयर एक्सेसरीज

स्विशिन टेक्नोलॉजीज एलएलपी जयपुर, प्लास्टिक कचरे की रीसाइक्लिंग से पावर टूल्स और हार्डवेयर एक्सेसरीज का निर्माण करने वाली स्टार्ट -अप है।

हमारी कंपनी के प्रोडक्ट्स में 60-80% तक प्लास्टिक वेस्ट मटेरियल जैसे कि सिंगल यूज़ प्लास्टिक मल्टी लेयर प्लास्टिक और हॉस्पिटल प्लास्टिक वेस्ट का उपयोग करते हैं।

हमारी कंपनी का लक्ष्य है - चाइना से इम्पोर्ट को कम करना, घरेलू मैनुफैक्चरिंग को बढ़ाना, प्लास्टिक कचरे का ज्यादा से ज्यादा रीसायकल करना।



Harbind Nagar
(CIPET Jaipur Alumni Entrepreneur Start-Up)
Start-Up India No.- DIIPPI96966



Break Free from Plastic: A Cleaner Planet Starts with Us

World Environment Day, celebrated on June 5th, is a reminder for all of us to take care of our planet. From carry bags to storage boxes for food, plastic is everywhere. But there's a way forward—by moving toward Zero Plastic Waste.

What Does "Zero Plastic Waste" Mean?

It's about finding smart ways to reuse, recycle, or replace plastic so it doesn't end up in our oceans, streets, or landfills. The goal is simple: use plastic in a way that doesn't harm nature.

"Ditch the Plastic, Save Our Earth."

Why Should We Care?

Plastic doesn't go away easily. It can take hundreds of years to break down, and during that time, it can hurt animals, pollute water, and even get into our food. Every year, millions of tons of plastic waste are created, and much of it ends up in the wrong places.

World Environment Day reminds us that we can't keep using plastic the way we do now. We need to make changes—for ourselves, for wildlife, and for future generations.

Use reusable bags and bottles

Skip the plastic ones and carry your own.

Avoid single-use items

Say no to single-use plastic! Opt for reusable straws, cutlery, and plates that can be washed and used multiple times.

Choose products with less packaging

Pick items with paper or eco-friendly wrapping instead of plastic.

Recycle the right way

Check your local recycling rules to know what can and can't be recycled.

On this World Environment Day, let's pledge to create positive change through small actions, step by step. Whether it's using a reusable bag or rejecting plastic packaging, every choice counts. A cleaner, healthier planet begins with the steps we take now.

Somya
(Student)



My Cool Story About Zero Waste Plastic "Be Kind to Earth, Choose Zero Waste First!"

Hi! My name is Somesh and I want to tell you about something.....

You know how we use plastic for toys, bottles, and bags? But when we throw it away, it goes in big piles called landfills or ends up in the ocean where fish live. That's really sad because turtles and dolphins can get hurt.

Zero waste plastic is different. It's made so we can use it again and again, or it can go back to the Earth and not hurt it. Some of it is even made from corn or plants! Isn't that cool?

I learned that people are trying to make the Earth clean and safe again. Some smart people are making new kinds of plastic from things like seaweed or plants. Isn't that amazing? It makes me feel hopeful that maybe we can fix the mess.

I think zero waste plastic is not just about stuff—it's about being kind. Kind to animals, kind to the Earth, and kind to other people who live here too.

At my house, we bring our own bags to the store and we have a water bottle we use every day. My mom says that helps stop waste. I think if everyone does a little, the world will be really happy.

So let's be heroes and help the planet! Use less plastic and recycle more. Zero waste plastic is the future!

Somesh
(Student)



"प्लास्टिक का जाल"

हर गली, हर नदी में, बिछा है प्लास्टिक का जाल,
साँसें घुटतीं, मछलियाँ मरतीं, कैसा यह कमाल?

पेड़-पौधे चुपचाप सहें, जानवर खाएँ ज़हर,
कितनी कीमत चुकाएगी धरती, मानव का यह कहर।

सुविधा के नाम पर हमने, बोया विनाश का बीज,
एक बार इस्तेमाल कर, छोड़ दी ये चीज़।

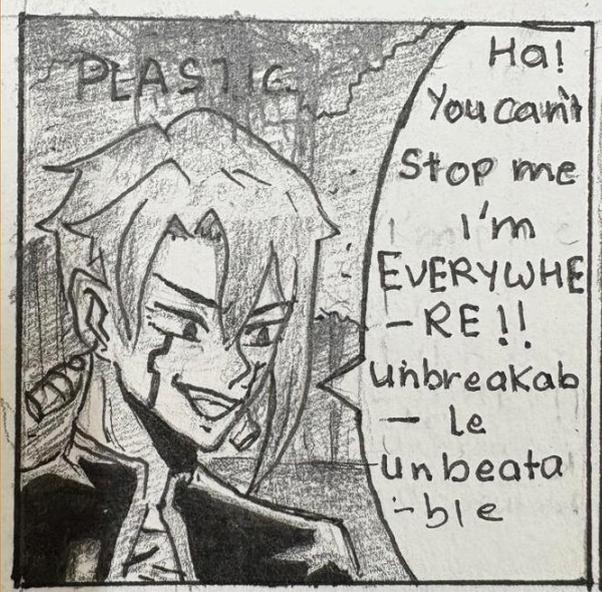
समय अभी भी बाकी है, जागो, समझो बात,
कपड़े की थैली साथ रखो, सच्ची है, यही सौगात।

प्रकृति को फिर मुस्कराना है, हो साफ हवा चारों ओर,
प्लास्टिक से मुक्ति पाएँ, इसपर हो हम सबका ज़ोर।

सान्वी कुमावत
(विद्यार्थी)



PLASTIC TIMES





Embracing the Circular Economy: A Path Forward on World Environment Day

As we mark World Environment Day, the spotlight turns toward sustainable solutions that can secure our planet's future. One such transformative approach is the circular economy—a model that challenges the traditional "take-make-dispose" system and replaces it with a regenerative cycle aimed at minimizing waste and maximizing resources.

Unlike the linear economy, where products are designed for disposal, the circular economy focuses on designing out waste, keeping products and materials in use for as long as possible, and regenerating natural systems. It encourages practices like recycling, repairing, remanufacturing, and up-cycling, fostering a closed-loop system that benefits both the environment and the economy.

Industries around the world are beginning to realize the immense value of this model. From fashion brands repurposing textile waste to tech companies creating modular, repairable devices, the shift is becoming visible. Governments, too, are enacting policies to promote circular practices, emphasizing the role of innovation and collaboration in achieving environmental goals.

Embracing the circular economy is not just an environmental choice—it's an economic and social one. It opens doors to green jobs, conserves natural resources, and reduces greenhouse gas emissions.

Individual action matters, too. Choosing durable goods, supporting brands with sustainable practices, and properly sorting waste for recycling all contribute to the circular movement. By rethinking how we consume and dispose, we help pave the way toward a more sustainable and resilient future.

This World Environment Day, let us commit to turning waste into worth. The circular economy is not a distant dream—it is an achievable reality, and it begins with every choice we make today.

Vinay Mudgal
(Student)



The Bucket with Holes

When I was three years old, my mom brought a bucket with holes in it. I was confused and wondered why would anyone bring a bucket that couldn't hold water? I tapped on it, looked inside and asked her, "Is it broken?" She smiled and said, "No, it's perfect — it's for the Earth, not for water." That grew my curiosity.

I followed her and saw her placing the bucket in a shady corner of garden. She put in vegetable / fruit peels, tea leaves, coco peat and dry leaves. Then she covered it with a cloth and said, "We are feeding the soil."

After a month, my mom showed me what was inside. The peels and leaves had turned into something that looked like soft, dark soil. Mom told me that it was compost and it smelled a little like rain.

But the best surprise..

Worms! Lots of them! Wiggling and twisting like tiny dancers in the compost. I was so excited. I named one of them "Wiggly" and another "Mud-boy." They became my little compost friends. I imagined them talking to me. We used the compost to plant marigolds and tulsi. I pressed the seeds into the soil and whispered to the worms, "Take care of these, okay?" From that day, I understood what it means to care for the Earth and three magical words: Reduce, Reuse, Recycle.

Now, I'm 8 years old and tell everyone about composting and how to choose Mother Earth every day.

Snehyash Agarwal
(Student)



Slogans

धरती के बदरंगी रंग में गहरा रंग भरना होगा।
वन्य जीव संरक्षण हमको जीवनभर करना होगा।

आओ मिलकर संकल्प करे,
सिंगल यूज प्लास्टिक का उपयोग कम करे ।

सिंगल-यूज को अब घटाओ, स्वच्छ भारत का मान बढ़ाओ ।
सिंगल यूज प्लास्टिक को उपयोग में कम लाना है, पर्यावरण को बेहतर बनाना है ।

सिंगल यूज प्लास्टिक को कम अपनाओ, स्वच्छ भारत का मान बढ़ाओ ।

सिंगल-यूज प्लास्टिक, ज़रूरत पर ही चुनें, तभी अपना भविष्य सुरक्षित बुनें ।

संकल्प करें, बदलाव लाएँ, ज़रूरत पर ही सिंगल-यूज अपनाएँ ।

भारत में दृढ़ हो ये इरादा, सिंगल-यूज तभी, जब हो कोई बाधा ।

प्लास्टिक पोल्युशन कम करना होगा।
अम्बर, धरती और सागर बचाना होगा।

धरती से प्लास्टिक को करो कम।
मिले नील गगन व शुद्ध पवन।

धरती को बचाना है, प्लास्टिक को कम करना है।

जीवन का हो ये आधार, प्लास्टिक मुक्त हो ये संसार।
धरती हमारा ग्रह हमारा घर है, इसे साफ रखना हमारा कर्तव्य है।

प्लास्टिक विकल्प अपनाना है, जीवन सफल बनाना है।

प्लास्टिक की थैली- एक बार की चाल।
कपड़े की थैली- हर बार कमाल।

धरती मुस्काए, प्रदूषण घटे।
ऐसे चुनाव से भविष्य सजे।

सिंगल यूज़ प्लास्टिक की थैली चले बस एक बार ।
कपड़े की थैली चले हर बार, बार-बार ।

धरती का रखो तुम भी खयाल ।
चुनो कपड़े की थैली हर हाल ।

Refuse Plastic, Save Our Land.

Be a Part of the Solution, Not the Pollution.

Say no to single-use — choose to re-use.

Cut off the single use cutlery.

Micro-plastic- Don't be fooled by the name
It's a macro threat to Earth.

Be the change, rewrite the story - A plastic-free Earth, A future in glory.

Don't be drastic, go fantastic- say goodbye to single-use plastic.

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